



# CER Comparative European Research 2019

## Proceedings | Research Track

of the 12th Biannual  
CER Comparative European Research  
Conference

International Scientific Conference for Ph.D. students of EU countries

October 28-30, 2019 | London



# CER Comparative European Research 2019

## Proceedings | Research Track

of the 12th Biannual  
CER Comparative European Research  
Conference

International Scientific Conference for Ph.D. students of EU countries

October 28-30, 2019 | London

## Statement of review

All papers reproduced in these proceedings have been independently reviewed with consideration for SCIEEMCEE reporting requirements. All papers reproduced in these proceedings were presented at the CER Comparative European Research Conference.

## Disclaimer

Any opinions, advices and information contained in this publication do not necessarily reflect the views or policies of the CER or SCIEEMCEE Executive or its members. Whilst all due care was taken in the compilation of these proceedings, the CER Executive does not warrant that the information is free from errors or omission, or accept any liability in relation to the quality, accuracy and currency of the information.

## Copyright

Copyright © 2019 CER Comparative European Research and the Authors.

Published in November, 2019 by Sciemcee Publishing, London.

Proceedings document published in collaboration with SCIEEMCEE - Scientific Conference Platform.  
The proceedings with all papers are available at [www.sciemcee.org](http://www.sciemcee.org).

ISBN 978-1-9993071-5-8



# Introduction

The conference Proceedings you are holding is a collection of selected peer-reviewed texts presented at the international scientific conference Comparative European Research - CER 2019 (October 28-30).

The biannual international scientific conference is organized under the auspices of the SCIEEMCEE scientific platform every March and October and follows up on activities aimed at providing greater support for the scientific activities of Ph.D. students and beginning researchers. The various biannual CER conferences represent a space for the international assessment of the qualitative standard of scientists and the results achieved by the various academic institutes. The CER conference is an ideal place for comparing the standard of scientific work, particularly on a European scale.

The Proceedings from the CER 2019 conference contains several dozen academic texts whose main purpose is the presentation and sharing of knowledge always in one of nine conference sections. The conference Proceedings prioritize only those articles which are good enough to offer readers new insights into the issues analyzed, or which extend the known boundaries of science. The guarantor of the CER 2019 conference is a signatory of the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities, and therefore all papers are made available to professionals and the general public via OpenAccess.

The conference committee, comprising experts from several university departments, believes that the CER international scientific conference will attract an ever wider base of participants to join in the discussions and will stimulate further scientific work and interdisciplinary development.

CER Conference Scientific Committee

## Editors\*

Michael McGreevy, Robert Rita

\* since 2014

## International Scientific Committee - Reviewers\*

prof. UWM dr hab. Henryk Mizerek - Head of Chair of General Education, University of Warmia and Mazury, Poland.

prof. Ing. Martina Blašková, PhD. - University of Žilina, Slovakia.

assoc. prof. PhDr. Ing. Ladislav Mura, PhD. - Pan-European University in Bratislava, Slovakia.

prof. Dr. Hab. Stasys Vaitekūnas - Klaipėda University, Lithuania.

prof. PhDr. Libor Pavera, CSc. - The Institute of Hospitality Management in Prague, Czech Republic.

prof., Dr. Rūta Adamonienė - Mykolas Romeris University, Lithuania.

prof. Jose L. Vazquez PhD., PhD HC, PhD HC, Sen HC - University of León, Spain.

assoc. prof. Egle Stonkute, PhD. - Baltic Institute for Research and Development, Lithuania.

prof. Miroslav Hadzic PhD. - University Singidunum Belgrade, Serbia.

prof. Katalin Takács-György, PhD. - Óbuda University, Hungary.

assoc. prof. Zuzana Birknerová - University of Prešov in Prešov, Slovakia.

prof. dr hab. Wojciech Lis - Poznan University of Life Sciences, Poland.

prof. zw. dr hab. Krystian Heffner - University of Economics in Katowice, Poland.

prof. dr. Vladimiras Gražulis - Mykolas Romeris University, Lithuania.

assoc. prof. Jana Šujanová - Slovak University of Technology in Bratislava, Slovakia.

assoc. prof. PhD. Jolita Vveinhardt - Vytautas Magnus University, Lithuania.

dr hab. Piotr Cichoracki - University of Wrocław, Poland.

dr hab. prof. UZ Andrzej Malkiewicz - University of Zielona Góra, Poland.

dr hab. Krzysztof Jaskułowski, prof. SWPS - University of Social Sciences and Humanities, Poland.

doc. PhDr. Petr Kaleta, Ph.D. - Charles University in Prague, Czech Republic.

dr hab. prof. UO Mikołaj Iwanow - University of Opole, Poland.

dr. oec. Prof. Kārlis Ketners - Banku Augustskola, Latvia.

doc. Ing. Anna Jacková, PhD. - University of Žilina, Slovakia.

doc. PaedDr. PhDr. Jiří Dostál, Ph.D. - Palacký University, Czech Republic.

doc. Mgr. Soňa Lovašová, PhD. - Pavol Jozef Šafárik University in Košice, Slovakia.

doc. PhDr. Beáta Ráczová PhD. - Department of Psychology UPJŠ Košice, Slovakia.

doc. Mgr. Edita Hornáčková Klapicová, PhD. - Ss. Cyril and Methodius University, Slovakia.

doc. PaedDr. Milena Lipnická, PhD. - Matej Bel University, Slovakia.

npor. doc. PhDr. JUDr. Mgr. Jozef Medelský, PhD. - Academy of the Police Force in Bratislava, Slovakia.

doc. Ing. Katarína Stachová, PhD. - School of Economics and Management of Public Administration, Slovakia.

doc. PhDr. et PhDr. Martin Kaleja, Ph.D. - Silesian University in Opava, Czech Republic.

doc. Fazekas Csaba, PhD. - University of Miskolc, Faculty of Arts, Miskolc, Hungary.

doc. PhDr. Peter Káša, CSc. - University of Prešov in Prešov, Slovakia.

doc. Ing. Katarína Čulková, PhD. - Technical University of Košice, Slovakia.

doc. Dániel Pálosi, PhD. - Dennis Gabor College, Institute of Economics and Social Sciences, Budapest, Hungary.

doc. Ing. Peter Tauš, PhD. - Technical University of Košice, Slovakia.

doc. PhDr. Martina Kášová, Ph.D. - University of Presov in Presov, Slovakia.  
doc. Tamás Kaiser PhD. - National University of Public Service, Faculty of Public Administration, Budapest, Hungary.  
doc. JUDr. Marcela Tittlová, PhD. - The Pan-European University, Slovakia.  
doc. Anna Urbán - Faculty of Arts of the University of Miskolc, Department of Sociology, Miskolc, Hungary.  
doc. PhDr. Mária Ria Janošková, PhD. - Technical University of Košice, Slovakia.  
doc. PhDr. Slávka Démuthová, PhD. - University of Ss. Cyril and Methodius in Trnava, Slovakia.  
JUDr. Martin Kubinec, Ph.D. - Matej Bel University, Slovakia.  
Pawel Gromek, PhD, Cpt. - Vice-Dean of the Faculty of Civil Safety Engineering, Poland.  
Mgr. Jindřich Komárek, Ph.D. - The Police Academy of the Czech Republic in Prague, Czech Republic.  
PhDr. Kateřina Thelenová, Ph.D. - Technical University of Liberec, Czech Republic.  
PhDr. Iveta Ondriová PhD. - University of Presov, Slovakia.  
JUDr. Daniela Ježová, LL.M., PhD. - Comenius University, Slovakia.  
PhDr. Tomáš Habánik, Ph.D. - Social Services of Trenčín, m.r.o., Slovakia.  
JUDr. Radka MacGregor Pelikánová, Ph.D., LL.M., MBA - Metropolitan University Prague, Czech Republic.  
Václav Tvarůžka, Ph.D. - University of Ostrava, Czech Republic.  
JUDr. Miriam Odlerová, PhD. - Akadémia Policajného zboru v Bratislave, Slovakia.  
JUDr. Ing. Eva Daniela Cvik, Ph.D. et. Ph.D. - Czech University of Life Sciences, Czech Republic.  
PhDr. Ing. Ivan Bertl, Ph.D. - Jan Evangelista Purkyně University, Czech Republic.  
PhDr. Terézia Fertalová, PhD. - The University of Presov, Slovakia.



# Table of Contents

## Session: Management, Marketing

INNOVATIONS IN RETAIL – HOW TO CREATE A METHODOLOGY FOR A EMPIRICAL PEOPLE RESEARCH <i>Andrea Weigold</i> .....	9
THE GENESIS OF THE LEGAL STATUS OF THE COMPANY'S MANAGER IN LITHUANIA <i>Erika Statkiene</i> .....	16
INTERIM MANAGERS IN THE CFO ROLE IN MEDIUM-SIZED COMPANIES: RELATIONS BETWEEN CEO/TOP MANAGEMENT TEAM FIT AND ORGANISATIONS SUCCESS <i>Ralf Schechowiz</i> .....	23
SUCCESS AS A STRATEGIC GOAL OF SPORTS CLUBS <i>Roman Adámik – Michal Varmus</i> .....	26
PERSONNEL MANAGEMENT IN THE NON - PROFIT SECTOR IN SLOVAKIA <i>Romana Longauerová</i> .....	29
MANAGEMENT OF HUMAN RESOURCES MANAGEMENT IN LOCAL GOVERNMENT <i>Katarína Kobelová</i> .....	33
POST-PROCESSING OF A DAMAGE EVENT AS A SUBTASK OF RISK MANAGEMENT <i>Stephanie Burghart</i> .....	37
THE RECENT THEORETICAL FRAMEWORK FOR ONLINE REPUTATION MANAGEMENT <i>Irina Ďaďová – Jakub Soviar</i> .....	41
THE DECISION-MAKING PROCESS OF MANAGERS TO SUPPORT THE CREATIVITY OF UNIVERSITY EMPLOYEES IN SMART ENVIRONMENT <i>Dominika Tumová – Martina Blašková</i> .....	44
BIKESHARING IN ŽILINA AS ELEMENT OF SMART CITY <i>Oliver Bubelíny – Milan Kubina - Gabriel Koman</i> .....	48
ADVANTAGES OF IOT IMPLEMENTATION IN ENTERPRISE PROCESS MANAGEMENT <i>Gabriel Koman – Milan Kubina – Dominika Šulyová</i> .....	52
KNOWING THE PARAMETERS OF PERCEIVED VALUE IN THE COMPANIES OPERATING IN SMART ENVIRONMENT <i>Mária Demjanovičová – Michal Varmus</i> .....	56
THE ROLE OF EMOTIONS IN LEADERSHIP – CHALLENGE FOR SOCIAL WORK <i>Lenka Chlebanová</i> .....	60

## Session: Economy, Financing, Public Administration

ORGANIZATIONAL UNITS CREATING THE STRUCTURE OF THE LIPTOVSKÉ SLIAČE MUNICIPAL OFFICE <i>Barbora Antolová</i> .....	65
LEGAL MEANS OF PROTECTION IN PRINT MEDIA <i>Rastislav Munk</i> .....	69
THE LEGITIMACY OF PROTECTION OF PARENTAL RIGHTS OF PERSONS WORKING OUTSIDE THE EMPLOYMENT RELATIONSHIP IN THE LIGHT OF THE INTERNATIONAL, EU, AND POLISH LAWS <i>Tomasz Duraj</i> .....	73
EU TRADE POLICY INTEGRATION IN TIMES OF CRISIS <i>Jana Bališová</i> .....	77
VOLUNTARY SECTOR IN THE SLOVAK REPUBLIC <i>Romana Longauerová</i> .....	82

CORPORATE SOCIAL RESPONSIBILITY AND RESPONSIBLE PUBLIC PROCUREMENT IN CENTRAL EUROPE AND SLOVAKIA <i>Peter Lukáčka – Peter Kubolek</i> .....	85
OPTIMAL LEGISLATION OF PROCUREMENT OF CONTRACTS IN WHICH THE ESTIMATED VALUE IS BELOW THE FINANCIAL LIMITS DEFINED BY THE SECONDARY LAW OF THE EUROPEAN UNION <i>Zuzana Kršjaková</i> .....	89
ECONOMIC AND LEGAL PERCEPTION OF CORPORATE INDEBTEDNESS IN SLOVAKIA AND ITS IMPACT ON THE FINANCIAL STABILITY OF THE BUSINESS ENVIRONMENT <i>Zdenka Lukáčková – Matej Smalik</i> .....	93
COMPARISON OF CURRENT STATE OF RENEWABLE ENERGY SOURCES AND VISIONS FOR THE NEXT PERIOD OF THE SLOVAK AND CZECH REPUBLIC WITHIN THE FRAME OF ENERGY POLICY(POLICY OF USING RENEWABLE SOURCES OF ENERGY) <i>Michal Čičvara</i> .....	98
ANALYSIS OF THE TELECOMMUNICATION SECTOR IN POLAND ON THE EXAMPLE OF TELECOMMUNICATION INDUSTRY COMPANIES QUOTED ON THE STOCK EXCHANGE <i>Rafał Parvi</i> .....	102
VALUATION OF SHARES AND THEIR FAIR VALUR OF THE COMPANIES LISTED ON THE RAW MATERIALS WIG-GORNIC SECTOR QUOTED ON THE WARSAW STOCK EXCHANGE IN POLAND WITHIN 2011-2019 AND THEIR FAIR VALUE <i>Rafał Parvi</i> .....	106
<b>Session: Industrial Engineering, Innovations</b>	
INDIRECT INSTRUMENTS SUPPORTING THE DEVELOPMENT OF ENTERPRISES INNOVATION <i>Katarzyna Brożek – Weronika Tuzimek</i> .....	111
<b>Session: Applied Informatics</b>	
STOCHASTIC PROGRAMMING IN MODELLING OF INFORMATION SYSTEMS <i>Semakhin Andrey</i> .....	116
<b>Session: Natural Sciences</b>	
PLANT SECONDARY METABOLITES AS POTENTIAL SERINE PROTEASE INHIBITORS <i>Barbora Legerská – Daniela Chmelová – Miroslav Ondrejovič</i> .....	120
COMPARISON OF THREE <i>ESCHERICHIA COLI</i> STRAINS IN RECOMBINANT PRODUCTION OF NEURAMINIDASE FROM INFLUENZA A VIRUS TYPE <i>Sabina Lipničanová – Daniela Chmelová – Miroslav Ondrejovič</i> .....	125
<b>Session: Pedagogy, Psychology</b>	
Q METHODOLOGY <i>Zuzana Schlosserová</i> .....	131
IMPLEMENTATION OF THE HOLOCAUST THEME IN THE CZECH EDUCATION SYSTEM: AN OUTLINE OF THE POSSIBLE APPLICATION OF SELECTED ISRAELI EDUCATION APPROACHES TO THE CZECH EDUCATION SYSTEM <i>Milan Mašát</i> .....	134
BREAKING THE VICIOUS CYCLE: CONSIDERING SLEEP AS A CO-FACTOR FOR INTEGRATED HEALTH PROMOTION AT GERMAN SCHOOLS <i>Helge Koch</i> .....	138
LOW-THRESHOLD TREATMENT PROGRAMS FOR CHILDREN AND YOUTH: THEIR CONTRIBUTION IN THE PREVENTION OF SOCIAL AND PATHOLOGICAL PHENOMENA IN THE MORAVIAN-SILESIA REGION <i>Marie Bajnarová</i> .....	142
VOCAL EXERCISES AS A MOTIVATION IN TRAINING NON-ART SINGING <i>Iveta Štrbák Pandiová</i> .....	145
EMOTIONAL INTELLIGENCE DEVELOPMENT OF PRIMARY SCHOOL STUDENTS <i>Eva Vancu</i> .....	148
YOUNG PEOPLE'S MOTIVATION FOR VOLUNTEERING <i>Alžbeta Brozmanová Gregorová – Marika Siekelová</i> .....	151

CONTACT COLUMNS IN PUBLIC RELATIONS CONTEXT IN CHILDREN'S MAGAZINES IN EUROPE, ASIA AND THE USA <i>Danuša Faktorová</i> .....	155
COMPARISON OF THEORY OF MIND BETWEEN PSYCHIATRIC PATIENTS AND A HEALTHY POPULATION <i>Ivana Mirdalíková - Dominika Doktorová</i> .....	158
A CROSS-SECTIONAL STUDY OF EMOTIONAL INTELLIGENCE IN BACCALAUREATE NURSING STUDENTS <i>Ľudmila Majerníková – Anna Hudáková – Marta Vojteková – Andrea Obročníková – Mária Kaščáková</i> .....	164
PROBLEMS OF THE MEANING OF LIFE CANCER PATIENTS <i>Ľudmila Majerníková – Marta Vojteková – Anna Hudáková – Beáta Grešš Halasz – Lubomíra Tkáčová</i> .....	168
CANCER PATIENTS SATISFACTION WITH INFORMATION <i>Anna Hudáková - Andrea Obročníková - Ľudmila Majerníková - Marta Vojteková - Mária Kaščáková</i> .....	172
DETERMINATION OF MUTUAL CONNECTIONS IN BETWEEN LEVEL OF EMPATHY AND POPULARITY IN A GROUP WITH REGARDS TO SEX <i>Dominika Doktorová – Veronika Kalivodová</i> .....	176
ATTACHMENT AND LOVE IN SINGLE AND COUPLED YOUNG ADULTS <i>Katarína Greškovičová – Zuzana Sakačová</i> .....	181
IMPLEMENTATION OF MEASURING INSTRUMENTS IN HEALTH INSTITUTIONS <i>Anna Hudáková - Ľudmila Majerníková - Andrea Obročníková - Marta Vojteková - Lubomíra Tkáčová</i> .....	185
RISK AND PROTECTIVE FACTORS RELATED TO INTIMACY IN ADOLESCENCE <i>Kristína Mydlová</i> .....	189
<b>Session: History, Sociology</b>	
CHARACTERISTICS OF SCIENTIFIC RESEARCH FOCUSING ON SOCIAL RESEARCH <i>Barbora Antolová</i> .....	194
INTERPRETATIVE POSSIBILITIES OF EXPLORING THE MOTIF OF FIGURAL TRANSFORMATION IN MAGICAL FOLK TALES <i>Nikola Danišová</i> .....	198
METHODS OF SOCIAL WORK WITH CLIENTS WITH OBSESSIVE-COMPULSIVE DISORDER <i>Michaela Šul'ová</i> .....	202
OIL PAINTING RESTORATION ON CANVAS: THE ISSUE OF COMPLIANCE WITH THE ETHICS CODE <i>Marie Bajnarová</i> .....	206
ANALYSIS OF ASSESSMENT CENTER METHODS <i>Silvia Hovancová</i> .....	210

## Session: Management, Marketing

### Index of Author(s)

Adámik, Roman  
Blašková, Martina  
Bubelíny, Oliver  
Burghart, Stephanie  
Ďaďová, Irina  
Demjanovičová, Mária  
Chlebanová, Lenka  
Kobelová, Katarína  
Koman, Gabriel  
Kubina, Milan  
Longauerová, Romana  
Schechowiz, Ralf  
Soviar, Jakub  
Statkiene, Erika  
Šulyová, Dominika  
Tumová, Dominika  
Varmus, Michal  
Weigold, Andrea

## INNOVATIONS IN RETAIL –HOW TO CREATE A METHODOLOGY FOR A EMPIRICAL PEOPLE RESEARCH

Andrea Weigold

**Fressnapf Hechigen**

Im Eierle 6

72379 Hechigen

+491608073702

andrea.weigold@partner.fressnapf.de

**Abstract:** *Innovations are the growth drivers of any company. In order to find the most successful way of innovation in the trade, a questionnaire is designed, which is the basis of a survey of key persons and assortment managers of the specified industry. For the research part, a quality questionnaire is designed and interviewed in a personally conducted survey, assortment managers and entrepreneurs of the selected branch, in accordance with your opinion and your knowledge. The questionnaires are evaluated with the method of qualitative content analysis and thus the main statements of the answers are summarized. The result of the responses shows that the questionnaire method, using a separate questionnaire, is a successful empirical method for the introduction of an innovation in commerce.*

**Keywords:** *Innovation, Empirical Method, Customer Survey, Qualitative Survey, Qualitative Content Analysis, Questionnaire.*

In order to successfully place its own innovation in animal accessories, a method was sought to draw attention to the product and find its way to the industry's dealers. The literature review did not yield any results on empirical research on the introduction of industry-specific innovation in retail, so the method had to be sought, designed and tested. If the innovation exists, different test scenarios can be used to test customer acceptance and customer demand could force dealers to list the product. If innovation is in the planning and design phase, then a path to the specific industry needs to be found through an empirical approach, Innovation is the most important part of entrepreneurship for companies to ensure their continued existence and success. In order to obtain an innovation, to place it successfully and future-oriented in the market, extensive innovation research is required. Finding new products and new markets creates customer value and must be a top priority for the company's success. (Hofbauer 2009, Körner 2009, Nikolaus, 2009, Poost 2009). In order to find innovations for the own enterprise, the persons responsible of the assortments go different ways to the information procurement, in order to find out these ways, an empirical method must be identified which recognizes and shows these ways of the information procurement. In the history of organizational development, the introduction of an innovation in this case is an organizational development, the questionnaire survey is the most commonly used methods of data collection (Anderson, D.L. 2017). Extensive literature is available for the preparation, content and conduct of surveys through a questionnaire, and for these reasons the choice of empirical research falls to a questionnaire survey of the target group. Any kind of questionnaire can be created with the help of the written material. The research in the literature is the basis of the detailed study of each individual question, its design, its content and the form of the question. This extensive research supported the creation of the questionnaire. Another reason to use a questionnaire as an empirical method is that by familiarizing a survey with a questionnaire, the

implementation requires little effort. It is easy to ask a large number of people for statistically reliable statements. It should be noted that various questionnaires of this kind, such as those in journals or in other entertainment media, have no scientific basis. However, they provide a general understanding of the method. The danger exists that with this background the interviewee feels that the research by means of a questionnaire is not scientific, the personal monitoring of the survey and the meaningful introduction of the participants into the survey is a prerequisite for these reasons. (Wegener, 2016, Loebbert 2016, Fritze 2016) The implementation of empirical research through a questionnaire survey is a common and well-known method, in this particular case of industry-specific innovation introduction and the absence of existing research and literature, the method is plausible and results-oriented. Focusing on a single industry and creating a new questionnaire based solely on the objective of launching innovation allows research to be a new method in this context. The work is organized as follows. After the introduction and the literature review, follow the foundations of the work, setting the research objective, selecting the content of the questionnaire and choosing the method of analysis of the survey. What is the process of questioning and what obstacles or mistakes can occur if certain conditions are not met? The benefits of the procedure and the validity of the results are the content of the following exercise, as well as the objectives and results of the research. Which method was used, in which form the results were analyzed and presented, which conclusions and results resulted from the research. The last chapter presents the summary of the work and the results.

In the idea of the innovation and in the search for the product's path to retail, it was found that there is no industry-specific, empirical method to bring about a successful innovation in retail. Most studies deal with service in retail and the financial input or output of innovation. Further studies shed light on the adaptation of new technologies in various Retail Service Sectors.

(Ordólez, 2012) Before 1995, innovation behavior was virtually unexplored in Germany. For the first time in March 1995, the ZEW (Mannheim Innovation Panel) was the first company in Germany to collect and evaluate data and facts on innovations in German retail. There is still no research or research on the path to innovation in retail, the right place to innovate. This identified research gap should be closed by this research work. The object of the study is to find the actual method that provides meaningful data in order to interview experts and executives of an industry in a result-oriented and informative manner, with the aim of successfully launching an innovation. In order to successfully place the innovation so that the way into the retail is possible, the elaboration of the questionnaire method is required especially for this product launch. The design and the form of the questionnaire, the content and the form of the questions are characteristics of the success of the survey. In order to be able to quickly and accurately evaluate the answers following the survey, the selection of an analytical method is part of the preparation of the survey, since the questions and the design of the questionnaire are formulated and designed accordingly to the analytical method. In order to obtain valid results and to be able to refer to extensive literature, the choice of the method on a qualitative survey, has fallen by means of a questionnaire. The Qualitative Survey is seen as a guide to the collection and inquiry of justifications, attitudes and values. It typically procures with the interpretation and interpretation of human experiences. It should be noted that the interpretations and interpretations change, they reflect the changing conditions of contemporary, social life. (Ezzy, 2002) In empirical social research, the qualitative questioning has the goal of aggregating ideas and determining the opinion of experts. Their use is intended to elucidate insecure facts. (Häder, 2015). The definition of Qualitative Research is complex. In order to better understand the method, there are four features that serve to understand the qualitative focus:

- The researcher is the most important instrument for data collection and data analysis.
- The process is inductive.
- The process is described in detail for the participants.
- The focus is clearly on the process of understanding and interpretation. (Merriam, 2009)

The questions are predominantly open and not standardized or even non-structured. The biggest advantage of the non-structured written survey is the personal and uninfluenced response of the respondents. No answers force respondents to random or false statements, their own opinions and feelings are captured. (Döring, 2016, Bortz, 2016) There are no case numbers and neither previously formulated theses nor theories or hypotheses are confirmed, they deal with topics that have so far remained unexplored. It should be noted in the qualitative survey that personal attitudes, prejudices and one's own human condition have a high influence on the result. (Schambach-Hardtke, 2005) For a long time, qualitative research is seen as supplementing or validating other

methods, it helps to understand a problem or it contributes to problem solving. (Lang, 2010) The result enables the estimation of feature distributions, experiences of facts and facts. If the interview is accompanied by an observer, the quality, neutrality and comparability will be increased as it improves the accuracy of the survey. Qualitative research methods include, for example, in-depth interviews, focus group discussions, observations, synopses, visual methods as well as life stories or biographies. (Hennik, 2011; Hutter, 2011; Bailey, 2011) The process of qualitative research is challenging, because creativity and a lot of work are necessary to present inferences, insights, and theoretical developments and experiences in a single result. (Morse, 1994) For this process, the researcher must have various personality traits. This includes the ability to be open-minded, curious, empathic, with the ability to listen, the ability to study people, and to identify the experiences communicated with the subject's behavior. (Hennik, 2011, Hutter, 2011, Bailey, 2011) These skills are referred to as competences, the competence is not limited to the content and technical knowledge and skills, but also includes non-specialist skills such as methodological skills, social skills, personal skills or even keys -qualifikationen. (Gnahs, 2010) Research must not be harmful, that is, the researcher must act according to the knowledge of ethics. Ethics, from the Greek word "ethos" means integrity, fairness, truthfulness and morality. This social reality that people understand other people is therefore of paramount importance. (Leavy, 2017) A good questionnaire, like a scientific paper, has an introduction, a body and a conclusion. (Gräf et al 2001) The introduction is an attunement and the basis for a positive beginning of the survey as well as the introduction of the participants in the survey. Another content is the reference to the duration of the survey and the handling of the results. The main section contains the questions and answers, the conclusion usually consists of two three statistical questions that mark the end of the survey and the thank you for the cooperation.

In addition, further contents of the introduction:

- Presentation of the person or entity for which the survey is being conducted.
- Rough summary of the topic and questions.
- Please complete the arc, every answer is important.
- Please answer the items quickly, note: there are neither wrong nor correct answers.
- Assurance of the anonymity of the respondent.
- Thank you for your cooperation and assistance in answering the questionnaire. (Raab-Steiner, Benesch 2012)
- Assurance of providing the results of the research for the own enterprise of the participants.

The main part contains the important questions, each one must be formulated with care and therefore requires much preliminary work. (Dillman, 1978) The meaningfulness and validity of the answers emerge from the formulation of the questions. The better the question is formulated, the

better the answer is. (Flick, 2009) During the survey, there can be no verbal amelioration of error-prone questions, so the questions should be carefully selected and formulated with regard to the outcome. The questions should motivate the respondents to respond to them and be designed so interesting that no disturbances distract the respondents. (Weis, 2009) The doctrine of the questions reveals three individual problems for the selection of questions:

- How to formulate the question?
- What kind of question (and answer) is appropriate?
- Why is the question asked. (Friedrichs, 1999)

What should be asked and what is the content of the research? What is the objective of the survey and how can I put together a sophisticated design with harmonic components? (Maxwell, 2013) Because of the different scientific and everyday language, even if the subjects are all from one industry, theoretical terms in the question formulation should be avoided. The formulations and the words must be understood by all subjects equally. (Kromrey, 2002) This part of the questionnaire is at the heart of the research and needs to deliver results that support the way forward. The conclusion of a questionnaire serves as a summary and offers space for personal questions and words. Therefore, many questionnaires end up with the demographic questions about the age, origin and gender of the participant. At the end of a questionnaire, the participant may have room for their own ideas and comments, which shows interest and esteem in the person interviewed. For the time and the attention during the participation is to thank the respondents, this thanks indicates the end of the questionnaire and the survey. The formulation of the questions should be simple and difficult sentence structures should be avoided. The interviewee must not have to spend time to understand the question. Likewise, the questions and formulations are to be adapted to the target group, none of the persons interviewed may be intellectually overwhelmed. (Kleber, 1992) The recorded answers do not correspond to the person's attitude because their response does not match the stimulus. (Kromrey, 2002) If there is an excessive demand, that's another reason to get wrong answers. The respondent is likely to choose the answers that he or she understands best or that are the most conclusive. Abstract terms have to be transformed into understandable terms. In the chosen qualitative form of the survey, the questions are predominantly open and not standardized or even non-structured. The biggest advantage of the non-structured written survey is the personal and uninfluenced response of the respondents. No answers force respondents to random or false statements, their own opinions and feelings are captured. It should be noted that the questions are made neutral and they do not represent a fact. (Schnell, Hill, Esser, 1999) The sentence structures are simple to make, nested sentences are difficult to understand and burden the concentration. The interviewee needs too much time to understand the reason for the question and to answer it correctly. Following basics for the formulation of

the questions (Mummendey, Grau, 1995) after Mummendey:

- Questions must be clearly interpreted by the respondent
- Do not relate to the attitude that is at stake
- are not a fact description
- In short, never more than 20 words
- Describe situations real and complete
- Are from simple sentences or sentence structure
- Simple and clear
- Concrete and clear
- Do not contain any incomprehensible words
- No complicated considerations / calculations
- Use of neutral terms

If, as in this work, a partially standardized questionnaire is used, the answers are less detailed than the questions. In this research work, the questionnaire consists of open questions that limit the knowledge gain little or not at all. No answers are given. For the sake of completeness, they are treated here, if the result of the work provides for a change in the survey. In a fully standardized questionnaire, the answers are preformulated, the respondent can choose from given answers. The type of questioning requires a high level of knowledge of the author, since both the selection of the question and the choice of answers is his task. Again, standardized surveys generate response tendencies. The most frequent response tendencies are: social desirability, consent tendencies, tendency for mildness and the tendency to hardness. (Bogner, Landrock, 2015) The advantages of the already given answers are the comparability and the simpler analysis as well as the advantage that the mechanics are known and also weak participants can be interviewed. The item format of the qualitative survey of this work is, as mentioned, unbound and a supplementary task. The questions have room for free answering and allow the interviewed place for his opinions, suggestions and insights, the form and content of the answers can be chosen at their discretion. (Rentzsch, Schutz, 2009) This form of interviewing requires a more elaborate evaluation method, since each answer can have different contents. The evaluation method is discussed in the following chapter. According to the content and scope of the questionnaire, the layout is another component of the preparation. The optics of the questionnaire should not be neglected, it is the first impression of the respondent and must be appealing and structured. The layout must be created according to the following specifications:

- The questions are clearly structured and numbered.
- Enough space for answers to open questions. Pre-drawn lines facilitate filling in.
- Fonts, numbering, figures and orientations are always in the same size and color. Pay attention to the group of participants, make sure that the font is not too small and that it is consistently assigned to the fonts.
- Paper size DIN A4.
- Map the question and the corresponding answers on the same page, so no scrolling or searching is

necessary. Double-sided printing of the pages should be avoided. (Grabner-Berger, 2013)

The questionnaire must be pleasant to read and all sentences and figures must be well understood by respondents. Through structure and a consistent font, the respondent is easily guided through the questionnaire and can focus exclusively on the questions and answers. The concentration is not disturbed and the result more meaningful. After the preparation follows the actual creation of the questionnaire. A good result results from a good survey design, the questions and the design have to be carefully designed. If every phase is planned and implemented well, then a good survey statistic results. The goal is to obtain concrete actions and explanations for the further course of action from abstract ideas. (Davino, Fabbris, 2013) The starting point of the survey and the problem to be investigated is the starting point of the survey. Following are some of the eighteen questions presented. The first two questions are statistical questions and are intended to provide information about the industry and the relationship between company size and willingness to innovate. Is the company ready to engage in innovation, budget for it, and pave the way for a product launch? Only when this willingness is given, innovations can pave the way for the trade. Is an organization in the company promoting innovation? Are there innovation priorities that capture both the mind and the heart? (Almquist, Leimann, Rigby, Roth, 2013) The purpose of this information is to show the researcher if there are other ways to innovate and to what extent they need to be considered for the research project. In the company, the employees have the experience and expertise. If this knowledge is used by the companies as a relationship management scenario, a product innovation can also go the way through the employees into the company. (Burlton, 2001) Through customer reactions to new products, the customer can be integrated as an exchange medium in company decisions. (Sorescu, Frambach, Singh, Rangswamy, Bridges, 2011) The issue of claim management that supports strategic and operational business decision-making can provide the company with insights into missing items in assortments. The complaint in this case is not defective goods, but the customer's reference to assortment gaps. This process of data mining, called business intelligence, helps to achieve business goals, for example, by evaluating collected customer data. (Skulschus, Wiederstein, 2008) There are new applications for data acquisition, for example via the channels of social media platforms. Which are used by the interviewees and how are they evaluated? Are these media used by the target group and does the innovation have to be presented on these platforms? At the same time, the researcher learns which media are used by those responsible. These answers, which point the researcher in the direction of the path of innovation in the retail, are expected to answer the questions. The question of past successes conceals the question of the willingness to innovate, which and how many innovations are actually realized in the industry? If numbers of innovation introductions are mentioned here, a conclusion can be

drawn on the actually realized innovations and if the fallow is affine for new products. The final questions are for statistics, asking for gender and age to mark the end of the questionnaire. All questions have the goal of finding out as much as possible about the readiness to innovate and the ways of gathering information of the companies through the open question, in order to find the most successful way of an innovation in the retail. The evaluation is based on the primary frequency distribution, the basic evaluation is the listing of all answers and the shortening of the list by consolidating the replies given several times and then the reduction of the information to one statement per question. (Schelten, 1997) The survey is designed to improve the coverage of group opinions. Knowledge is generated by selecting experts and focusing on an instrument to capture. (Häder, 2014) For the evaluation of the survey, an inductive category definition is applied directly from the material in a generalization process. In the first step, it does not adhere to previously formulated theories, but with this method first captures the material and then summarizes it. (Mayring, 2008) This formulating interpretation captures the theme and the subject matter, distinguishes between what is said in the group and what mode of operation the statements must be treated by. (Bohnsack, Netwig-Gesemann, Nohl, 2001) In order for the result to be perfectly presented, the coding frame or even the clusters is an important result. There are two ways to structure the experience area, once by category or once by case. Furthermore, there are three ways to qualitatively present the results:

- Describe and illustrate the results in a continuous text
- Describe and illustrate the results using text matrices
- Carrying out additional data exploration and analysis and presentation of the data. (Schreier, 2012)

For the evaluation of the present survey, clusters are formed so that the answers can be registered and classified. The following tables cover all qualitative questions and answers. The CEO of the company, hereinafter referred to as CEO, is responsible, as are the respondents Senior Vice Presidents and Category Managers, the Retail and Commodity Business Areas, the answers of these groups are summarized. Two other clusters list the Marketing business unit and the responses from the franchise partners. The answers are related to these three business areas. The individual questions are listed and the most frequently given answers of the respective business area are presented. Each presentation is followed by a summary, with comments by the author in relation to the answers. Outside the table are other notes from the author, they refer to improvements that were noticed immediately in the analysis. The improvements concern the questions and the content of the questionnaire. In a second step, the summaries of the questions are compared with the research questions and the contribution to the individual research questions evaluated. (Merton, Barber, 2006) This assessment can be made because the author has been part of the company for fifteen years. In addition, the methodology of how the data is collected and collected



will be explained in the following chapter. The structure of the research work results in the research concern, it is divided into different activities, the research steps:

- Establishment of information-gathering objectives.
- The design of the study.
- The creation of a reliable and valid survey tool.
- Administration and analysis of the survey data.
- Reporting on the results. (Fink, 2003)

The survey is aimed at experts and executives in the relevant industry, in this case pet food and accessories. Since the target persons have a high level of responsibility in the respective company and therefore have little time for questioning, the questionnaire will not be designed too extensively. With eighteen different questions, of which four are statistical, the scope of the questionnaire in the opinion of the author, can be fulfilled in a short time and the criteria of the time not claimed. The person needed seven minutes for the task, but she did not ask any questions. The enlightenment of the participants is calculated with three minutes per person. For the questioning of the target group it is necessary to make an appointment with 20 minutes, taking into account the possibility of asking questions. Scheduling twice the time gives enough time to answer and the positive side effect may be that less time is required for the interviewee to have a few minutes to spare and finish another job. The contact attempts to make an appointment have been based on an on-site appointment at the campus of the participants. The appointment was arranged with each person in person to avoid being rejected on the phone and to limit the appointments to a total of three days. (Engel, Bartsch, Schnabel, Vehre, 2012) The evaluation of the survey of the business owners and the managing directors, takes place according to the frequency distribution of the answers and the subsequent reduction of the answers to short and meaningful statements, called qualitative content analysis. It is adapted to the type of questionnaire, with the semi-structured questions. A table summarizes all statements at the end and clearly shows the result. In the case of a new survey, the type of evaluation can be used again at any time and the statements that are at the end can be compared with the table of the results of the first survey and agreed. If the survey is conducted by other researchers and the findings are interpreted in the same way, there is a high degree of interpretation objectivity and the evaluation method is confirmed. (Wolf, Best, 2010)

The evaluation gives the following picture to the researcher:

- A budget is planned for innovations.
- Customers and employees are not involved in innovation processes.
- There is no fixed innovation process.
- The company is informed about innovations.
- The information is obtained via the known media.
- If innovations are identified there are structured and prioritizing actions.

- The goal for the future is a solid and constant innovation process.

Because no sector-specific method is available, the questionnaire survey is seen as a meaningful way of answering the research questions. With the survey and the evaluation of the results, it can be determined how and at which point the surveyed experts inform themselves about innovations. This result enables the introduction of innovation at the right place and with a goal-oriented approach.

There are already companies that actively pursue market research for innovations, both in Germany and in other European countries. When visiting the websites of the companies, you will find the innovation research in the company context and the keywords that big companies formulate for their innovation research, for example:

- Amazon - Thrift promotes innovation, The culture of innovation is creativity through limitation. (Amazon, 2019)
- Bayer AG - Grant4Targets, researchers apply their concepts, the best are financially supported. (Bayer AG, 2019)
- Fressnapf Tiernahrung - Innovations platform in the world's largest trade fair for the pet shop trade "Interzoo", entrepreneurs and their product can apply on this platform, a jury selects the best products for their own range. At the same time, scouts from the company are going to the fair and looking for innovations (Pet Online, 2018)

The big companies thus promote the active application of the companies and manufacturers and either pass on the innovation activity to creative employees or request them from outside the company. In the selection of the target group for the survey on the best method of an innovation placement, the participants were also the commissioned trend scouts of the company. If the evaluation of the survey is considered, none of the respondents explicitly refer to the existing platform. Is that why the assumption is true that corporate trend scouts no longer recognize real innovation? Scouting has an extremely high relevance in the company, new technologies, new products and new trends are success factors that secure a company future. Scouting in practice is easy, there are capacities to reserve, define a process and actively research. (Tagwerker-Sturm, 2018) Among other things, the most common sources are:

- Internet research
- Newsletter
- literature
- visit of fairs
- patent analyzes
- Discussions with company representatives
- Expert Talks (Tagwerker-Sturm, 2018)

If these sources are transferred to the own project, the survey of the experts by means of a questionnaire, the

expert discussion on trend scouting, which also the researcher is the Trend Scout, since she is looking for a new method, which can also be regarded as a trend to the market introduction. The visit of fairs as a further source supports another result of the survey, the experts called all fairs as a source of inspiration and the place where the innovations are expected. Referring to the execution, two further ways of contacting the responsible decision makers are to be included in the result of the research. Creating your own website as a landing page for scouts and contact to the editors of the respective technical literature. If a group of assortment managers are made aware of a new product, they must have their own website, which provides more information about the company, the product and the general conditions. Posting a contribution in a technical literature can happen through the innovation itself or is associated with a financial outlay. If the product is new to the industry and promises a lot of attention, a review in a trade journal is also a reputation for the magazine because it is the first to point out the innovation, highlighting its ability to trend scout. The result of the survey and the conclusions from the research on the innovation process of other companies show a surprising level of coverage. Surprisingly, because even today in the modern age of social media and with unrestricted access to information, no really new ways of introducing innovation have been found in retail. The programming of the website so that all interested parties can inform themselves about the innovation, the presentation of innovations at trade fairs and in trade journals are well-known strategies for product launch. Comparisons with existing companies in the market show a very high innovation strategy in their own company, with the most diverse characteristics and, depending on the size of the company, also with the corresponding scope. Knowing the latest trend and integrating the products or processes into their own portfolio, the companies receive through co-operations, through their own research and design centers or through trend scouts, the task of market analysis and the inclusion of these new products or processes in their own management take over. The result that no new method for introducing innovation was found in the survey can be the result of personally written questions. The content of the questions contains the wishes and associations of the author and can therefore influence the result. The interview in the pet food and accessories industry, the industry where the author was able to gain access to management and franchise partners, shows the same innovation management efforts as many other companies after the evaluation. The restriction to one industry and the narrow scope of the survey provide answers that are specific to the industry, but do not provide new methods. The results obtained from the evaluation are in this work the conclusion that the method of questioning through a questionnaire for the introduction of an innovation provides valid results and thus confirms the research method. The results are surprising for the researcher, but really new ways of innovation in the trade were not discovered by the survey. The research revealed the same methods of identifying innovation among different

companies, with different industries. The responses evaluated show that respondents and other industries still acquire information on news, trends or innovations in the same way. Primarily the following information channels are used:

- Visiting trade fairs / trade fairs
- Cooperation with inventors / entrepreneurs
- Construction of own innovation laboratories
- Research on the Internet
- Contact with company representatives
- journals.

For research, the method of information gathering is a self-designed questionnaire, a valid procedure to result in a recommendation on how innovations can be successfully placed in the trade. Also, the result that research does not show any new ways, gives the company the security, known ways can lead to success. A professional appearance at trade fairs and with its own website on the Internet, contributions in the respective journals and its own effort in contact with the companies to present its innovation, are the promising approaches. Convinced of the product or the process, there is the possibility of being detected by trend scouts and the product that companies that control their innovation process via scouts gets into the market.

#### References

- [1] ALMQUIST, Eric / LEIMAN, Mitchell / RIGBY, Darel / ROTH, Alex (2013) Taking the measure of your Innovation Performance, Brain & Company
- [2] ANDERSON, Donald L. (2017) Organization development. The process of leading organizational change, SAGE Publications Inc.
- [3] BOGNER, Kathrin / LANDROCK, Uta (2015) Antworttendenzen in standardisierten Umfragen, GESIS Survey Guidelines
- [4] BOHNSACK, Ralf / NEUTWIG-GESEMANN, Iris / NOHL, Arnd-Michael (2001) Die dokumentarische Forschungspraxis: Grundlagen qualitativer Sozialforschung, Leske und Burdich, Opladen
- [5] BORTZ, J. / DÖRING, N. (2016) Forschungsmethoden und Evaluation in den Sozial- und Human-wissenschaften, 5. Auflage, Springer Verlag Berlin, Springer International Publishing, CH-Cham
- [6] BURLTON, Roger, T. (2001) Business Process Management Profiting from Process, Sams Publishing, Indianapolis, USA
- [7] DAVINO, Christina / FABBRIS, Luigi Editors (2013) Survey Data Collection and Integration, Springer Verlag Berlin
- [8] DILLMAN, D. A. (1978) Mail and telephone surveys: The total design method. New York, Wiley
- [9] ENGEL, Uwe / BARTSCH, Simone / SCHNABEL, Christiane / VERHE, Helen (2012) Wissenschaftliche Umfragen: Methoden und Fehlerquellen, Campus Verlag Frankfurt/New York

- [10] EZZY, Douglas (2002) *Qualitative Analysis, Practice and Innovation*, Routledge, London
- [11] FINK, Arlene (2003) *The Survey Handbook*, Second Edition, SAGE Publications, California
- [12] FLICK, Uwe (2009) *Sozialforschung, Methoden und Anwendungen*, Rowohlt Verlag GmbH, Reinbeck bei Hamburg
- [13] FRIEDRICH, Jürgen (1999) *Methoden empirischer Sozialforschung*, 14. Auflage, Westdeutscher Verlag GmbH, Opladen
- [14] GNAHS, Dieter (2010) *Kompetenzen – Erwerb, Erfassung, Instrumente*, W. Bertelsmann Verlag GmbH & Co. KG
- [15] GRABNER-BERGER, Doris (2013) *Wissenschaftliches Arbeiten in den Wissenschafts- und Sozialwissenschaften*, 2. Auflage, Springer Fachmedien Wiesbaden
- [16] GRÄF, Lorenz (2001) *Optimierung von WWW-Umfragen: Das Online Pretest-Studio*. In: BATINIC, Bernad / WERNER, Andreas / GRÄF, Lorenz / BANDILLA, Wolfgang (Hrsg.): *Online research: Methoden, Anwendungen und Ergebnisse*, Göttingen u.a.: Hogrefe Verlag für Psychologie
- [17] HÄDER, Michael (2015) *Empirische Sozialforschung: Eine Einführung*, 3. Auflage, Springer Fachmedien, Wiesbaden
- [18] HÄDER, Michael (2014) *Delphi-Befragungen: Ein Arbeitsbuch*, 3. Auflage, Springer Fachmedien, Wiesbaden
- [19] HENNIK, Monique / HUTTER, Inge / BAILEY, Ajan, (2011) *Qualitative research Methods*, SAGE Publications Ltd. London, EC1Y1SP
- [20] HOFBAUER, G. / KÖRNER, R. / NIKOLAUS, U. / POOST, A (2009) *Marketing von Innovationen: Strategien und Mechanismen zur Durchsetzung von Innovationen*, Verlag W. Kohlhammer, Stuttgart
- [21] KLEBER, Eduard W. (1992) *Diagnostik in pädagogischen Handlungsfeldern: Einführung in Bewertung, Beurteilung, Diagnose und Evaluation*. Weinheim; München: Juventa Verlag
- [22] KROMREY, Helmut (2002) *Empirische Sozialforschung*, 10. vollständig überarbeitete Auflage, UTB für Wissenschaft, Leske + Budrich, Opladen
- [23] LANG, Sabine (2010) *Die standardisierte Befragung in der Markt- und Sozialforschung*, Skript zur Lehrveranstaltung, KV Klein Verlag, Zweibrücken
- [24] LEAVY, Patricia (2017) *Research Design: Quantitative, Qualitative, Mixed Methods, Arts-Based and Community-Based Participatory Research Approaches*, The Guilford Press/Guilford Publication, New York
- [25] LEHNER, Johannes, M. / FARTHOFER, Alois (2012) *Evidenzbasiertes Management: Methoden und Kompetenzen der Organisationsanalyse*, Linde Verlag Ges.m.b.H, Wien
- [26] MAYRING, Philipp (2008) *Qualitative Inhaltsanalyse – Grundlagen und Techniken*, 10. neu ausgestattete Auflage, Beltz Verlag, Weinheim, Basel
- [27] MAXWELL, Joseph, A. (2005) *Qualitative Research Design: An Interactive Approach*, Second Edition, SAGE Publications Inc., London
- [28] MERRIAM, Sharan, B. (2009) *Qualitative Research: A Guide to Design and Implementation*, Jossey-Bass, A Wiley Imprint
- [29] MERTON, R.K. / BARBER, E. (2006) *The Travels and Adventures of Serendipity: A Study in Sociological Semantics and the Sociology of Science*, Princetown University Press
- [30] MORSE, Janice, M. (1994) *Critical Issues in Qualitative Research Methods*, SAGE Publications, California
- [31] MUMMENDEY, Hans, D. / GRAU, Ina (2014) *Die Fragebogen-Methode*, 6. Korrigierte Auflage, Hogrefe Verlag Göttingen
- [32] ORDOLEZ, Patricia (2012) *Knowledge management and Drivers of Innovation in Service Industries*, Information Science Reference, Hershey
- [33] RAAB-STEINER, Elisabeth / BENESCH Michael (2012) *Der Fragebogen, Von der Forschungsidee zur SPSS-Auswertung*, 3. Auflage, Facultas Verlags- und Buchhandels AG, Wien
- [34] RENTSCH, Katrin / SCHUTZ, Astrid (2009) *Psychologische Diagnostik: Grundlagen und Anwendungsperspektiven*, 1. Auflage, Verlag W. Kohlhammer GmbH, Stuttgart
- [35] SCHAMBACH-HARDTKE, Lydia (2005) *Einführung in das Methodenspektrum Sozialwissenschaftlicher Forschung*, Schibri-Verlag, Uckerland. In: PATZELT, Werner J.(1994) *Qualitative Politikforschung in NOHLEN u.a. 1994*.
- [36] SCHELTEN, Andreas (1997) *Testbeurteilung und Testerstellung*, 2. Auflage, Franz Steiner Verlag, Stuttgart
- [37] SCHNELL, R. / HILL, Paul B. / ESSER, E. (1999) *Methoden der empirischen Sozialforschung*. 6., völlig überarbeitete u. erweiterte Auflage. München u.a., Oldenbourg Verlag
- [38] SCHREIER, Margit (2014) *Varianten qualitativer Inhaltsanalysen: Ein Wegweiser im Dickicht der Begrifflichkeiten*, Forum Qualitative Sozialforschung, Sozial Research
- [39] SKULSCHUS, Marco / WIEDERSTEIN, Marcus (2008) *Grundlagen empirische Sozialforschung und Fragebogen im Unternehmen*, Comelio GmbH, Essen
- [40] SORESCU, Alina / FRAMBACH, Ruud, T. / SINGH, Jagdip / RANGASWAMY, Arvind / BRIDGES, Cheryl (2011) *Innovations in Retail Business Models*, Journal of Retailing, A&M University, TX USA
- [41] WEGENER, Robert/ LOEBBERT, Michael/ FRITZE, Agnes (Hrsg.) (2016) *Coaching und Gesellschaft: Forschung und Praxis im Dialog*, Springer Fachmedien, Wiesbaden
- [42] WEIS, Hans Christian (2009) *Marketing, Kompendium der praktischen Betriebswirtschaft*, Professor Klaus Offert (Hrsg), 15. Auflage, Friedrich Kiehl Verlag GmbH, Ludwigshafen
- [43] WOLF, Christof / BEST, Henning (Hrsg.) (2010) *Handbuch der Sozialwissenschaft*, VS Verlag für Sozialwissenschaften, Springer Fachmedien, Wiesbaden

## THE GENESIS OF THE LEGAL STATUS OF THE COMPANY'S MANAGER IN LITHUANIA

*Erika Statkiene*

**Lithuania Business University of applied sciences**

Turgaus St. 21  
Klaipeda, LT- 91249, Lithuania  
+370 67142462  
statkiene.paskaitos@gmail.com

**Abstract:** *The purpose of this article is to research the laws governing a legal status of a company's head in Lithuanian legislation by using historical comparative analysis method, the qualitative document analysis method, logical and interpretation methods. The research delves into evolution of law process, comparing primary law projects with the actual legislation being currently in force; determines specifics of regulatory development and peculiarities of its development affecting the formation basis of current legal framework. At the theoretical level, the concept of the head of the company is analyzed, by comparing the opinion of the different authors in scientific literature on this subject. Therefore, the case law study is examined, which deals with the issue of legal status of a company's manager and defines the concept of the head of the company in legal practice of Lithuania. It can be stated, that the importance of chief executive officers, is not to be underestimated and this article seeks to identify the problems in law of definition and the legal status of a head of the company in Lithuanian legislation. Thus, it is necessary to draw lessons from Lithuania Corporate Law, to revise advantages and disadvantages of our Corporate Law regulations, to definite the correct definition of the legal status of a head of the company. The theoretical part deals with not sufficiently analyzed concept of the company's head, based on the decisions of the Supreme Court of Lithuania and various legal acts, formulating a new definition of the concept of a company's head, useful for the formation of the proper management of legal entities. Therefore, the other part reveals the peculiarities of legal regulation of the company's manager and the development of the legal legislation.*

**Keywords:** *legal status, genesis, concept, company's manager.*

### 1. Introduction

The process of the company head's legal regulation genesis in Lithuania has not been widely studied, because legal research works mostly focus on the explanation of problems of the company manager's legal status and responsibility dualism (Jakuntavičiūtė, G., 2011, Tikniūtė, A. & Uosienė, J., 2013, Davulis, T., 2012, Tatol, R., 2009). By choosing the historical comparative research approach, it is attempted to examine the status of the company head's development peculiarities from a different perspective, as a starting point selecting the first Lithuanian Republic Law on Companies and in-depth analysis of its change course. Research based on qualitative comparative analysis of legal doctrine, investigation of scientific literature, analysis of normative legal acts, recent jurisprudence and an overviewing of the case law of Lithuania. The question of the legal status of a head of the company appears to be quite important, according to L. Zhi, since an owner and a manager become "the principal-agent relationship" in the enterprise, the manager's "moral venture question" is inevitable. With the development of corporate governance structure, a head of the company appears, the people begin to take care of executive officer legal status and legal liability. A head of the company has not only a manager's authority of office, but also some part of authorities of board of directors (2009, 245-259). Object of the article: The genesis of the legal status of the company's manager. The aim of the article: To study the theoretical and practical aspects of the genesis of legal status of the company's manager in Lithuanian legislation. The main tasks of the article is to investigate the main features of the concept of a company's manager and to

analyze the genesis of the legal status of the company's head in Lithuanian legislation.

### 1.1 Essential features of the concept of the company's manager

In the legal doctrine, the concept of the head of an enterprise is not widely analyzed, therefore, in order to examine the peculiarities of the concept of a company's manager, it is necessary to analyze the various scientific articles, legal doctrine, laws, court precedents describing the concept of the head of a company as well as formulate and defining the concept of the head of a company, determining a true essence of this subject. The legal acts of Lithuania do not provide a single definition of the concept of a company's manager. According to Rimgaudas Greicius, both in the doctrine of foreign countries and Lithuania a head is to be regarded as a legal individual's administration's head, members of the board and supervisory board members (2007, 128). It has to be noted that the Supreme Court of Lithuania (hereinafter the SCL) has stated that a head can be not only a person who, under the company's documents, at that time served as the head of a company (de jure head), but also as a person under the direction of which the company (de facto head) was acting, could be regarded as a head. Having recognized that the official duties and functions of the manager were systematically carried out by a person not officially appointed to him and who is liable for his actions as de jure head (SCL, Nr. 3K-3-427/2013). Based on the provided explanation, the definition of the concept of a company's head, formulated in legal sources, will be applicable, de jure and de facto, to the entity's manager. It

has to be emphasized that the wording - the right to act, on the basis of the interpretation of the cassation court, means that the individual has the power to resolve issues related to the activities of the legal person and thereto associated relations (SCL, Nr. 2K-P-89/2014). From the provided explanation, it can be stated that the right to act on behalf of a legal person or organization is the right to perform various acts having legal significance that creates, modifies or cancels the rights and obligations of the represented economic entity. According to Remus Valsan, the head of a company must 'only exercise powers for the purposes for which they are conferred'. They are, as if other fiduciaries entrusted with the management of another's interests, enjoy a wide degree of authority that enables them to apply their business judgment in complex and rapidly changing contexts. Their decisions are often driven by multiple objectives and have complex effects, proximate and remote. For example, a director may exercise the power to issue new shares for the proximate and dominant objective of raising new capital (2016, 157-164). Richard Williams, in his article, analyses the likely impact of new civil recovery powers that allow the state to launch personal liability proceedings against directors of failed companies. The article suggests that directors implicated in serious wrongdoing are more likely than the norm to be declared bankrupt by a factor (2015, 311-339). The legal status and liability of the head of the company have become a point of interest in the labor law discipline. The other author, Jacek Jastrzebski, asserts that the directors' liability is now a highly relevant and vividly discussed topic of both Polish commercial and civil law. He implicates, that directors' liability is becoming more and more procedural. It is mainly about applying a proper process rather than about the business outcome. The responsibility for unsuccessful business decision remains generally a moral or reputational one as long as a reasonable decision making process was employed and properly documented (2017, 73-93). The directors' personal liability for company's obligations is equally important in the Georgian Supreme Court's Decision. According to the G20/OECD Principles of Corporate Governance, all obligations of directors and shareholders are towards each other. For example, illegal tax avoidance might qualify as the breach of director's duty of care, but granting the right to the tax authorities to request the performance of tax obligations from director's personal assets is a controversial (Narmania, G., 2016). This implicates that hiring the head of a company should be very accurate decision, made by thorough candidate evaluation, estimating his competence and practical experience in management.

An explanation of the concept of a company's head first of all is determined by defining the term of a company. Conception of a company is quite accurately defined by Enterprise Bankruptcy Law of the Republic of Lithuania (article 1, p. 2). Where a company is named as all legal persons registered in the Republic of Lithuania, according to the laws, except for budget institutions and other non-profit organizations (Legislative register 2017, Nr. IX-

216). From the content of the article, it can be stated that the company is profit-making public and private legal entities, these features are also enshrined in the Civil Code of the Republic of Lithuania (Legislative register 2017, VIII-1864, art. 2.33, 2.34). The data presented in the monograph of Deividas Soloveichikas also highlights the fact that profit making and maximization is considered to be the main strategic goal of setting up a company (2016, 17). In the first Law on Companies of the Republic of Lithuania a company is defined as "an economic entity with its own name established according to the law in certain commercial-economic activity" (v.z. 1990, Nr. 14-395, art. 2). This law describes various types of businesses: sole proprietorships, partnerships, limited liability companies, investment companies, private limited companies, state and municipal enterprises, agricultural companies, cooperative companies, which are regulated by separate laws in today's legal framework of the Republic of Lithuania (v. z. Nr. 112-4991, Nr. 112-4990, Nr. 64-1914, Nr. 74-3425, Nr. 102-2049, Nr. 13-328, Nr. 20-488). After reviewing the listed laws governing the activity of a legal individual, it is possible to draw a conclusion and formulate the concept of the company, as a legal individual engaged in economic-commercial activities to satisfy public and private interests. In the legal doctrine, the concept of a company is formulated as a business entity with its corporate name, established for commercial economic activity, in order to benefit the founders; it is the activity of incorporated legal individual, entrepreneur, merchant (Valancius, K.L., Abramavicius, A., Mikelenas, V., Dambrauskiene, R., Marcijonas, A.). After analysis of the entity's subject definitions in the aforementioned sources, in using "legal person", "company", "organization", "entity" and other terms, it can be said that the content of the composition is similar and meets the essence of a company's definition. The definition treating the concept of a company as a legal individual with legal subjectivity, who carries out economic commercial activities, meeting certain needs and interests. In developing the topic of this work, the listed terms are used as synonyms, without the use of civil legal meaning, which corresponds to the meaning of the company's concept. Unlike the concept of a company, the concept of a head is not so much addressed in the legal system of Lithuania. In order to deepen into the essence of the concept of a head and formulate a definition that corresponds to the content of the concept of a company's head, various legal sources and explanations of the practice of the Lithuanian courts are used. In the case-law of the Court of Cassation, when interpreting the legal status of a company's head, it is stated that "the head of the company acts as its trustee and authorized representative, which creates rights and obligations for the company by virtue of its actions, from the competence of the head, to a large extent, depends success of the activity of the whole legal entity. As a result, the management bodies of the company have a statutory right to dismiss a head who does not comply with the interests of the company" (SCL, Nr. 3K-3-379/2013). From the interpretation made by the panel of judges it is clear that in defining the concept of a head an important

determinant is the level of acquired competency, since the head is a person who can make decisions in accordance with his or her competence in different areas of the company's activities and assume responsibility for performance results. In analyzing the statements regarding the interpretation of the concept of a head in the practice of Lithuanian courts, there arises a question as to why the concept of "competence" used in the concept of a company's head is so important? From the content of the examined laws, jurisprudence and the legal doctrine, it can be claimed that the fact that knowledge and skills are the basis for the company's competitiveness in the market is a sufficient argument for the importance of excellence in the definition of a company's head. In literature, "competence" is described differently: it is performance, ability to perform the tasks required at work; it is a combination of knowledge and abilities necessary for implementation of work tasks or roles (Ivanovic, A., Collin, P., 1997, Sokol, J., 2001). In generalizing, it is possible to say, that competence is the ability of the head of an enterprise to apply their knowledge and skills in practice for the best result.

The Supreme Court of Lithuania has stated that the effectiveness of the entity depends on the head's competence, efficiency and organization of the activity, and therefore the head is provided with a wide range of powers to act on behalf of the company and dispose the assets of the company (SCL, Nr. 3K-3-379/2013). By summarizing the above-mentioned aspects, it is to be concluded that in the definition of the head, the concept of competency is necessary for a proper description of the functions of the company's head. In the case under consideration, it should be noted, that the Lithuanian Court of Cassation has ascertained that "Management work in its essence relates to autonomy, discretion, adoption of necessary decisions, and responsibility. <...> As the actions (inaction), decisions of a leading employee may affect the activities of a large part or even the whole institution, higher standards and more stringent requirements apply to the assessment of the performance of such employees" (SCL, Nr. 3K-3-115/2013). From the provided explanation, there should be highlighted the concept of "discretion", which Doctoral student Ingrida Linkevičiūtė in the written jurisprudence, after examining various sources of interpretation of this term, describes how subject's unilateral choice allowed by law to make decisions and choose the used principles (2006, 65-72). After analyzing the provided explanations, it should be stated that both terms of competence and discretion are the cornerstones that reveal the essence of the concept of a company's head.

In summarizing the provided arguments, it can be stated that the concept of a company's head can be defined as – a competent and having a right of discretion individual's management to an entity by satisfying certain needs and interests.

## **2. The genesis of the legal status of a company's head in Lithuania**

The specifics and nature of the company head's work lead to the fact that they are given a broad competence, the work in its essence relates to the autonomy required for the adoption of decisions and responsibility. The head's responsibilities imply the possession of a control function; non-use of control means the acceptance of liability for the potential negative consequences that may arise therefrom. It is important to note that an increasing level of responsibility of the governing bodies and improvement of regulation is one of the essential areas for improvement that are foreseen at the international level (Greicius, R., 2003). In order to find out the limits of liability applying to the head of an enterprise, it is necessary to define one's legal status, which origins relate to the acceptance of the primary Law on Companies (hereinafter referred to as LOC) of the Republic of Lithuania in the legal system of Lithuania.

It should be noted that in Lithuania, there are theoretical and practical problems related to dualism of a legal status of the company's head and legal liability when there is a conflict between civil and labor law rules (Jakuntaviciute, G., 2011, Tikniute, A., & Uosiene, J., 2013). Taking into account the aforementioned problem of dualism, it can be stated that the peculiarities of regulating the legal status of a company's head can be analyzed in accordance with the norms of the Civil Code of the Republic of Lithuania (art. 2.83, p. 3.). This article states that, the management body of the company is responsible for organizing the activities of a legal person, accounting and actions of legal entities. On the basis of the above, it can be claimed that in relations with persons not working in the company and acting on behalf of the company, the head of the company is responsible as a management body. It means that the manager of an enterprise is considered a subject of employment relationship only when performing internal work functions provided in the employment contract. It is noteworthy that the Labor Code of the Republic of Lithuania (hereinafter LC), embraces the regulatory rudiments of a legal status of the company's head. In the first edition of the Law (art. 144, p. 2), there were highlighted limits of responsibility of the head of a company for damage done to the enterprise (v. z. 1972, Nr. 18-137). Since the first edition of the LC many changes occurred in the code, in the actual edition there is no more article that would highlight the responsibility of the head of a company, since now came into force a law foreseeing a complete agreement on material responsibility, according to which the contract may be signed with employees whose work is directly related to the storage of tangible assets, which determines the material assets values an employee assumes a full material liability for and which one obligations are assumed by the employer, ensuring that the damage does not occur (v. z. 2002, Nr. 64-2569, art. 256, p.1)). Meanwhile, the Law on Companies provides a separate article defining the material liability of the head of a company. Based on these laws, one can conclude that liability for the head of a company was

regulated differently, taking into account a certain period of time. In analyzing the material and civil responsibility of the head of a company it is being faced with the problem of dualism, as basis of the topic of this work are peculiarities of responsibility application of the head of a company, in investigating the aspects of genesis of regulating a legal status of the head of a company, LOC and changes in regulatory development of the legal system of Lithuania are selected as the main analyzed source. According to Saulius Arlauskas, "Legal standards are embodied in the country's legislation, institutional framework, the origins of this concept can also be searched for in the reigning legal paradigm" (2011, 298). Based on this statement, it can be said that LOC, as in-depth historical comparative analysis of retrospective nature of the selected source is a sufficient for studying the genesis of the company's head legal status regulation, also this position is supported by the explanation of Court of Cassation practice, by which the panel of judges confirms that legal status of the head of a company, as a specific subject of legal labor relations, is primarily regulated by the Law on Companies (SCL, Nr. 3K-3-438/2013).

The origins of the legal regulation of the legal status of the company's head began after the Law on Companies of the Republic of Lithuania, which foresees that each company must have a head of administration that would be responsible for the management of the company's activities admitting (v.z. 1990, Nr. 24-594, art. 29, p. 4). In this first edition of the LOC, there is no detailed regulation of the legal status of the manager, it does not distinguish the functions assigned to one's competence, as it is defined in the current edition of this year. In order to analyze the genesis of regulation of the legal status of a company's head, there is chosen a comparative historical method. The chosen method helps to systematically review the LOC change (by reviewing 1995, 2000, 2005, 2010, 2015 admitted LOC). It is the one of the most practical ways to achieve the desired result, because the analysis of the change of this law actually reveals how evolved the legal status of the company's head and grew competence limits of the manager. As it was already mentioned, the first analyzed Law on Companies of the Republic of Lithuania (1995), was selected as the main reference point, after which in a consistent manner there will be reviewed changes in terms of the legal status of the company's head in a five-year time interval and determined the main aspects defining the current legal status of the head of a company. In analyzing the first LOC and after five years of adoption of the Law on companies (v.z. 1994, Nr. 102-2050, art. 29), it is possible to notice these fundamental changes regarding the legal regulation of the head of a company:

- the administration carries out its activities not only on behalf of the board's resolutions, but also by the decision of the head of administration, which was not provided in the first law;
- are indicated names of the possible positions of the head of administration (president, general manager,

director) and the process of determining the amount of wages;

- the function of recruiting (in the previous law these functions were performed by the management board of the company) administrative staff (except for the senior financial officer) is transferred to the competency of the head of a company, as well as in accordance with the company's articles of incorporation, resolutions of the management board and the working regulations, the head of a company has the right to conclude transactions on behalf of a company;
- instead of returning unfairly received income in case of improper performance of duties, the supplementary article states that the head responds in accordance with the procedure established by the Labor Code and obliges the company to compensate the losses caused by its fault;
- it is further regulated that an individual may be the sole head of an administration of the enterprise registered in the Republic of Lithuania and only if one meets the requirements for such duties provided in the law (it is considered that this amendment establishes the responsibility of the manager, that due to the liability and the amount of the foreseen powers, confidentiality requirements, the company head's position can be taken on behalf of the interests of only one company. It should be noted that this provision is in conflict with the provisions of the Labor Code, thus when a work contract is signed with one company, an employee imperatively is obliged not to start an employment contract and hold an identical position at another company, so, again there is a conflict of laws, in relation to the position of the head of a company);
- there remains a prohibition for the head of a company's administration to take the position of Chief Financial Officer (accountant);
- it is specified that in order to consider the transactions made by the head of administration as being invalid, it is necessary to refer to the procedure established by the Civil Code of the Republic of Lithuania.

After reviewing the analyzed differences, it can be stated that the status of the company's head had been changing by gradually providing one with more powers and foreseeing greater responsibility for the taken actions. After analysis of the LOC of the Republic of Lithuania after five years, it is possible to distinguish the essential changes to Article 29 of this Law (v.z. 1994, Nr. 55-1046, art. 29, p. 4, 10, 11): an indication that the head of a company may be not only an individual who has entered into an employment contract with the company, but also a person who has a patent to provide management services, or a personal enterprise, if the management contract is concluded; giving advisory votes to the board of directors to the head of a company, indicating the extension of the power of participation in the management of the company; as well as a more specific definition of liability indicating that the head of an administration has committed unlawful actions that exceeded the normal production and economic risk

and caused the company to be injured or received direct or indirect benefits at the expense of the company or its other shareholders, it is also possible to claim for compensation for the damage (including lost profit). From the provided amendments it can be seen that according to the systematic development of Lithuania's economy and the increasing number of companies, the legislator respectively increases the limits of the company head's empowerments and tightens responsibility for improper performance of duties, not being limited to compensation for damage, but also foreseeing loss of profit due to the prosecution of guilt by the law. Further deepening into the development of the company head's legal regulation, an overview of the changes introduced in the Law on Companies (v.z. 2000, Nr. 64-1914, art. 37), specifies the formation of a legal status of the manager in a separate article. The aforementioned Article 37 of the Law on Companies, which regulates the rights and duties of the head of a company, makes it possible to distinguish the following essential qualities that are significant for a legal status of the company's head, which differ from the articles analyzed in the preceding laws: the head of a company is named as the sole management body; chairman of the board of a company can be appointed as a head of enterprise, with whom the employment contract is concluded, the arisen labor disputes are being examined in the court; it is foreseen that the company's head determines the depreciation rates applicable to the company; the requirement to protect the company's trade secrets, which one learned while performing job duties, is included; specifies the functions assigned to the head of a company (responsibility for organization of the company's activities and implementation of its goals); annual financial reporting (a contract with audit firm, submission of documents to the authorities and shareholders, public announcement of information, management of personal shareholders' intangible and tangible securities accounts). By summarizing the content of the analyzed article, which complements the regulatory aspects of the company head's legal status referred to in the Article 29 of the LOC, it can be concluded that the company manager's responsibility and accountability to the management board of the company is consistently being increased; more responsibilities are added to the management activity functions, as the manager becomes responsible for financial statements and management of various documents and information flows. The obligation to organize day-to-day activities of the company, recruitment and redundancy specified in Paragraph 6 of Article 37 of this Law reveals that the manager's responsibility is directly related to the quality of work of the employees subordinate to him; in the article there is no longer an exception indicating that the manager's competence does not include an accountant's recruitment duty. The mentioned article implies the statement that the accountant, as an employee of the company, is being recruited by the head of a company and is directly responsible for the integrity and quality of this employee, making statements of annual reports, management of cash funds, and the correct completion, declaration and

submission of documents to the shareholders' meeting. Continuing the genesis of regulation of the company's head legal status, it is necessary to review and analyze the peculiarities of articles on the legal status of the head of a company provided in the Law on Companies of the Republic of Lithuania that came into force in 2010 and 2015 years (v.z. 2000, Nr. 64-1914, art.37). Over a decade, the rights and obligations of the head of a company regulated in Article 37 varied very much, there were adopted even seven amendments to the law (Legislative register 2014, Nr. XII-912). As a result, along with the already analyzed obligations, responsibilities and rights, it can be highlighted invalidity of the publicized article, on the right of the head of a company. The legal act directs one to determine calculation norms of depreciation of a company's asset; anticipation of the obligation to prepare an annual report; compulsory preparation of a decision on the issuance of a dividend for a period shorter than the financial year; obligation for formation of the shareholder list of a private limited liability company.

In analyzing the Law on companies, governing the status of a company's head, it can conclude that the origins of the legal status of the company's head began after the adoption of the first law of the Republic of Lithuania on limited liability companies, which stated only slight, rights, obligations and responsibilities limits of the company's manager provided in the first edition of Article 29. As it can be seen from the results of the research of the historical comparative method, the genesis of the regulation of the status of a company's head has developed gradually, with the increase in scope of managerial rights, duties and responsibilities, in terms of the management of the company's operations. The most significant amendment, which has also formulated the current Article 37 of the Law on AB of the Republic of Lithuania, that regulates the legal status of a company's head, was adopted in 2003 (v.z. 2003, Nr. IX-1889). After analyzing the content of this article and comparing it with the features of the legal status of the head of a company that was mentioned in the first edition, it can be concluded that the development of the regulation was conducted consistently and systematically in response to the economic and social indicators of Lithuania's development. With a growing number of companies (as compared to 2009, in 2015 in Lithuania there were 8443 operating entities more (reviewed 2015 05 02)). With the increase of indicators of the violations of law in the financial, economic and other areas where administrative and criminal liability can be won by corporate executives, it is natural that there is a corresponding change in the regulation of the legal status of a company's head. Company's managers systematically were given more and more rights and powers, freedom of decision-making, in parallel with stricter liability and financial accountability limits as well as compensation for damages due to improperly performed duties.

Having analyzed the contents of the articles of the Law on Companies of the Republic of Lithuania, related to the



legal status of the head of a company, it is to be stated, that the head is an employee of the company, employed under an employment contract and functions of the management board of the company are transferred to him. The information provided in the material of the international scientific conference (2007, 237) states, that the head of an enterprise is a management body of the company, that carries out management and control functions, acting within one's competence, without the right to assume the functions assigned to the competence of other bodies. The functions is not identical with the shareholders or members of the supervisory board members (. The analysis of the differences provided by the LOC, determined that the head of a company, more than a decade ago, has been given a right to participate in the company's board meetings without voting rights. As confirmed by the conclusions of the conference, that the functions of the manager and the council members, as well as shareholders, differ. The director is restricted to directly influence management of the company; however, one assumes responsibility for the implementation, control and maintenance of the solutions, provided in the company's internal system. As the LOC law changes, the head of a company is granted with more power. From the analyzed amendments on the company laws, it is established that the role of the head of a company, in the company's management system, is becoming more and more important. He is given the right to participate in the company's board meetings with the advisory vote. It is believed, that the legislator has correctly regulated competence limits of the company's head, taking into account the responsibilities and obligations of the manager.

After a consistent examination of the adopted amendments to the articles of the Law on Companies of the Republic of Lithuania over a five-year interval, the legal status of a company's head, in its latest version (Legislative register 2017, Nr. XIII-1835). It can be stated, that a head of the company can be defined as: a single-member company's management body, acting on behalf of a company, under an employment contract; entitled to take up the duties of a manager, in accordance with the laws, regulations and other rules of the company; organize daily activities of the company; hire and dismiss employees; carry out unilateral transactions; protect trade secrets, - is responsible for the organization of the company's activities and realization of its objectives. It took more than two decades to formulate this definition in the legal system of Lithuania. From an international point of view, the pace of genesis of regulation of the company's head legal status was rather slow, but as it was already mentioned, the development of the regulation of the legal status of the head of an enterprise corresponded to our country's economic and social needs.

### 3. Conclusions

After examining various legal acts, legal doctrine and decisions of Lithuanian courts, it can be stated that the concept of a company's head can be defined as – a competent as well as having a right of discretion legal

individual engaged in economic-commercial activities to satisfy particular needs and interests.

As the LOC law changes, the head of a company is granted with more power. It is established that the role of the head of a company in the company's management system is becoming more and more important, It is believed that the legislator has correctly regulated competence limits of the company's head, taking into account the responsibilities and obligations of the manager. It took more than two decades to formulate this definition in the legal system of Lithuania. From an international point of view, the pace of genesis of regulation of the company's head legal status in Lithuania, was rather slow, but looking from the prospective of Lithuanian growth rate, the development of the regulation of the legal status of the head of a company, corresponded suitably to our country's economic and social needs.

### References

- [1] Armanas Abremavičius and Valentinas Mikelėnas, *Imonių vadovų teisinė atsakomybė*, Vilnius, VĮ Teisinės informacijos centras, 2011, pp. 256.
- [2] Beata Martišienė, *Darbo santykių reguliavimo civiliniai teisiniai aspektai*, Vilnius, Vilniaus universitetas, 2012, pp. 116-117.
- [3] Deividas Soloveičikas, *Juridinių asmenų baudžiamoji atsakomybė. Lyginamieji aspektai*, Vilnius, Justicija, 2006, pp. 17.
- [4] *Enterprise Bankruptcy Law of the Republic of Lithuania*, TAR, 2017, Nr. IX-216.
- [5] Giorgi Narmania, Georgian Supreme Court redefines personal liability of shareholders and directors, *European Company and Financial Law Review*, Vol. 13, Issue 2, pp. 453-466, 2016
- [6] Jacek Jastrzebski, Corporate Directors' Liability in Polish Law, ECFR, pp. 73-93, Ipswich: EP, 2017
- [7] Jurij Sokol, Idealus vadybininko portretas, *Vadovo pasaulis*, No. 9, pp. 4-10, 2001
- [8] Kazimieras Liudvikas Valančius, *Investicijų teisė. Užsienio investicijų teisinio reguliavimo raida Lietuvos Respublikoje*, Vilnius, Eugrimas, 2005, pp. 552.
- [9] *Law of the Republic of Lithuania on Cooperative Societies*, Valstybės žinios, 1993, Nr. 20-488.
- [10] *Law on Companies of the Republic of Lithuania*, TAR, 2017, Nr. VIII-1835.
- [11] *Law on Companies of the Republic of Lithuania*, Valstybės žinios, 1994, Nr.102-2050.
- [12] *Law on Companies of the Republic of Lithuania*, Valstybės žinios. 1994, Nr. 55-1046.
- [13] *Law on Companies of the Republic of Lithuania*, Valstybės žinios, 2000, Nr. 64-1914, changes: Nr. X-750; Nr. 82-3252; Nr. X-1805; Nr. 135-5241; Nr. XI-354; Nr. 91-3914; Nr. XI-564; Nr. 154-6945; Nr. XI-1689; Nr. 146-6835; Nr. XI-1798; Nr. 160-7565; Nr. XII-912 // TAR, 2014, Nr. XII-912.
- [14] *Law on Enterprises of the Republic of Lithuania*, Valstybės žinios, 1990-05-20, Nr. 14-395.

- [15] Law on Holding Investment Companies of the Republic of Lithuania, Valstybės žinios, 2003, Nr. 74-3425.
- [16] Renata Tatol, Bendrovės vadovo atsakomybė už bendrovės vardu prišimtą riziką, *Juristas*, Vol. 5, Vilnius, 2011
- [17] Rimgaudas Greičius, Įmonių valdymas Europos bendrovių teisės reformos kontekste, *Teisės problemos*, Vol. 4, 2003.
- [18] Rimgaudas Greičius, *Privataus juridinio asmens vadovo fiduciarinės pareigos, Teisės problemos*, Vilnius, Teisinės informacijos centras 2003, p. 128.
- [19] *State Labour Inspectorate* [http://www.vdi.lt/PdfUploads/DSS\\_2009-2013bukle.pdf](http://www.vdi.lt/PdfUploads/DSS_2009-2013bukle.pdf)
- [20] *The Supreme Court of Lithuania*, 2013 01 16, civil case Nr. 3K-3-115/2013.
- [21] *The Supreme Court of Lithuania*, 2013 06 28, civil case Nr. 3K-3-379/2013.
- [22] *The Supreme Court of Lithuania*, 2013 06 28, civil case Nr. 3K-3-379/2013.
- [23] *The Supreme Court of Lithuania*, 2013 10 11, civil case Nr. 3K-3-427/2013.
- [24] *The Supreme Court of Lithuania*, 2013 10 21, civil case Nr. 3K-3-438/2013.
- [25] *The Supreme Court of Lithuania*, 2014 03 13, criminal case Nr. 2K-P-89/2014.
- [26] Valsan Remus, Directors 'powers and the proper purpose rule, *King's Law Journal*, Vol. 27, Issue 2, pp. 157–164, 2016.
- [27] Agnė Tikniūtė and Jūratė Usonienė, *Vienasmenio valdymo organo teisinis statusas: ar įmanomas vienareikšmiškumas?*, *Jurisprudencija*, Vol. 20(3), pp. 1095-1111, Vilnius, 2013
- [28] *Darbo ir socialinės apsaugos teisė XXI amžiuje: iššūkiai ir perspektyvos*, Proceedings of the International Scientific Conference, pp. 235-237, Vilnius, May, 2006
- [29] Ingrida Linkevičiūtė, *Administracinė diskrecija ir jos vertinimas teismų praktikoje*, *Jurisprudencija*, Vol. 5(83), pp. 65-72, Vilnius, 2006
- [30] Labor Code of the Republic of Lithuania, Valstybės žinios, 1972-06-30, Nr. 18-137.
- [31] Labor Code of the Republic of Lithuania, Valstybės žinios, 2002, Nr. 64-2569.
- [32] Li Zhi, *The research on the problems of CEOs' legal status and legal liability*, *International Journal of Law&Management*, Vol. 51, Issue 4, pp. 245-259, 2009
- [33] Richard Williams, *Civil recovery from delinquent directors*, *Journal of Corporate Law Studies*, Vol. 15, No. 2, pp. 311-339, 2015
- [34] Saulius Arlauskas, *Šiuolaikinės teisės filosofija*, Vilnius, Charibdė, 1999, 298.
- [35] Genovaitė dambrauskienė and Antanas Marcijonas and Others, *Lietuvos teisės pagrindai*, Vilnius, Justicija, 2004, pp. 183.
- [36] Anatolii Ivanovic and Peter Collin, *Dictionary of human resources&paersonnel management*. United Kingdom, Peter Collin Publishing, 1997
- [37] Gintarė Jakuntavičiūtė, Bendrovės vadovo atsakomybės bendrovei: civilinė ar materialinė atsakomybė? *Jurisprudencija* Vol. 3(4), 2011
- [38] *Law on Agricultural Companies of the Republic of Lithuania*, Valstybės žinios, 1991, Nr. 13-328.
- [39] *Law on Amendment of Law on Companies of the Republic of Lithuania*, Valstybės žinios, 2003 m. gruodžio 11 d. Nr. IX-1889.
- [40] *Law on Companies of the Republic of Lithuania*, Valstybės žinios, 2000, Nr. 64-1914.
- [41] *Law on Companies of the Republic of Lithuania*, Valstybės žinios, 1990, Nr. 24-594.
- [42] *Law on Individual Enterprises of the Republic of Lithuania*, Valstybės žinios, 2003, Nr. 112-4991.
- [43] *Law on partnerships of the Republic of Lithuania*, Valstybės žinios, 2003, Nr. 112-4990.
- [44] *Law on State and Municipal Enterprises of the Republic of Lithuania*, Valstybės žinios, 1994, Nr. 102-2049.
- [45] *Law on the Approval, Entry into Force and Implementation of the Civil Code of the Republic of Lithuania*, TAR, 2017, VIII-1864.
- [46] *Lithuanian Department of Statistics* <http://osp.stat.gov.lt/services-portlet/pub-edition-file?id=3188>
- [47] Tomas Davulis, *Įmonės, įstaigos, organizacijos vadovo teisinio statuso problema Lietuvos teisėje. Privatinė teisė: praeitis, dabartis ir ateitis*, Vilnius, Justicija, 2008, pp. 99-115.
- [48] *Lithuanian Department of Statistics* <http://osp.stat.gov.lt/verslui>

## INTERIM MANAGERS IN THE CFO ROLE IN MEDIUM-SIZED COMPANIES: RELATIONS BETWEEN CEO/TOP MANAGEMENT TEAM FIT AND ORGANISATIONS SUCCESS

*Ralf Schechowiz*

### University of Latvia

Raina blvd. 19  
Riga, 1586, Latvia  
+371 6703 4444  
rs16099@lu.lv

**Abstract:** *The ideal CFO is either seen as a glorified “bean counter” or as a Yeti. Expectations are high and seem to be overwhelming. Working as an Interim CFO inside a medium-sized company will create much pressure as it is “Management with a constrained duration, in which a manager is appointed from outside the organisation to perform an assignment for a limited period, after which the manager will leave the organisation.” The paper looks at how the relations between the interim CFO and CEO/Top Management are related to organisation success and to what extent the relation qualities influence the organisation success.*

**Keywords:** *Interim Management, CFO, CEO, Top Management Team, Organisation Success*

### 1. Introduction

The ideal CFO is either seen as a glorified “bean counter” [1] or as a Yeti [2]. Expectations are high and seem to be overwhelming. CFO should manage an efficient finance organisation and give business insights to manage performance and strategy [3]. Those heroes are given the name “Value Integrators” or “Performance Accelerators” as they outperform in to optimise performance, provide calculable insights, cover risk management and support rational decision-making [4]. Working as an Interim CFO inside a medium-sized company will create much pressure as it is “Management with a constrained duration, in which a manager is appointed from outside the organisation to perform an assignment for a limited period, after which the manager will leave the organisation” [5]. What especially remains to be explored are the relations between the interim CFO and CEO/Top Management on organisation success. The purpose of the study is to show Interim Managers in CFO roles in medium-sized businesses that a good CEO/Top Management Team fit is essential to contribute to the success of a company within the limited time they have their assignment.

#### 1.1 Interim Management – terminology and typology

“In interim management, self-employed interim managers work for a defined period (usually 3-18 months) usually in entrepreneurial responsibility in a company in a leadership position of the first and second level. Interim managers are used in different situations and tasks, e.g. For bridging unpredictable vacancies in the event of a management failure, for restructuring, in project management, for the introduction of new programs or in the establishment, transfer or sale of companies. The interim managers are distributed via a personal network or an interim provider, a company (or even an individual), which connect Interim Managers professionally [6]. Interim Management is the temporary transfer of management tasks to external self-employed persons [7]. Interim Management is a company-related and knowledge-based service provided by the manager himself [8]. The essence of interim management

is operational management and change management [9]. Interim Management is the answer to the increased short-term, economically driven management [10]. If a job is unoccupied many problems come up: overworked, demotivated employees, Projects are postponed, development is inhibited. There are plenty of negative consequences [11]. Deficits in management are the true causes for corporate crisis [12]. Interim Management facilitates to procure Management know-how when there is demand [13]. The main success factors of an interim assignment lie within the capabilities of the interim manager and the company. What capabilities based on personality, Skills, experience and motivation has the Interim Manager? What is the ability of the organisation based on personal resources, organisational structure, strategy, company culture, information and communication structure and financial resources? The shaping of those determinants in a specific situation is the main success factors [14].

#### 1.2 The CFO – role and tasks in the organisation

In 2011 the ICAEW paper analysed 261 studies regarding the finance function [15]. They consolidated the findings of the studies, relating to the role of the finance department. Financial Information, General Management and control, Regulatory and Strategy got the highest ratings for ‘high importance.’ Other issues like Risk Management, Organisation wide IT, Finance Systems and People Management follow. Other tasks like Tax, Transaction processing, Mergers and acquisition, internal auditing, investor relations, legal, investment appraisal were rated less critical. In a specific situation, the priorities can somewhat be different, especially when we look into medium-sized businesses. The role of the CFO has changed in recent years. More often, he takes care of control and strategy. The finance function is responsible for reporting successes and failures to enable that benefits fall to the bottom line [16].

Following Stephen M. Bragg the responsibilities of a CFO, targets varying by the company, include the following tasks:

- Pursue shareholder value
- Construct reliable control systems
- Understand and mitigate risk
- Link performance measures to strategy
- Encourage efficiency improvements everywhere
- Clean up the accounting and finance functions
- Install shared services
- Examine outsourcing possibilities
- Allocate resources
- Encourage innovation [17].

**2. Methodology**

The sample of the study is Interim Managers who work or have worked as CFOs or at senior finance positions in their interim projects in medium-sized companies in all industries. 255 respondents from 31 countries were included in the research.

**Independent variables**

**CEO/Top Management Team Fit**

The participants were asked “Did you make a good fit to the CEO and the Top Management Team in the specific interim management project?” and to rate their fit on a Likert scale from 1-very negative to 5-very positive.

**Dependent variables**

**Project success**

The five most critical project success criteria based on a literature review of 56 references are in order of their relative importance: Time, Cost, Stakeholder Satisfaction, Quality and Top Management Support <sup>18</sup>. The project success mainly relies on the fact that results are achieved in time and cost, with the desired quality. A good understanding of the stakeholders and Top management support build the foundation for a successful project. To test the reliability of the subdimensions (5 items) of project success and the overall construct, Cronbach's Alpha was acceptable 0.733.

**Company's success**

Company's success will be measured as the development of aspects before and after the assignment. Those aspects were return on sales improvement, cost reductions, process improvements, working capital improvements, fixed assets optimisation, and debt optimisation.

To test the reliability of the subdimensions (6 items) of the company's success and the overall construct, Cronbach's Alpha was acceptable 0.676.

**CFO's value contributions**

CFOs can create value when they generate strategies and assess the organisation's ability to satisfy the needs of its customers fully. When they align the different departments to work together, improve business processes, and establish an efficient way for financial planning and analysis, they add value to the organisation. CFOs can

enable value, if they practice successful Business partnering with senior management, and are a Stakeholder in the decision-making process. They activate value when explaining the organisation's performance. CFOs preserve value when they integrate Risk management with strategy and implement internal control systems. They need to challenge the finance function regarding efficiency and competitive cost structures. CFOs deliver Reporting value, explaining relevant and useful information to management and when they create Advanced Management Information Systems <sup>19</sup>. To test the reliability of the four sub-dimensions of CFOs value contributions and the overall construct, Cronbach's Alpha was calculated. For creating value, enabling value, preserving value, and reporting value, Cronbach's Alpha were is relatively high with values higher than 0.8. For the overall construct CFO's value contributions, a Cronbach's Alpha of 0.915 is excellent.

**3. Results**

*Table 1 Influence of Top Management and CEO Fit to organisation success*

Correlations = all N 255

		Company success	Project Success	CFO Value Contribution
Spearman's rho	Q26 - CEO	Correlation Coefficient .130*	.427**	.123
		P 0.038	0.000	0.050
	Q26 - Top Management Team	Correlation Coefficient .240**	.424**	.232**
		P 0.000	0.000	0.000

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

An explorative analysis using Spearman correlations was performed and interpreted. There were significant and highly significant correlations between both groups CEO and Top Management Team (TMT). The effect on Company Success was significant and weak for CEO (rs = .130) and highly significant and weak to moderate for TMT (rs = .240). The effect on Project Success was highly significant and moderate to strong for CEO (rs = .427) and moderate to strong for TMT (rs = .424). The effect on CFO Value Contribution was significant and weak for CEO (rs = .123) and highly significant and weak to moderate for TMT (rs = .232). To achieve Project Success, it is essential to be an excellent fit for the CEO and the TMT.

**4. Conclusion**

Having a good relationship with the CEO and the Top Management Team is strongly recommended for Interim CFOs to be successful. The basis for a stable relationship is trust. The CFO needs to have a close relationship as a trusted advisor to the CEO and the leadership team. It has a strong influence on project success and has a supportive effect on company success and CFO value contributions.

## References

- [1] S. Rohit and J. Stewart, "CFO of the Future: Strategic Contributor or Value Adder?," *JAMAR*, vol. Vol. 8, no. No. 1, 2010.
- [2] A. Foeller, "Der ideale CFO: Ein Yeti des Top Managements," (ger), *Controlling & Management : ZfCM ; Zeitschrift für Controlling & Management*, no. 2, pp. 22–24, 2010.
- [3] IBM Global Business Services, "The New Value Integrator," no. GBE03277-USEN-02, <https://public.dhe.ibm.com/common/ssi/ecm/gb/en/gbe03277usen/GBE03277USEN.PDF>, 2010.
- [4] B. Fuessler, "'Performance Accelerators' push the frontiers of CFO leadership," *Strategy & Leadership*, vol. 42, no. 3, pp. 40–46, 2014.
- [5] J. Vorst, "Interim management and the transfer value of Interim management results seen from the client's perspective," Eindhoven University of Technology, Eindhoven, 2009.
- [6] Springer Gabler Verlag, *Definition » Interim Management « Gabler Wirtschaftslexikon*. [Online] Available: <http://wirtschaftslexikon.gabler.de/Archiv/569819/interim-management-v3.html>. Accessed on: Mar. 07 2017.
- [7] V. A. Tiberius, Ed., *Interimsmanagement: Management auf Zeit - in der Praxis*. Bern, Stuttgart, Wien: Haupt, 2004.
- [8] K. Uffmann, *Interim-Management*. Zugl.: Bayreuth, Univ., Habil.-Schr., 2014. Tübingen: Mohr Siebeck, 2015.
- [9] Reijniers, J. J. A. M., *Interim management: A true profession*. Assen, Netherlands: Royal Van Gorcum, 2003.
- [10] M. Faber, U. Zumpe, and C. Kerscher, *Erfolgreiche Einsätze von Interim-Managern im Personalwesen: Erfahrungsberichte von externen Personalprofis, ihren Auftraggebern und Vermittlern*. Wiesbaden: Springer Gabler, 2017.
- [11] H. Dahl and N. Bach, Eds., *Praxishandbuch Interim Management*, 1st ed. Frechen: Datakontext, 2008.
- [12] S. Ribbert, *Interim-Management durch externe Führungskräfte: Eine Analyse der Einsatzgebiete, Erfolgsdeterminanten und Gestaltungsmöglichkeiten*. Zugl.: Münster (Westfalen), Univ., Diss., 1994. Bergisch Gladbach, Köln: Eul, 1995.
- [13] P. Smith and R. Payne, *The Finance Function: A Framework for Analysis: Finance Direction Initiative*. [Online] Available: <https://www.icaew.com/-/media/corporate/files/technical/business-and-financial-management/finance-direction/finance-function-a-framework-for-analysis.ashx>. Accessed on: Aug. 10 2017.
- [14] McKinsey & Company, "McKinsey Special Collection: The Role of the CFO: Selected articles from the Strategy and Corporate Finance Practice," © *McKinsey & Company*, [https://www.mckinsey.com/-/media/McKinsey/Business%20Functions/Strategy%20and%20Corporate%20Finance/Our%20Insights/Strategy%20and%20corporate%20finance%20special%20collection/Final%20PDFs/McKinsey-Special-Collections\\_RoleoftheCFO.ashx](https://www.mckinsey.com/-/media/McKinsey/Business%20Functions/Strategy%20and%20Corporate%20Finance/Our%20Insights/Strategy%20and%20corporate%20finance%20special%20collection/Final%20PDFs/McKinsey-Special-Collections_RoleoftheCFO.ashx), Apr. 2017.
- [15] S. M. Bragg, *The New CFO Financial Leadership Manual*, 2<sup>nd</sup> ed. New York, NY: John Wiley & Sons, 2011.
- [16] M. Shokri-Ghasabeh and K. Kavousi-Chabok, "Generic Project Success and Project Management Success Criteria and Factors: Literature Review and Survey," *WSEAS TRANSACTIONS on BUSINESS and ECONOMICS*, vol. August 2009, no. Issue 8, Volume 6, pp. 456–468, 2009.
- [17] International Federation of Accountants, "THE ROLE AND EXPECTATIONS OF A CFO: A Global Debate on Preparing Accountants for Finance Leadership Discussion Paper," *IFAC*, vol. October 2013, <https://www.ifac.org/system/files/publications/files/Role%20of%20the%20CFO.pdf>.

## SUCCESS AS A STRATEGIC GOAL OF SPORTS CLUBS

Roman Adámik – Michal Varmus

University of Žilina

Univerzitná 8215/1  
Žilina, 010 26, Slovakia  
041/513 11 11

roman.adamik@fri.uniza.sk – michal.varmus@fri.uniza.sk

**Abstract:** From the strategic point of view, the sports clubs have several goals. Main goals include success, profit, youth development, or the strengthening of relationships with the community. Ideally, it is a combination of all these goals. However, with limited financial and material resources, the clubs are often forced to choose ways for the fulfillment of the goals that are often not aligned with the interest of other stakeholders. A frequently discussed topic is the ratio of foreign and domestic players in leagues. The main purpose of the article is to identify the impact of the number of foreign players in the sports club on its success and the subsequent impact on other goals and stakeholders.

**Keywords:** strategic management, sports clubs, slovakia, success, foreign players

### 1. Introduction

Well-managed process of strategic management is key to long-term success, competitiveness and sustainability in both of business and sports world. Definitions of strategic management from various authors shows table 1.

Table 1 Definitions of strategic management

Authors	Definition
Štefánik and Laššák (1994)	A set of decisions and activities, that lead to the creation and development of an effective strategy or strategies to achieve corporate goals. [1]
White (2004)	A coordinated series of measures including the allocation of resources to serve the purpose. [2]
Bill (2009)	Management of an organization characterized by a longer time period (often three, five up to ten years) and a wider need for resources, whose use needs to be planned and managed to achieve the goals. [3]
Shilbury (2011)	Managing measures, that managers consider to be a competitive advantage in terms of the organization's position. [4]

Strategic management in sport can be defined as focusing the sporting organization on a pre-selected direction, based on factors affecting the external environment and maximizing the organization's resources and capabilities in order to gain competitive advantage or meet its needs [3]. Hoye et. al. [5] defines it as a process of seeking balance and the acquisition of resources for different, not always related directions, from the necessity to develop players or increase participation, to the pressure to make more money or win at all costs. The ideal scenario is a combination of these goals. In the three most popular sports in Slovakia, which are as football, ice hockey and basketball [6], is the often-discussed topic of the ratio of foreign and domestic players in leagues.

In football in Slovakia Chudý [7] notes a smaller number of football players, than in countries with a higher population, but points out, that the foreign acquisition must be a quality holder and a key player in the team. Foreigners with of the same quality as domestic players can only be accepted if the domestic market does not offer

enough footballers for particular positions, so the club is forced to look beyond the borders. Otherwise, squads of Slovak clubs should be complemented by home-grown players, lower division players or by players returning from abroad. However, pressure must come from the football community.

Even though, foreign players with sufficient quality or experience could be the key to success. Good example is Banská Bystrica ice hockey club and its choice of legionaries which has contributed to the championship titles in 2017 and 2018. It depends, however, on clubs and money, that are willing to invest to foreign players. [8].

The largest number of foreigners compare to domestic players in Slovakia is in basketball. The reason is a small player base, which results in a lack of players of sufficient quality. Teams therefore consider legionnaires as quality holders, who decide the results of the matches and the overall placement, while hoping that the young Slovak players will improve during playing and practicing with and against them [9].

### 2. Foreign and slovak players in sports leagues in slovakia

As the most frequent reservation of foreign players in Slovak sport, it is the fact, that they take place in roster for Slovak players of the same quality, especially young ones, who need to gather as much experience as possible, which subsequently affects youth and men national team [7].

Regulations of foreign players in these three competitions are not too strict in Slovakia. Five not European Union players are allowed in the football. Players from European Union countries are considered domestic as well as Slovaks. In Basketball, a team in the Slovak Basketball League may have a maximum of six foreigners on a match roster, that contains twelve players and from five players on board must always be at least one Slovak player. There are no restrictions in hockey, which has led to disputes

between league board and the hockey public, which supports regulation of the number of foreigners [9].

In 12 teams of the Slovak Football League played total of 334 players, who recorded 4,733 appearances. Out of the total, 113 foreigners (33.8%), recorded 1,663 appearances (35.1%). 221 Slovak players (66.2%) recorded 3,070 appearances (64.9%). From the perspective of national team, only 2 players (21 overall) have been awarded a nomination for regular match of men's national team during analyzed season. 14 players (28 overall) have been nominated for a youth national team. [10]

In 3 teams have foreign players more appearances than domestic players. Two of them finished in top 3 the league and all of them finished in the first half. At the same time, 3 of the 5 teams with five or less foreigners in their team finished in the upper half of the league table. This group also includes the overall champion. [10]

From 14 youth players selected to national team, up to 10 of them played in teams with 4-5 foreigners (5 teams, 21 - 109 appearances of foreign players). There were no youth national team selected players from teams with 8-14 foreigners (3 teams, 110 - 152 appearances of foreign players) and four from teams of 15+ foreigners (5, 247+ appearances of foreign players). Žilina has the greatest contribution to national teams, with being only one team in the league with players (2) selected to men's national team and the most players (4) selected to youth national team. From the point of view of the results, Slovak national team is on the 29th place of world ranking (267 teams in total) and during the analyzed period in the qualification for the World Cup 2018 it finished second in the its group (European qualification) and therefore did not advanced to World cup. Under 21 national team finished the 3rd in the group stage (2 qualified) of the European U21 Championship qualification. [11]

In 12 teams of the Slovak Hockey League played total of 332 players, who also recorded 13,468 appearances. Out of the total, 107 foreigners (32.8%), recorded 3,725 appearances (28.0%). 225 Slovak players (67.8%) recorded 9,743 appearances (72.3%). From the perspective of national team, there were 13 players nominated (37 overall) for regular match of men's national team and 11 youth players (23 overall) for regular match of youth national team. [12]

In the first two places (finals) played team with the second highest number of foreigners (14 players, 600 starts) and team with the second the lowest number of foreigners (3 players, 107 starts). On the other hand, the teams with the highest number of foreigners (19 players, 586 starts) and the lowest number of foreigners (1 player, 60 starts) finished on the bottom on league table (8th and 9th place). Teams places from 3rd to 10th place had in their roster from 10 to 13 foreigners (332 - 465 starts). The last place club had 12 foreign players (350 starts). [12]

There were 7 from overall 13 men's national team and 5 from 11 youth team nominated players from three best teams of the league. From teams with the lowest number of foreign players (Trenčín – 3, Liptovský Mikuláš -1) were nominated 3 from 13 players for men's national team and 5 from 11 youth national team. Slovak national team is on the 10th place of world ranking (75 members of International Ice Hockey Federation) and during the analyzed period finished 11th from 12 teams at Olympic Ice hockey tournament [13] and 9th from 16 teams at World Championship. Youth national team finished 7th from 10 teams at World Junior Ice Hockey Championship [14].

In 10 teams of the Slovak Basketball League played total of 180 players, who recorded 4,733 appearances and played 90,320 minutes. Out of the total, 68 foreigners (37.8%), recorded 2,031 appearances (46.6%) and played 49,329 minutes (54.6%). 112 Slovak players (66.2%) recorded 2,325 appearances (53.4%) and played 40,991 minutes (45.4%). In 3 teams have foreign players more appearances than domestic players, while Karlovka played only with Slovak players. From the perspective of national team, there were 10 players (12 overall) nominated for regular match of men's national team and 4 youth players (12 overall) for regular match of youth national team. [15] Up to 3 from teams with the largest number of foreigners ended on the last three places of the league. However, those who were finished in the last and the last but one place had the second and fourth lowest ratio of playing time of foreign players. The club with highest ratio of playing time of foreign players finish 6th and the club with only Slovak players 7th.

There were 7 from overall 10 men's national team nominated players from three best teams of the league and at the same time, 5 from 10 players from teams with 2nd and 3rd highest playing time of Slovak players. Slovak national team is on the 74th place of world ranking (166 teams) and during the analyzed period finished last in group stage (38 - 45 place) of the qualification for Eurobasket 2021. Youth national team finished 33rd from 38 teams in FIBA Europe Under-20 Championship [16].

#### 4. Conclusions

The analysis of the three most popular sports in Slovakia was mainly concerned with the impact of the number of foreign players on the success of the clubs and the impact on national teams. In both football and hockey, the two best teams were the clubs with the highest and lowest number of foreigners. In basketball, the teams with the highest playing time ratio of Slovak players finished at the bottom of the league table. Slovak basketball league is the only one of the analyzed, where foreigners have more playing time than domestic players. Key to success for two best teams were quality Slovak players (5 from 10 selected to national team).

And the very good domestic players were in the two best teams in the league (5 out of 10).

For football and hockey youth representation are the most important teams with a low number of foreign players. Most of youth national team selected players are part of these teams.

The quality of the leagues reflects the number of players selected to national team. Football and hockey national teams rank among the world's top teams are mainly made up of players from foreign leagues. While a basketball national team made up of Slovak league players is at the bottom of world basketball as well as in men and youth category.

### Acknowledgements

This publication has been produced thanks to support under the Operational Program Research and Innovation for the project: ICT for smart society, code ITMS2014 +: 313011T462, co-financed by the European Regional Development Fund

### References

- [1] Štefánik, J., Laššák, V. 1994. *Strategický manažment. Žilina: VŠDS, Žilina.* ISBN 9788071002239
- [2] White, C. 2004. *Strategic management.* Basingstoke: Palgrave Macmillan. ISBN 9780230554771
- [3] Bill, K. 2009. *Sport Management. Active Learning in Sport Series.* Thousand Oaks: SAGE Publications. ISBN 978-1844452637
- [4] Shilbury, D. 2011. *Competition. The Heart and Soul of Sport Management.* Journal of Sport Management, 26(1): 1-10
- [5] Hoye, R., Smith, A. C. T., Nicholson, M., Stewart, R. 2015. *Sport Management. Principles and Applications, 5th Edition.* Abingdon: Routledge. ISBN 978-1138839595
- [6] Adámik R., Dlugokecka M. 2018. *The structure of revenues in football in Poland and Slovakia.* Biannual CER Comparative European Research Conference, 5(1): 62-65.
- [7] Chudý, F., 2016. *Treba dať šancu slovenským futbalistom, nie slabým legionárom.* (Online). (Cit. 2019-5-30). Available at: <https://www.sport7.sk/104805/treba-dat-sancu-slovenskym-futbalistom-nie-slabym-legionarom>
- [8] Mašlany, M., 2018. *Tromfy majstra: legionári, Országh i šírka kádra.* (Online). (Cit. 2019-5-30). Available at: <https://hokej.pravda.sk/extraliga/clanok/467788-tromfy-majstra-legionari-orszagh-i-sirka-kadra/>
- [9] Jurčo, M., 2018. *Slováci by sa z večera do rána stali výrazne drahší, hovorí o limite cudzincov Lintner.* (Online). (Cit. 2019-5-30). Available at: <https://mytrencin.sme.sk/c/20795495/slovaci-by-sa-z-vecera-do-rana-stali-vyrazne-drahsi-hovori-o-limite-cudzincov-lintner.html>
- [10] Fortuna Liga. 2019. (Online). (Cit. 2019-5-30). Available at: <http://www.fortunaliga.sk/>
- [11] FIFA, 2019. (Online). (Cit. 2019-5-30). Available online at: <https://www.fifa.com/>
- [12] Tipsport Liga. 2019. (Online). (Cit. 2019-5-30). Available online at: <http://tipsportliga.hockey/>
- [13] Ice Hockey. 2019. (Online). (Cit. 2019-5-30). Available online at:

<https://www.olympic.org/pyeongchang-2018/ice-hockey>  
 [14] IIHF. 2019. (Online). (Cit. 2019-5-30). Available online at: <https://www.iihf.com/>  
 [15] Slovenská Basketbalová Liga. 2019. (Online). (Cit. 2019-5-30). Available online at: <https://www.basketliga.sk/sk/>



## PERSONNEL MANAGEMENT IN THE NON - PROFIT SECTOR IN SLOVAKIA

Romana Longauerová

### Catholic University in Ružomberok

Hrabovská cesta 1A  
Ružomberok, 03401, Slovakia  
+421 44 430 46 93  
romanalongauerova1111@gmail.com

**Abstract:** *The main purpose of the contribution is to define the current state of personnel security in non-profit organizations operating in Slovakia. The contribution responds to the issue of personnel security in non-profit organizations. Development in human resources management naturally means changes in the non-profit organization. An adequate human resources management system is necessary for the effective functioning of the non-profit sector. Personnel activities require holistic competence of workers and high expertise of human capital. Under the conditions of the Slovak Republic, non-profit organizations within human resources management, focus on stabilization, motivation and development of human capital. The contribution also points to modern human resources management in the process of globalization. Contemporary non-profit organizations perform individual activities in changing external environment conditions. The process of globalization requires higher human resource management flexibility in non-profit organizations operating in Slovakia.*

**Keywords:** *personnel management, non-profit organization, volunteer management*

### 1. Introduction

The increase of the number of non-profit organizations in Slovakia creates a need to deal with their importance and personnel security under the conditions of the Slovak Republic. Non-profit organizations respond to needs in a society where the state apparatus is insufficient.

Personnel management is becoming an integral part of the non-profit sector. Human resources productivity determines the performance capacity of each organization. In the non-profit sector, the human resources are formed by paid employees and volunteers who create according to Kachaňáková - Nachtmannová - Joniaková [1] „*staff development system, a system of forming working relations, and a system of creating optimal conditions for the effective functions of workers in the work process using the effective leadership methods in filling the organization's strategic intentions and purposes. Personnel management is one aspect of management, and its specific sign is that the object of its activity is not the raw materials, money, machines, but the living thinkers, creative workers.*“ Personnel management itself is related to achieving a synergy effect, which means workers selection, workers motivation, selection of managers able to motivate workers and is based on the mission and purposes of the organization.

Through their mission and the fulfillment of their goals, non-profit organizations significantly contribute to the cultivation and society development. Human capital is understood as education and health, it is a complex category and, unlike other types of capital, has a unique character: it is tied to its bearer. Man acquires it in the process of learning, through which he acquires knowledges, skills and experience. It also completes the manner of acting, behavior, dressing and last but not least the appearance of the bearer. By investing in human

capital we understand any activities leading to the improvement of the quality of the service offered [2].

### 1.1 The essence and importance of personnel management in the non-profit sector

The personnel area is one of the most underestimated areas. In the non-profit sector, there is a fixed-term personnel work depending on the duration of the project. The main role of the personnel management of a non-profit organization is to ensure that workers participate in the growth of the organization's productivity through carrying out personnel activities. The functioning of these activities is characterized by a certain specification:

- differentiated structure of organization workers,
- volunteers who work in the organization do not have sufficient motivation for rewards, respectively sanctions,
- work activities accumulation, often in one person (unbalanced burden on individual workers),
- leader status in the organization.

It follows that personnel management in a non-profit organization is more difficult to secure than in a profitable organization and it subjects to greater pressure from the public interest and may be influenced by political objectives. In general, non-profit organizations have a considerable degree of autonomy in the personnel relations management, and also in the workers evaluation [3].

According to Vetráková [4] „*Human resources are people involved in the work process at their own decision, capable of self-realization in carrying out purposeful work activities that lead to values creation.*“ It follows that the human capital of the organization is also composed of individuals who are not in a labor-law relationship with the organization. Within the organization's personnel strategy, individual activities are carried out as:

- Recruitment and selection of workers
- Adaptation process of workers
- Stimulation and motivation of workers
- Workers evaluation
- Remuneration system
- Building interpersonal relationships
- Education and career growth

A. Recruitment and selection of workers is very important for non-profit organizations. It ensures the workers selection depending on the workers satisfaction and his contribution to the organization. The non-profit organization looks for workers who:

- have a positive and human approach to people,
- have charitable thinking,
- have the required properties,
- are flexible,
- are identified with the mission of a non-profit organization [3].

B. The adaptation process of workers is a purposeful guided process of person's adapting a to a new working environment. The adaptation process leads to the acquiring of the organization norms, to the positive attitude creation to the organization, to motivation in the work performance, to the workers self-confidence increase [5].

C. Stimulation and motivation of workers is not an easy activity. It is an active process that puts the emphasis on the employees commitment to the organization purposes.

D. Workers evaluation forms an essential part of the personnel management of a non-profit organization. Optimizes workers to continuously improve their work performance.

E. The remuneration system of workers includes cash remuneration (salary, bonuses), indirect cash remuneration (insurance, pension insurance), non-cash remuneration (car allocation, extra vacation), promotion of workers, recognition of the worker's performance quality. The remuneration system should be clear, simple and transparent. The remuneration system affects the share of workers in organizational purposes. Non-financial remuneration of workers plays an important role in a non-profit organization.

F. Building interpersonal relationships contributes to increasing the efficiency of the non-profit organization. Sojka [6] states that *„the share of personnel work in creating healthy interpersonal relationships in the company, positive employees ties to the company, consent of the individual and business purposes, etc. is also considerable.“* Some determinants increase productivity and improve the quality of work performed.

G. Education and career development of workers - upgrading the qualifications of employees. Bajžíková [7] says that *„The concept of lifelong learning is a common*

*part of life in many companies, because without regular education, the skills and abilities of employees become very quickly obsolete.“* The proper fulfillment of this activity means providing trainings, seminars, educative programs for employees.

## 2. Volunteer management in the non-profit sector

Volunteering is a unique and essential part of a modern society. Under the conditions of the Slovak Republic, volunteering contributes to the economic and social development of the country [8]. The importance of volunteering is constantly growing. This fact contributed to the creation of management, which we call volunteer management. Brozmanová Gregorová, Marček a Mračková [9] define volunteering as *„unpaid activity or work carried out on the free will basis for the benefit of other people, society or the environment outside the volunteer's family members and household.“* A volunteer may be a citizen who has freely decided to selflessly help the community and to support civic participation to resolve the local needs through the particular non-profit organization activities [3]. The effective involvement of volunteers in the functioning of the organization creates a cycle of activities and includes the following processes:

- non-profit organization preparation for the volunteers arrival
- volunteers recruitment
- volunteers education
- volunteers leadership
- volunteers evaluation
- ending cooperation with individual volunteers.

An important step in working effectively with volunteers is to clarify the decision for which an organization needs to involve volunteers in its activities [3].

### 2.1 Volunteer Coordinator

Rektořík [10] recommends introducing the function of volunteer coordinator in non-profit organizations. The volunteer coordinator priority role in nonprofit organization is to ensure the effective volunteers functioning and coordination of their individual activities. The coordinator works up the methodology of work with volunteers, educates the volunteers, ensures the volunteers selection, classifies activities to the individual volunteers, solves conflicts and problems, ensures communication between the organization leadership and volunteers, carries out administrative activities and evaluates the results of volunteers. In order to ensure the effective work of the volunteer coordinator in a non-profit organization, the coordinator is recommended to have a knowledge of the mission of the non-profit organization, should have organizational skills, be open and consistent in its work and have completed volunteer management training.

## 3. The benefits of volunteering for the non-profit sector in the Slovak Republic

Volunteering in the Slovak Republic undoubtedly has a positive benefit for non-profit organizations:

- represents an economic benefit for the organization and the country;
- reinforces civic solidarity;
- develops the community,
- completes the human capital of the organization;
- has a positive impact on the completion of interpersonal relationships,
- leads to citizens involvement in social development
- supports democratic principles;
- improves career development opportunities for volunteers.

The benefits of volunteering for the organization through the involvement of volunteers in its functioning positively shape the economic, social, cultural and human capital of the organization [9].

#### 4. Legislative definition of the volunteer sector in the Slovak Republic

Under the conditions of the Slovak Republic, volunteering is defined in the Act on Employment Services as amended (Act NRSR No. 330/2008 Coll.) and Act on Support of Youth Work as amended Act No. 131/2002 Coll. on Higher Education as amended (Act NRSR No. 282/2008 Coll.).

The first Act [11] perceives volunteer service in connection with the activation contribution, where volunteering is defined by the community service performance with the purpose of gaining practical experience for the labor market needs. The volunteer carries out volunteering on a voluntary basis for a period of 20 hours per week, for a maximum of six calendar months at natural or legal person who does not carry out his profit-making activity.

The second Act [12] regulates youth volunteering. The Act states that the volunteer may be a citizen of the Slovak Republic or a citizen of another state who has at least 15 years and a maximum of 30 years. The Act further defines the activities performed by a youth volunteer and also who can not be a volunteer. Pursuant to Act [13] No. 406/2011 Coll. on Volunteering as amending "A volunteer is a natural person who, by virtue of his free decision without entitlement to remuneration, carries out a volunteer activity based on his ability, skill or knowledge for another person with his consent, in his favor or for public benefit laid down by this Act, if volunteering is:

- a) carried out, in addition to his / her duties, services and study obligations arising from the Act, employment contract, from a contract of service, Rules of Study or any other similar binding document;
- b) not carried out for a body or an official of a legal person of which he is a member, employee, pupil or student,
- c) performed outside of his business or other self-employed activity."

The volunteer carries out a volunteer service on the basis of an agreement on volunteering activity. The contract is concluded by a person with seat or residence in the Slovak Republic or with a legal person with seat in the Slovak Republic. The Act is the result of volunteer sector experts, non-profit sector representatives, politicians and legal experts cooperation to improve the position of volunteer work under the conditions of Slovak Republic.

#### 5. Conclusions

Non-profit organizations in Slovakia are an essential part of civil society. Workers of non-profit organizations are often encumbered, as in the case of high-level managers in large corporations. Personnel management is therefore essential to ensure the healthy development of a non-profit organization. The contribution deals with personnel management of non-profit organizations under the conditions of Slovak Republic. It points out to the management of volunteers and their importance for the effective functioning of non-profit organizations. We approached the importance of volunteers, their recruiting, evaluation and motivation in the non-profit sector, because people are the key potential in the non-profit sector. At the end of the contribution we explained the functioning of non-profit organizations from the legislative point of view.

#### References

- [1] KACHAŇÁKOVÁ, A. - NACHTMANNOVÁ, O. - JONIAKOVÁ, Z. 2011. *Personálny manažment*. Bratislava: Wolters Kluwer Iura Edition, 2011. 235 s. ISBN 9788080783914.
- [2] BROŽOVÁ, D. 2003. *Spoločenské súvislosti trhu práce*. 1.vydanie. Praha: Sociologické nakladateľství, 2003. 140 s. ISBN 80-86429-16-4.
- [3] MAJDÚCHOVÁ, H. - BUKOVOVÁ, S. - HRUŠOVSKÁ, D. 2018. *Neziskové organizácie. Vybrané problémy ekonomiky a manažmentu neziskových organizácií*. Bratislava: EKONÓM, 2018. 220 s. ISBN 978-80-225-4587-7.
- [4] VETRÁKOVÁ, M. 2006. *Ľudské zdroje v organizácii*. 1.vydanie. Banská Bystrica: Univerzita Mateja Bela, 2006. 230s. ISBN 80-808-3193-9. p 20-21.
- [5] ANTOŠOVÁ, M. 2006. *Personálny manažment*. Košice: Technická univerzita Košice, 2006. ISBN 80-8073-664-2.
- [6] SOJKA, L. 2009. *Riadenie ľudských zdrojov*. Prešov: Prešovská univerzita v Prešove, Fakulta manažmentu, 2009. 165 s. ISBN 987-80-8069-871-4.
- [7] BAJZÍKOVÁ, E. - LUPTÁKOVÁ, S. - RUDY, J. - VARGIC, B. - WEIDLICH, R. 2013. *Manažment ľudských zdrojov*. Bratislava: Univerzita Komenského Bratislava, 2013. 91-107 s. ISBN 978-80-223-3472-3.
- [8] HADZI-MICEVA, K. 2007. *Komparatívna analýza dobrovoľníctva v európskych právnych systémoch s praxi*. In International Journal of Not-for-Profit Law. 2007. Vol. 9, No.3., 2007.
- [9] BROZMANOVÁ GREGOROVÁ, A. - MARČEK, E. - MRAČKOVÁ, A. 2009. *Analýza dobrovoľníctva na Slovensku*. 1. vydanie. Banská Bystrica: Pedagogická

fakulta Mateja Bela v Banskej Bystrici, 2009. 113 s. ISBN 978-80-8083-844-7.

[10] REKTOŘÍK, J. 1998. *Ekonomika a řízení neziskových organizací*. Brno: Masarykova univerzita, 1998. 118 s. ISBN 80-2101-8100.

[11] Zákon NRSR č. 330/2008 Z. z. o službách zamestnanosti a o zmene a doplnení niektorých zákonov v znení neskorších predpisov.

[12] Zákon NRSR č. 282/2008 Z. z. o podpore práce s mládežou a o zmene a doplnení zákona č. 131/2002 Z. z. o vysokých školách a o zmene a doplnení niektorých zákonov v znení neskorších predpisov.

[13] Zákon NRSR č. 406/2011 Z. z. o dobrovoľníctve a o zmene a doplnení niektorých zákonov.

## MANAGEMENT OF HUMAN RESOURCES MANAGEMENT IN LOCAL GOVERNMENT

*Katarína Kobelová*

**Catholic University in Ružomberok**  
 Hrabovská cesta 1  
 Ružomberok, 034 01, Slovakia  
 Tel.: +421 44 430 46 93  
 Email: katarina.kelcikova138@edu.ku.sk

**Abstract:** *Within the municipality we are working with the financial, informational, material, economic and human resources. For the creation of strategic objectives are the necessary human resources, which are the key source of considered as the strategic capital of an organization. Human resources are the added value that provides benefits and at the same time, are capitalized.*

**Keywords:** *human resources, administration, planning, strategic goals*

### 1. Management and its evolution

From the distant past of mankind it is known that the management is not today's phenomenon of contemporary times, but its origin comes from the distant past. Knowledge of the overall development of management, its approaches and various schools in management theories represents the determinant of a comprehensive understanding of managerial theory and practice. Manager-oriented literature defines different classifications of directions, concepts, schools and their individual representatives. In management-oriented literature, historical developments, approaches and interpretations are elaborated. The literature published in the academic context has so far been categorized by management in terms of time and territory [3].

Time aspect encompasses of:

- the historic beginning of management,
- modern approaches in management,
- traditional (classical) school of management,
- scientific management,
- administrative management (the so-called process oriented approach),
- bureaucratic management,
- school developer interpersonal relationship (the so-called behavioristická school),
- modern school management,
- the pragmatic school of management (the so-called empirical),
- the integration approach in management [3].

Territorial characteristic of the author [8] on the three kinds of management:

- japanese,
- american,
- european.

To preclassical theory of management we categorize the representatives of the: Robert Owen, Charles Babbage, Daniel C. McCallum, Henry V. Poor, Henry R. Town. The scientific, bureaucratic, administrative management we

categorize in the classical theory of management. Scientific management represented a Frederic Winslow Taylor, Henry L. Gantt, Frank B. Gilberth, Lilian M. Gilberthová, Harrington Emerson, Henry Ford. The representative of bureaucratic management is Max Weber. Administrative management is characterised by Henri Fayol, Chester Barnard, Tomáš Baťa. The last type of management is behavioural management, which represents the Hugo Munsterberg, Mary Parker Folletová, Elton Mayo, Abraham Harold Maslow and Douglas McGregor [5].

A system theory of management began establish an after the end of the second world war, when the restore conditions conducive to civilian production. When the production is re-started to use the knowledge of the interdisciplinary sciences, which were carried out in the period of the management of war operations. The twist occurred after the end of the second world war, when they arose many restrictions which were aimed at the concealment of information of different information. In that period, were the first professional publications, whose content has been oriented to the theoretical evaluation of management operations, which were carried out during military operations. In response to this situation, the need arose for the development of the theory of information. The theory of information is a mathematical theory whose essence lies in the deal with challenges of retention, transfer of information. Its representative is C. E. Shannon. In the turn of the 20. and 21. century, it was necessary to search for scientific answers, that would enrich management theory. The shift in science has followed the P. F. Drucker, who was considered in the form of violations of the exaktosti management as a science. Drucker argues that the manager must be able to harmonise the management of the business totožne with the management team and co-workers. Practices, and at the same time elaborated the concept of Management by Objectives - MBO, according to which he formulated goals that advance to a lower level of management. For today's business, Drucker identifies three critical factors in terms of efficiency - realizing the right things, efficiency -

realizing the right things and adaptability - adapting to a constantly changing environment [8].

### 1.1 Management at the beginning of the Millennium

Now come the global changes in society that require general Population solution. One of the most important trends in the present, which is characteristic of the development in management, is, according to several authors of globalization, which is characterized by openness and mutual medzikontinentálnym, linking the countries. For many countries, represents a globalisation of the potential benefits of containing risks. Globalisation is totožne characterized by in particular the growth of competitiveness in the area of services and communications. Among the biggest global problems of the modern world include: the threat of nuclear war, ensure sufficient stock of raw materials and energy for the future, creating a balance between demographic processes and the increase of food production, environmental protection, exploitation of space and the world ocean, prevent the increase in terrorist attacks, the removal of priepastných differences in living levels of the various target groups of population in different countries [8].

Changes in the realized work of the managers are dated from 21. century, when there was a coup in the company in the form of privatisation, reducing restrictions on business, deregulation, the easing of movement of goods, people and finance, intensification power customers, development of information technologies with a direct impact on the factor of competition. Researches have shown the changes on a larger scale of management, laying emphasis on the greater efficiency and quality of services and goods, the expansion of employment and satisfy the role of pressure with the stress and impact on lifestyle [5].

It is desirable that managers are constantly trained in the industry. *"If managers do not consistently educate and develop their management skills, life itself very soon reveals their managerial incompetence"* [3]. At the same time, the author [3] and, furthermore, that the theory is an essential prerequisite for the successful activity of a manager.

### 1.2 American, European and Japanese management

The origin of American management is in the USA. It is a management that involves several directions, approaches and schools that overlap and complement each other. We include process, systemic, empirical, psychological-social and quantitative approaches to American management. Japanese management is fundamentally different from Western management. Difference is the japanese management lies in the management that focuses on group ethics. Among the sources from which it draws the japanese management knowledge belongs to the western management. In comparison east and west european management began to develop at the beginning of the last century. The characters of the european management are similar with the american management. the principle lies

in the use of the same or similar methods and procedures. In the literature we can often meet also with the so-called euro-american management [5].

### 2. Strategic management and human resources management in self-government

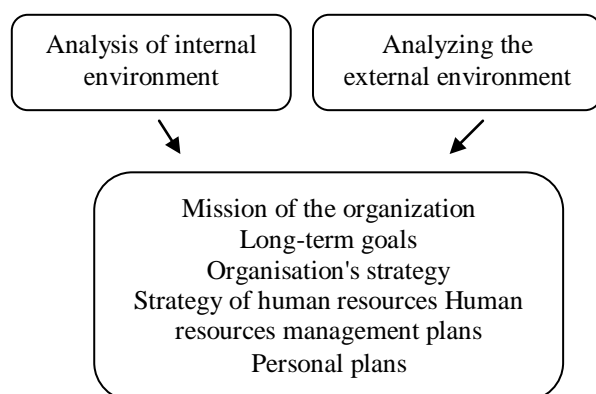
Strategic management focuses on linking the strategies with the procedure and the subsequent implementation of the so called transformation into the enterprise in comparison with strategic planning. The important role of the controlling and the evaluation of the results of implementation of the strategies. "The strategy of human resources management called the human resources strategy is the designation for the long-term plan created to achieve objectives in the field of human resources management and development and human capital in organizations"[7].

The use of strategic human resource management in practice helps in unifying and guiding the behavior and actions of all stakeholders and their comprehensive development, in accordance with the needs of the organization. His task is a meaningful planning and management of all activities with human resources [7]"*Planning of human resources represents a procedural decision-making about the future needs of the organization on the number, structure and profile of workers and also on the horizons, in which the need of workers to obtain from the external labour market or to prepare a of the internal resources"* [4].

A strategic approach to human resource management is the ability of individual leaders to manifest itself in terms of leadership skills and the ability to create responsibility for people management. His other skills include the ability to draw the most out of employees' potential by knowing their interests, motivation and strengths, which in the long run are the hallmarks of differentiation and gaining a competitive advantage for the organization. It is not a way of focusing solely on measuring cost-effectiveness of human resource management processes; it is about how to support and engage in dialogue with employees to uncover their undeveloped potential as a prerequisite for improving organizational performance in the future. An organization's strategy may not always be the result of a rationally planned process. There are spontaneous strategies that arise within an organization without prior planning. The organization's strategy can take five forms:

- strategy as a plan (PLAN), where it is clearly expressed in the road to achieving the goal,
- strategy as maneuver (PLOY), which is perceived as a reaction to the change of the conditions,
- strategy as a model (PATTERN), where it is accurately identified procedure within which the objectives will be implemented,
- strategy as position (POSITION), in the framework of which the organisation represents the position in the external environment and current and also future,

- strategy as a perspective (PERSPECTIVE), which expresses the intrinsic quality and readiness of the organization to change [1].



Picture 1: Strategic human resources management  
Source: Custom processing

### 2.1 Human resource management tasks

Management of human capital is the key to the desired performance, it focuses on the management of people working for the organization. It is, therefore, the process of creating a valuable intangible the competence of human capital, which enables the organization to fully exploit the potential of entrepreneurial opportunities[6].

1. Ensuring the necessary number of employees needed in the organizational, qualification and professional structure. Organizational structure is an important area in which two factors are projected. Number of employees and their subordination to the strategic goals of the organization.
2. Required work performance produced by an employee, taking into account the quality of work that attracts new potential customers [6].

The objective of human resources planning is to have an adequate number of employees. The purpose of the work analysis is the efficiency of work together with the continuity of production. Important management tasks include searching, recruiting and selecting suitable employees.

### 2.2 Self-government

According to the authors [2] *"the key role in the formation of administrative policy, create bodies of local so-called territorial self-government, which fundamental intention is to facilitate the inclusions of marginalised groups and excluded citizens, who are against the rest of the population of the SLOVAK republic at a disadvantage"*. At the same time, the author [2] adds that it is the obligation in the framework of the village and the town meet the social needs of the population, promote egalitu opportunities for people to increase employment, along with advocating for social cohesion.

Strategic documents that are produced by self-government are hierarchically organized and logically linked to each other:

- Economic and social development
- Plan Concept of development of social services
- General binding regulation
- Plan Community plan of social services

The plan of economic and social development is a strategic document created by experts for a period of 7 to 10 years. His elaboration is important for the proof of conformity with regional strategies and the actual implementation of projects, which are co-financed from the structural funds, the budget of the local government, businesses, grants, the state budget, civic associations, euro funds and.i.. The concept of the development of social services is a strategic document, which is created by the respective Higher Territorial Unit in accordance with the National Priorities of the Development of Social Services and in accordance with the Act of the National Council of the Slovak Republic no. 448/2008 Coll. on social services and on the amendment of Act no. 455/1991 Coll. on small trade business (the trade license act) as amended. Its mission is the fulfilment of objectives and priorities, based on National priorities for the development of social services. Identically is generated for a certain period of years. General binding regulation is a legal regulation which may be issued by the competent municipality or city for the performance of their set tasks. A municipality or city is obliged to comply with the document and for non-compliance is subsequently sanctioned under the current legislation. In the hierarchical order has a VZN a lower legal force compared with the regulation of the government and thus the so-called "podzákonný law. The community plan of social services is a strategic document that is being worked out by the competent municipality or city with the aim of mapping the local specificities but also the needs of the citizens in the area of social services with the aim of determining your short-term and long-term goals, which need to be met. The community plan is based on goals and priorities, which are set out in the current Concepts of the development of social services in the relevant Higher territorial unit.

### 3. Conclusion

In the end we can conclude that human resource management in local government is one of the most important activities in ensuring the strategic goals of the government. Human resources management contributes to the efficiency of the management and to the effective consumption of the public finances, through which are financed by the basic competences of self-government. The management of the human resources in any organisation is influenced by the personality of the manager's, the content management depends on his personal qualities, fundovaných knowledge and practical experience.

**References**

- [1] Antalová, M. a kol. 2013. *Kvalita života*. Bratislava: Ekonóm, ISBN 978-80-225-3596-0.
- [2] Antolová, B. 2019. *Sociálna politika v trendoch a súvislostiach miestnej samosprávy*. In: Reviewed Proceedings of the Interdisciplinary Scientific International Conference for PhD students and assistants. QUAERE 2019 vol. IX., Hradec Králové: MAGNANIMITAS, 2019. s. 304-310. ISBN 978-80-87952-30-6.
- [3] Budaj, P. 2018. *Efektívny manažment v sociálnej práci*. Poprad : Verbum – vydavateľstvo katolíckej univerzity v Ružomberku. s. 108 ISBN 978-80-561-0603-7.
- [4] Dudinská, E. - Jarab. J. - Budaj, P. - Špánik M., 2011. *Manažment ľudských zdrojov*. Prešov: Vydavateľstvo Michala Vaška, Prešov. 2011. s. 216. ISBN 978-80-7165-831-3.
- [5] Dudinská, E., - Budaj, P., - Budajová, G. 2009. *Analýzy v marketingovom plánovaní*. Prešov: Vydavateľstvo Michala Vaška, 2009. 252 s. ISBN 80-7165-757-6.
- [6] Ingham, J. *Strategic human capital management: Creating Value through People*. New York. Routledge. 2013. ISBN 0-7506-8134-9.
- [7] Managementmania. 2018. Cit. [2019-09-30]. Available: <https://managementmania.com/sk/strategia-riadenia-ludskych-zdrojov-personalne-strategie>
- [8] Sedlák, M. 2007. *Manažment*. Bratislava: IuraEdition, 2007. s. 360 ISBN 978-80-8078-133-0.



## POST-PROCESSING OF A DAMAGE EVENT AS A SUBTASK OF RISK MANAGEMENT

Stephanie Burghart

**Univerzita Komenského v Bratislave**  
 Šafárikovo námestie 6, P.O.BOX 440  
 814 99 Bratislava 1, Slovak republic  
 +421 2 9010 9469  
 stephanie.burghart@gmx.net

**Abstract:** *Winston Churchill is quoted with the sentence: “All men make mistakes, but only wise men learn from their mistakes”. Hitherto, the post-processing of damage events is not a fixed component of the risk management process. In order to benefit from it, the post-processing should be conducted also in risk management. When studying business administration or academic literature, the option of “lessons learned” to avoid or mitigate future risks is hardly mentioned. The syllabi tend to focus on the circumstances in large companies, though most companies are small and medium-sized enterprises (SME). As SME and large enterprises operate their risk management in different ways [1], their unlike approaches should be taken into account in the risk management process. The post-processing of damage events requires little know-how and costs few efforts. This makes it a highly suitable tool especially for SMU, which lack both know-how and resources. It is the aim of this paper to make the risk management tool post-processing of damage events, or lessons learned, more known both to academics and practitioners. First, the organizational structure is presented, followed by the process organization of this subtask. It will be described what could be conducted, and in the subsequent part, how it could be run.*

**Keywords:** *Lessons learned, purchasing, agile, crossfunctional teams, SME.*

### 1. Introduction

After a damage event is before a damage event. This proverb says that after a damage event has been overcome, there will be another one in the future. The consequence should be to learn from these lessons, in order to avoid or mitigate its prospective impacts. There is no general agreement on the design of the process of risk management in the scientific literature for business management. Also the number and names of its subtasks are not equally accepted. Most specifications of the risk management process do not mention the process step "lessons learned". Furthermore in undergraduate education the subtask post-processing of a damage event is not commonly mentioned. Maybe as academic education focusses on big companies, they neglect the need of the SME. This might be the reason why most practitioners do not know the standard process or use risk management systematically [2].

Post-processing of a damage event (“lessons learned”) is an easy task to handle. It costs only little effort to take advantage of a loss event that has been overcome. This makes it well suited for small and medium-sized enterprises. In contrast to bigger companies, they lack both manpower and know-how [3].

To learn from experience improves risk management in two ways. Obviously it makes sense to think it over if and how a damage event might be avoided in the future. The second, not so evident improvement, concerns the corporate culture. In the agile context, cooperation in cross-functional teams is common in more and more companies. The teams act autonomously and bear the responsibility for their decisions. Cross-functional cooperation enables these teams to make flexible and quick decisions.

Companies that allow cross-functional collaboration are better prepared for VUCA. This acronym stands for volatility, uncertainty, complexity and ambiguity, which make it a challenge to ensure the supply of purchased items. Cross-functional teams are recommended for procurement risk management to cope with this dare [4].

It is the purpose of this paper to establish the subtask post-processing of a damage event as a firm part of the risk management process. For this aim, the tool and its application must be known to both scientists and practitioners. Accordingly, first the organizational structure will be presented before the process organization will follow.

### 2. Organizational structure

The organizational structure describes WHAT has to be done. To take full advantage out of the “lessons learned” it must be implemented in the predefined regular risk management process of a company. In the scientific literature there is a number of differently outlined operational sequences of the risk management process [5].

It is widely accepted that the identification of risk is its start. Risk assessment is also generally pictured as a subtask. The handling is a logical consequence, even if it is named differently. Most process descriptions do not include the post-processing of damage events. Instead, Controlling is often seen as the last step of the risk management cycle [6].

Provided that the possibility should be used to draw conclusions from damage claims, the process could consist of these partial steps:

- Risk management strategy, which is based on the corporate strategy and its risk perception
- Risk identification
- Risk assessment
- Risk handling
- Post-processing of a damage event
- Controlling the risk management process.

### 2.1 Strategy

Before the risk management process itself is getting started, it is imperative to derive a strategy for risk management from the corporate objectives and its vision and mission. The objectives of risk management must be oriented to the goals of the company [7].

If this condition is not met, the risk management might pursue objectives contrary to those of the company. To give an example, the executive board may be risk-averse. If this is not known and has been incorporated into the risk strategy, the senior management would have advocated less risks than were actually taken. In the opposite scenario, opportunities would not be exploited because employees take fewer risks than a venturesome management board would have preferred. When developing the risk strategy, it has to be considered that the risk perception of the management board can be widely diversified [8].

In the course of controlling, the strategy should be reviewed at least once a year and adjusted if necessary.

### 2.2 Identification and assessment of risks

Identification is the basis of the risk management. Risks that have not been identified cannot be managed [9].

The wider the perspective, the more likely it is to identify as many risks as possible. A shift in perspective can serve to broaden the scope of the risks identified. Cross-functional cooperation may offer such a shift in perspective. This could make risk management more efficient [10].

For example, the sales department can better assess the negative impact on customers when a product is unavailable. On the other hand, the purchasing department or the production department can better assess the supplier's situation.

According to the latest findings, agile cooperation between cross-functional teams is therefore a suitable form of cooperation in risk management [11].

Even if the risk perception of the management board is known, a single function cannot evaluate adequately all aspects of a risk. An example is a product that can only be purchased from a monopolist. These goods are essential and not substitutable. It would have a major impact on the customer relationship if they were not available.

If it is not considered that the storage of a larger stock is possible, resources would be used unnecessarily to look for alternatives. This can be prevented by a cross-functional team with its cross-departmental knowledge. If the team commonly decides that it is possible to store a larger quantity of these items, a conscious inventory increase could avoid a risk situation.

Both the identification and assessment of risks should take place regularly once a year, or in the case of new items, customers or other critical situations.

### 2.3 Post-processing of a damage event

Unlike the other substeps, post-processing only takes place after a damage or loss event has been overcome. Post-processing should not be carried out after each risk situation, as it means an extra effort to all employees involved. It would waste resources and undermine the acceptance of risk management within a company.

In order to gain acceptance for the extra effort it is crucial that the post-processing is embedded in the risk management cycle. Two decisions are required. Who determines whether a post-processing should take place? And according to which criteria should this decision be made?

The executive board may determine who makes this decision and whether a department should do so itself or whether several departments should be involved.

In any case, a cross-functional team should define the criteria in order to decide whether a meeting makes sense. This might have a positive effect on the team members' cooperation and sense of responsibility. If only one function defines the rules, their decision might suffer from a lack of acceptance.

First of all, it should be a binding rule that all questions should be strictly forward-looking, in order to find out what could be improved in the future. Instead of looking back to the past, the goal is to jointly learn from the damage events.

Rules are necessary to ensure that decisions are taken in accordance with the objectives of the senior management. It is therefore part of the organizational structure to establish rules for process organization. Without them, decisions are arbitrary and do not necessarily follow the company's strategy.

The management board can either set the rules by themselves, or select the employees to do so. It is recommended that the rules are to be laid down in writing. This prevents misunderstandings and makes decisions comprehensible. Directives of the executive board may stipulate which employees are to be involved in the process. The directives also should contain rules how decisions are made. Is a decision by a majority acceptable or is an unanimous decision necessary?

There has to be a guideline what can be decided by the cross-functional team, and what is the next stage of escalation. Also the methods which should be used might be given by the senior management. Practical experience may lead to the need for further regulations.

#### 2.4 Controlling the risk management process

Controlling risk management faces the fundamental problem that it cannot be decided if it has been the result of risk management or just of luck, if there had been no negative incident. This situation must be taken into account when the efforts of risk management are compared to its benefits.

There is another result of risk management which is hard to measure: the change in culture. Risk management, carried out by a cross-functional team, can lead to a mutual understanding of reciprocal challenges. This might enhance the internal cooperation and lead to improved company performance. For the controlling it is difficult to determine what share the risk management has in the change of culture.

Despite these challenges, the controlling of the risk management process should not be neglected. Controlling the results creates confidence in the effectiveness of risk management. The strategic fit could be reconsidered, and questioned if there is still a common understanding of what is regarded as risk.

While the first task is apparent and customary, it is not customary to consider the risk perception.

The risk perception is influenced by whether someone is risk-averse or venturesome. As risk might be interpreted differently it is necessary to build up a shared understanding what "risk" means in a company.

The employees should be aware that most risks might also bear opportunities. To take advantage of it and make the appropriate decisions, here are some examples to illustrate what is being meant:

- Single source supplier
- Price increase or decrease of X %
- Delivery delayed by X days.

These situations do not only threaten a company. Single-sourcing might bear risks to secure the supply or lead to better purchasing conditions as the whole need is focused on one supplier. Even rising purchase prices might offer the chance to increase the selling prices and overcompensate the higher purchasing prices. The delay in delivery might be acceptable, and could serve as an argument for better delivery conditions.

These pros and cons of controlling are not a definitive list. What they make obvious is that a critical review may lead to a superior outcome.

### 3. Process organization

The process organization describes HOW the workflow should be proceeded. For a more vivid description, the process is demonstrated based upon a real damage event.

The situation occurred in an industrial SME producing chemical goods. A raw material with only low demand was affected. Because of its special properties this commodity was essential for the end product. So the raw material could not be substituted.

Due to the relevance of this commodity a dual sourcing strategy was pursued. This means that the material was procured from two different vendors. Unfortunately, it turned out that both of them bought from the same upstream supplier. So the SME could not deliver the goods. Their customers lost turnover and trust in the chemical company as a reliable supplier.

After the situation had been overcome by a replacement purchase at extraordinarily high costs, the damage should be post-processed. The purchase department, quality assurance (QA), production, sales and product management (PM) were involved.

In the course of the meeting the past risk assessment of the raw material in question had been reconsidered. Based upon the available data, no other decision could have been taken at that time. This means that no better decisions can be made in the future. This forward-looking finding prevents from mutual recriminations.

In this case the next chance was to consider if there might be any other means to avoid a future damage case. No other material could be used, and no other suppliers could be chosen. So the cross-functional team decided to check the minimum shelf life, the space requirement and the capital commitment of this raw material. As all three decision criteria had been positive, they decided to increase the stock of this item.

The rule of not looking at the past prevents reciprocal accusations of guilt. Here, the cross-functional team had regarded dual sourcing as an appropriate tool for risk management. Their joint decision was documented, which also helped to avoid the search for the guilty one. Instead, the entire team concentrated on finding a solution for the future.

All decisions were made in accordance with the written rules. The team had imposed these decision rules on itself. Thus, all members accepted the choices made this way. The senior management is only involved in case a mutual decision is not possible. This agile manner relieves the executive board, and enhances a shared sense of responsibility within the cross-functional team.

The process, and the measures adopted, are additional workloads. As the resources of SME are limited it is essential to focus on major damage events. This makes it

necessary to evaluate carefully which situation has to be post-processed.

In this SME, it is the task of QA to decide whether an overcome damage situation should lead to a post-processing process. The management board has defined the decision criteria for this. They also decided who should participate in the process.

The cross-functional team reconsidered the development of the damage event in order to learn from it for the future. Jointly they made their evaluation and decisions and finally defined the future course of action.

#### 4. Conclusions

Particularly for SME the post-processing of a damage event is a cost-effective and easy-to-perform subtask of risk management. It is not only suitable to use the company-wide knowledge in order to mitigate or avoid risks. It also promotes a collaborative risk awareness and risk responsibility among the different divisions of a company. The expenditure for the organizational structure is not high, while the winnings for the risk management and the risk culture might be significant. Therefore, the effort spent on the post-processing might be justified by its effect. Both practitioners and scientists should recognize this subtask as an integral part of the risk management process.

#### References

- [1] Henschel, Thomas, *Erfolgreiches Risikomanagement im Mittelstand*, Berlin, Schmidt, 2010, pp. 14-23.
- [2] Henschel, Thomas, *Erfolgreiches Risikomanagement im Mittelstand*, Berlin, Schmidt, 2010, pp. 38-42.
- [3] Henschel, Thomas, *Erfolgreiches Risikomanagement im Mittelstand*, Berlin, Schmidt, 2010, pp. 164-167.
- [4] Sauter, Roman; Sauter, Werner; Wolfig, Roland, *Erfolgreiches Agile Werte- und Kompetenzentwicklung*, Berlin, Springer Gabler, 2018, pp. 67-69.
- [5] Hofbauer, Günter; Burghart, Stephanie; Sangl, Anita, *Inhalte und Aufgaben der Beschaffung unter besonderer Berücksichtigung des Risikomanagements*, in: *Wissenschaft und Forschung 2019*, Editors: Hofbauer, Günter; Oppitz, Volker, Berlin, Uni-Edition, 2019, pp. 333-335.
- [6] Gleißner, Werner, *Grundlagen des Risikomanagements*, München, Vahlen, 2017, pp. 426-428.
- [7] Hungenberg, Harald, *Strategisches Management in Unternehmen*, Wiesbaden, Springer Gabler, 2014, pp. 77-83.
- [8] Hoffmann, Jürgen, *Risikomanagement für mittelständische Unternehmen*, Norderstedt, Books on Demand, 2012, pp. 18-20.
- [9] Deutsche Gesellschaft für Qualität, Arbeitsgruppe Risikomanagement, *Risikomanagement*, Frankfurt, DGQ, 2007, pp. 62-63.
- [10] Large, Rudolf O., *Strategisches Beschaffungsmanagement*, Wiesbaden, Springer Gabler, 2013, pp. 35-38.
- [11] Cliff, Thomas; Chermack, Thomas, *Using Scenario Planning to Supplement Supply Chain Risk Assessments*, in *Revisiting supply chain risk*, Zsidisin, George A.; Henke, Michael, Cham, Springer, 2019, pp. 42-43.

## THE RECENT THEORETICAL FRAMEWORK FOR ONLINE REPUTATION MANAGEMENT

*Irina Ďaďová – Jakub Soviar*

**University of Žilina**  
Univerzitná 8215/1, 010 26 Žilina  
Slovak Republic  
irina.dadova@fri.uniza.sk – jakub.soviar@fri.uniza.sk

**Abstract:** *Online space is becoming increasingly important for companies and their activities. People live their lives on two levels, real and virtual. As ICT usage increases, companies build their brands in online markets that never close. Online space is still alive. It's more and more accessible to its customers, who can be and they are always in touch with selected popular brands thanks to smartphones, tablets and their applications. The above incentives and many others are forcing companies to respond comprehensively to the current situation and manage their online reputation. The article discusses why it is necessary to manage the online reputation of a company and offers a basic theoretical basis for reputation management. The obtained data were qualitatively evaluated.*

**Keywords:** *online reputation, online reputation management, brand building, use of information and communication technology*

### 1. Introduction

Online reputation management can be considered a relatively new management direction, which naturally arose with the increased usage of the Internet for the users' needs and at the same time for the development of business activities. The development of ICT directly affects the development of the online market and its potential, so it is necessary to manage ORM activities. A proper understanding of the theoretical foundations so far can help to further development of this topic mainly because of its high importance and its high degree of applicability in practice.

### 2. Metodology

In obtaining the information mentioned in the article was used the method of document analysis. It was focused mainly on getting information from expert scientific articles. The data were processed by deduction and comparison methods. Conclusions from the analysis were then formulated by induction. Also, the following criteria were taken into account while selecting the analyzed documents:

- focusing on online reputation,
- focusing on online management and its management tools,
- orientation on the theme of brand building.

The theme of online reputation management and online brand building relates to ICT, those are the reasons why within document analysis was included only documents from 2014 till nowadays. Most of the documents are from 2018 because of quickly changing trends in online space. By formulation of recommendations and conclusions were used logic and creativity.

### 3. Online reputation management

One of the definitions of online reputation management says: "Online reputation management is a process that ensures that the right information appears when you (or your brand name) appear on search engines like Google,

Bing or Yahoo, or on social networks like Facebook, Twitter or LinkedIn. ORM intends to minimize negative content and promote flattering content." [1] It seems simple and clear, but after analyzing it, it is evident that all the words mentioned above have much deeper meaning. A complex, difficult set of tasks and processes that together make up the whole of one of the currently very important areas of management, namely reputation management. Based on the available theoretical background, the topic of online reputation management is discussed in this article from these four point of views: online markets, reputation monitoring tools, brand building, social networks.

#### 3.1 Online markets

ORM is also based on collecting feedbacks or ratings from buyers. Thus, the reputation of the company or brand has an impact on the sale of offered products or services. Trustworthy of reputation increases buyer's confidence in the electronic market. The question that is important to be answered is: To what extent is the online reputation of the company affected by the feedbacks given on the Internet and their verity? There are two types of unfair ratings in the online environment, with false-positive feedback and false negative feedback. Misleading and unfair ratings are a problem. Therefore, it is necessary to create a mechanism that will not be influenced or manipulated by negative feedback. [2]

It is also worth to mention online discussion forums, which are a valuable source of information. Users share or exchange ideas and experiences here. While according to the increasing volume of content in the form of online forums it becomes more and more difficult to find relevant information on these websites. Online discussion forums in most cases offer only searching by keywords. In particular, this process needs to be improved by including the entire content of each "thread" in the search. [3]

A solid reputation is a key signal with the potential to reduce the risk of consumer dissatisfaction. It is a *good reputation* that reduces the likelihood of consumers

returning products purchased online. Reputation is becoming a tool that retailers can effectively set to reduce the return on products without causing problems for consumers. [4]

### 3.2 Brand building

*Trust* is a key indicator of online reputation. Well-managed reputation management with positive customer feedback enables the company to differentiate itself from competitors. Customers prefer companies with a good reputation. There is a risk of damaging the online reputation by dissatisfied employees or falsified competition. These are the reasons why the online reputation needs to be constantly monitored and the measures taken if necessary. [5]

In the field of online reputation, trust can be described as the basis for good reputation management. Therefore, online reputation research discusses the importance of a trust management system in many online communities. Trust systems themselves are designed to help participants make better decisions based on information about the trust. *The trust management system* can be divided into three parts: trust modeling, trust management, and decision making. Depending on the context, different methods can be used in collecting and filtering trust. [6]

### 3.3 Reputation monitoring tools

Up to the present, the following online reputation monitoring tools already exist and are in use: Social Mention, Google Alerts, Hootsuite, Brandwatch, BrandsEye. [5] Customer confidence in the brand greatly affects the company's success. Companies, therefore, need to monitor how the brand is communicated online. Currently, it is possible to track how well the audience trusts the selected brand, even by reviewing relevant review pages like Google My Business, Yelp, or Trustpilot. [7]

Among the distinctive and currently very important monitoring reputation tools belong, for instance, web portal *Trip Advisor* used in the area of tourism. The reviews on this website form the travelers' decisions of hotel choice and others. The arrival of user-created content has changed the professional foundations of reputation management. The public, and thus the users themselves, not only influence the reputation but also create its content and thus create reality. Therefore, not only in the field of tourism but also in many others, social media and evaluation portals deserve special attention. Companies need to work with them properly to build a reputation in an online environment. [8] [9]

In the field of online reputation, the evolution of reputation systems is also studied. ORMS (*Online Reputation Management Systems*) search for data, information, and knowledge across an entire website or specific domains based on selected criteria. A technical system designed for efficient information processing and data processing brings awareness, knowledge, and competence in relation to

online business reputation. Managing reputation is associated with an increased focus on people, their relationships, and not just the content of the website itself. Raising awareness, knowledge, and competence in the field of corporate online reputation is associated with a number of future-oriented positions in the company's reputation management. [10]

The increasing presence of mobile devices is essential in online space. This led to the so-called Mobile Data Capture (MCS). Foundations for quantifying user reputation in a data acquisition system have already been laid. A valuable fact is that the user's reputation and credibility of data can be quantified. [11]

### 3.4 Social networks

A very important aspect, when it comes to online markets, is certainly social networking which has made a huge change in business. Social networks and their applications are mainly used on smartphones. Mobile social networks let you discover and share content among users. The MCSaT (Motivating Content Sharing And Trustworthiness) mechanism has been developed to motivate users to share primarily trustworthy content. This content is shared among multiple users at the same time. [12]

Social networks allow you to measure your return on investment (ROI) through advertising in the form of sales. With online reviews and social media posts like on Facebook, it is easy to contact and reach customers in real-time. Engagement rate is one useful metric for sellers who use Facebook reviews online. Social media combines traditional print and electronic media and improves the marketing mix. Online reputation management is an extension of customer relationship management. [13] In the case of Facebook likes, comments and post sharing have a direct impact on the company's reputation. Social media directly shapes and can change the reputation of the company. The existing communication environment affects strategic reputation management and affects strategic business decisions. [14]

## 4. Main conclusions

The topic of reputation management in the online environment offers extensive scope for scientific exploration. In this article, the topic of ORM deals mainly with the running of the online markets, the possibility of monitoring reputation, brand building processes and the usage of social networks. It is certainly appropriate to extend the areas of view on ORM in practice on the basis of the given theoretical framework.

Managing *ORM* directly affects the development of *ICT* and its tools or application (such as upper mentioned: Social Mention, Google Alerts, Hootsuite, Brandwatch, BrandsEye, ORMS, MCS, MCSaT) which managers can apply in their management practice. Online reputation management is closely connected to marketing as well as

part of it are activities such as brand building and building and maintaining trust in the brand and company.

ORM management also relates to *trends in the field of online markets and digital marketing*, such as the development of Artificial Intelligence and SEO, which has now also been influenced by RankBrain, a machine learning technology that manages Google search results management. [15] Another good example is the use of VPA (Virtual Personal Assistant), which will act as a cross-device linker. [16]

Also the rate of usage of chatbots (service of certain communication with customers applied directly on the website or e-shop). It's a popular and widespread form of artificial intelligence that helps brands to improve their service. [17] Last but not least, virtual assistants like Corona, Siri, Google Now, Alexa, who perform basic functions such as setting the alarm clock, playing a song, reading a newspaper, but also more complex functions such as putting things in a shopping cart, connections to a music service (iTunes, Spotify, etc.) can also be connected to new smart houses. [18]

#### Acknowledgements

This publication was realized with support of the Operational Program Research and Innovation in frame of the project: ICT for smart society, code ITMS2014 +: 313011T462, co-financed by the European Regional Development Fund.

#### References

- [1] Lori Randall Stradtman, 2012, Online Reputation Management for Dummies
- [2] Tadelis, S (2016) Reputation and Feedback Systems in Online Platform Markets. Thakur, S. (2017) A reputation management mechanism that incorporates accountability in online ratings
- [3] Faisal C.M.S., Daud A., Imran F., Rho S. (2016) A novel framework for social web forums thread ranking based on semantics and post quality features
- [4] Walsh G., Albrecht A.K., Kunz W., Hofacker C.F. (2015) Relationship between Online Retailers' Reputation and Product Returns
- [5] Kumar, V., Pradhan, P. (2016) Reputation management through online feedbacks in e-business environment
- [6] Ruan Y., Duressi A. (2016) A survey of trust management systems for online social communities – Trust modeling trust inference and attacks
- [7] AGIUS, A. (2019) 7 Steps to Getting Brand Trust Right. In Content Marketing Institute [online]: <https://contentmarketinginstitute.com/2019/03/steps-brand-trust/>
- [8] Vasiliki Baka (2014) The becoming of user-generated reviews: Looking at the past to understand the future of managing reputation in the travel sector
- [9] Diéguez-Soto, J., Fernández-Gámez, M.A., Sánchez-Marín, G. (2016) Family involvement and hotel online reputation
- [10] Francesconi, A., Dossena, C. (2015) A strategic and organizational perspective for understanding the evolution of online reputation management systems
- [11] Pouryazdan, M., Kantarci, B., Soyata, T., Foschini, L., Song, H. (2017) Quantifying user reputation scores, data trustworthiness, and user incentives in mobile crowd-sensing
- [12] Awour, F.M., Wang, C.-Y., Tsai, T.-C. (2018) Motivating Content Sharing and Trustworthiness in Mobile Social Networks
- [13] Olaleye, S.A., Sanusi, I.T., Salo, J. (2018) Sentiment analysis of social commerce: a harbinger of online reputation management
- [14] Yoo Jung Hong, Donghee Shin, Jang Hyun Kim (2016) High/low reputation companies' dialogic communication activities and semantic networks on Facebook: A compare study
- [15] Kvasincová J. (2018). Ako ovplyvní umelá inteligencia SEO [online]: <https://www.websupport.sk/blog/2018/03/ako-ovplyvni-umela-inteligencia-seo/>
- [16] Hladký M. (2017). Využitie umelej inteligencie v marketingu [online]: <http://www.9em.sk/vyuzitie-umelej-inteligencie-v-marketingu/>
- [17] Nidhi Dave (2018). 11 digital marketing trends you can no longer ignore [online]: <https://www.singlegrain.com/digital-marketing/11-digital-marketing-trends-you-can-no-longer-ignore-in-2018/>
- [18] Lukcza K. (2018). Digital marketing trends 2019 [online]: <https://voluum.com/blog/7-digital-marketing-trends-2019/>

## THE DECISION-MAKING PROCESS OF MANAGERS TO SUPPORT THE CREATIVITY OF UNIVERSITY EMPLOYEES IN SMART ENVIRONMENT

*Dominika Tumová - Martina Blašková*

**University of Žilina**  
Univerzitná 8215/1  
Žilina, 010 26, Slovakia  
+421 41 513 4020  
tumova@fri.uniza.sk

**Abstract:** *The article focuses on the decision-making process and its impact on creativity. Specifically, it examines managerial decision-making on promoting the creativity of employees in the university environment. Its essence is to analyse and identify key elements influencing creativity, which can also be used in the decision-making process on creativity in the currently developing SMART environment. The main purpose is to understand the links between these processes (areas) and to make recommendations for the managers' decision-making. To become a SMART society, universities need to build and support the SMART environment. The results obtained are derived based on the method of sociological inquiry. The questionnaire survey technique was used in this project, involving 90 respondents. These respondents included administrative, research, teaching and managerial personnel of the university. Based on the secondary but mainly primary information acquired, it was possible to design a decision-making model for managers to support the creativity of employees.*

**Key words:** *decision-making, creativity, university, SMART environment*

### 1. Introduction

Many authors argue that creating creative and innovative products or services is the basis for sustainable growth and improved organizational performance (Cefis, Ciccarelli, 2005). The importance of intangible resources is currently increasing while new ideas, unique solutions and breakthrough inspirations are created just by people. "There is an increasing emphasis on creative human resources" (Kozáková, Štefčková, 2012, p. 192).

*Creativity* is the basis for the future success and development of the organization in the currently developing SMART environment. Due to creativity, the organization can strengthen its competitiveness. A person (employee) who stimulates and develops his or her *creative potential* possesses creative competences consisting of inventive and original thinking. A person with this mindset regularly uses fantasy and intuition (Antalová, Rievajová, 2011).

In addition to focusing on creativity, it is necessary to ensure effective *decision-making* within the organization. The organization itself can be understood as a complex system containing various elements that are interconnected by immediate and specific relationships. This comprehensive and complex network is made of countless decisions taking place at lowest, middle and top level across the organization. The decision-making process can be approached from different perspectives: a process approach (understanding the activities being undertaken), a psycho-social approach (exploring interpersonal relationships), a quantitative approach (using mathematical methods and computing) and system approaches (a comprehensive understanding of the sub-processes) but also the empirical approach (practice-based). The decision-making methods are not identical in terms of opinions and it is therefore necessary to make a choice of a specific

approach or a combination of purpose-based approaches (Dostál et al. 2005, p. 149).

For the detailed and thorough setting of the creativity process, it is essential to explore and understand the link between the decision-making and creativity itself. The identification of specific contexts will help managers make effective decisions in the field of creativity, thereby promote a creative atmosphere in the organization and stimulate the creativity of employees. Previous research by the authors in this area revealed the following idea: "Only if the elements in the organization are creative, the organization as a whole becomes creative as well, and only such an organization gives its customers value, adapts to changes and takes care of their development in the long term" (Hriníková, 2018b).

*The aim of the article* is to search pillars of creativity and decision-making in higher education, and disclose potential relations between these connected firmly areas. Based on analysis and synthesis of theoretical knowledge as well as results of the questionnaire survey performed on the sample of  $n = 90$  academicians, the article's conclusion presents the model of decision-making process for support the creativity of university employees.

### 2. Decision-making

Barlett looks at the decision-making by answering the following questions: "*How do decisions made by specific individuals and groups influence the decision environment? What variables affect a given choice and how many incentives influencing decisions need to be understood?*" (Barlett, 2016, p. 3). After reviewing and responding to these questions, it can be concluded that decision-making is a complex process that is influenced by many factors and depends on the perceived needs and objectives set.



*Multi-criteria decision-making* (MCDM) can be applied in a variety of areas, such as supporting creativity. The proposed variants of the solution to the problem identified are influenced by many factors, which requires application of the techniques of the decision-making according to multiple criteria (Khedrigharibvand et al., 2019).

When taking a global view at the decision-making, it can be considered synonymous with the term management. It is one of the main components of a manager's professional competence. In performing his/her tasks, s/he often focuses on critical examination of problems, their solution and the final decision-making. These activities represent a significant part of his or her job and therefore it can be argued that the quality of the decision-making of top managers ultimately influences the success or failure of the organization. "Decision making can therefore be defined not only as the key internal activity of the leader, but also as the core of management" (Marquis, Huston, 2009, p. 1).

### 3. Creativity

US government agencies have identified *creativity and the development of creative thinking skills* as the main components of students' success later in their lives. These findings are useful not only for practitioners but also for scientists who focus on creative thinking in informal learning spaces (Fisher, 2018). An individual's (employee's) creativity itself can be understood as his or her behaviour towards creating new, innovative ideas or stimuli that are useful to him/herself or to the group (organization) in which he or she operates (Somech, Yu-Qian Zhu, 2016). The creative action of a person is closely connected not only with the possibility of his/her personal but also with his/her professional progress. It is characterized as a development through which the needs of self-fulfilment are met. The individual can thus use the skills he/she deems necessary to accomplish tasks and achieve goals (Hriníková, 2018a).

When looking at the creativity in an organization in a comprehensive way, it can be stated that this is an individual, social, team as well as an organizational phenomenon (Franková, 2011, p. 52). Creativity can also be described as a phenomenon that consists of many elements and is measurable in different ways. Many authors have focused on exploring the relationship between creativity and personality. It can be stated that *openness* as one of the personality traits, is most closely linked to creativity. Puryear, Kettler and Rinn (2017) think that „identifying the intrinsic characteristics of major designers of creative products can significantly help better cultivate creative talent” (p. 1). The aim of the creative employees' behaviour is to solve problems, create new products or services, seize opportunities and improve organizational efficiency (Rego et al., 2012, p. 429). These ideas confirm that creativity plays a key role in the operation and growth of the organization, and especially of the university.

### 4. Methods and research

Because the above-mentioned part has confirmed that creativity has a key impact on the organizational environment, many researches has been and are being conducted *to identify the factors* that affect it to the greatest extent. These can then be used in the decision-making process to promote creativity. The following questionnaire survey was carried out to identify the elements that have the greatest influence on the creativity of employees and managers of Slovak universities. The total number of respondents involved was  $n = 90$ . They can be characterized as administrative, research and teaching employees and managers. Specifically, there were 9 managers and 81 employees represented by 48 women and 42 men.

In the previous research of this article's authors, 20 factors have been identified that should contribute the most to a change (positive or negative) in the creativity of employees, including: *a pleasant working environment; good team and harmony at work; significant person; harmonious family life; good friends; long-term fatigue and stress; significant work success; health problems; bad atmosphere at work; school; unsuitable, unpleasant working environment; lack of free time; problems at work; happy childhood; enough free time; problems in family life; major failure at work; art school, course, training, etc.; extraordinary experience in the past; significant success in family life*. These factors were also used in the presented survey.

All managers agree that *the pleasant work environment* is the most important factor in supporting their creativity. Based on the frequencies, the second place was represented by *the harmonious family life* (66.67%) and the third place was represented by *good friends* (55.56%). Based on the above-stated facts, it can be concluded that not only the working environment but also the private environment is important for them. Only when the work-life balance is achieved, their creativity will be properly supported, so that they will be able to bring new and unique ideas to the university (organization).

Table 1 Top three factors affecting creativity of managers

No.	Options	Freq.	[%]
1.	Pleasant working environment	9	100.00%
2.	Harmonious family life	6	66.67%
3.	Good friends	5	55.56%

None of the respondents chose the following elements: *extraordinary experience in the past, significant success in the work area, significant success in family life, major failure at work, problems at work*. It can therefore be stated that neither of these factors has any influence on their creativity.

However, the employees' answers varied considerably. They also consider *the pleasant work environment* to be the most important factor, but only 72.84% of employees have chosen this response. Based on the frequencies, the

second place is *the good team and harmony at work* (53.09%) and the third place is *the significant person* (49.38%). It can be stated that in the case of employees their creativity is based mainly on the working environment and inspiration, which they can gain not only from work but also from private life. Each of the 20 factors identified was chosen by the respondents, suggesting that all these elements are to some extent important for fostering employee creativity.

Table 1 Top three factors affecting creativity of employees

No.	Options	Freq.	[%]
1.	Pleasant working environment	59	72.84%
2.	Good team and harmony at work	43	53.09%
3.	Prominent person (parent, teacher, friend, etc.)	40	49.38%

### 5. Discussion – Decision-making and creativity

High number of aspects need to be decided upon in the process of developing and strengthening the creativity of employees. An example is setting a goal to support the creativity of an individual or a group. The manager must concentrate on obtaining information, analysing and identifying the environment in which his/her employees work. Based on the information available and the criteria set, s/he must select the goal appropriate to the situation. This goal (or even a set of goals) must be linked to the purpose that should be achieved by performing the goal. The described sequence of steps can be called *a solution to the decision problem*.

Each decision-making process must fully respect the specific area on which it is targeted – in the case of this article, this is the area of development of the academic staff's creativity. Based on the findings from the analysis of primary and secondary data, it was possible to create a model of the decision-making process to support the creativity of university employees (Appendix 1).

### 6. Conclusions

Analysis of the current situation and future developments in the field of creativity has shown that the interaction between decision-making and creativity will contribute to the development of the organization as a whole. That is why this article is focused on the influence of decision-making processes for the support of the creative atmosphere in the organization. It focused on identifying concrete connections and interrelationships between creativity and decision-making processes. The presented results were obtained through the evaluation of data from a questionnaire survey conducted in a university environment. By interconnecting theoretical knowledge and own findings from the research, the model was created showing the mutual relations between the investigated processes. The proposed model illustrates and describes the usefulness of decision-making on promoting creativity in continuous improvement of organizations (universities) in SMART environment.

University managers should show their efforts to improve the decision-making process in order to foster the

creativity of their employees and enhance the creative atmosphere of the organization. Only in this case can the university (organization), as a whole, be labelled "creative".

### Acknowledgements

This publication was realized with support of the Operational Program Research and Innovation in frame of the project: ICT for smart society, code ITMS2014 +: 313011T462, co-financed by the European Regional Development Fund

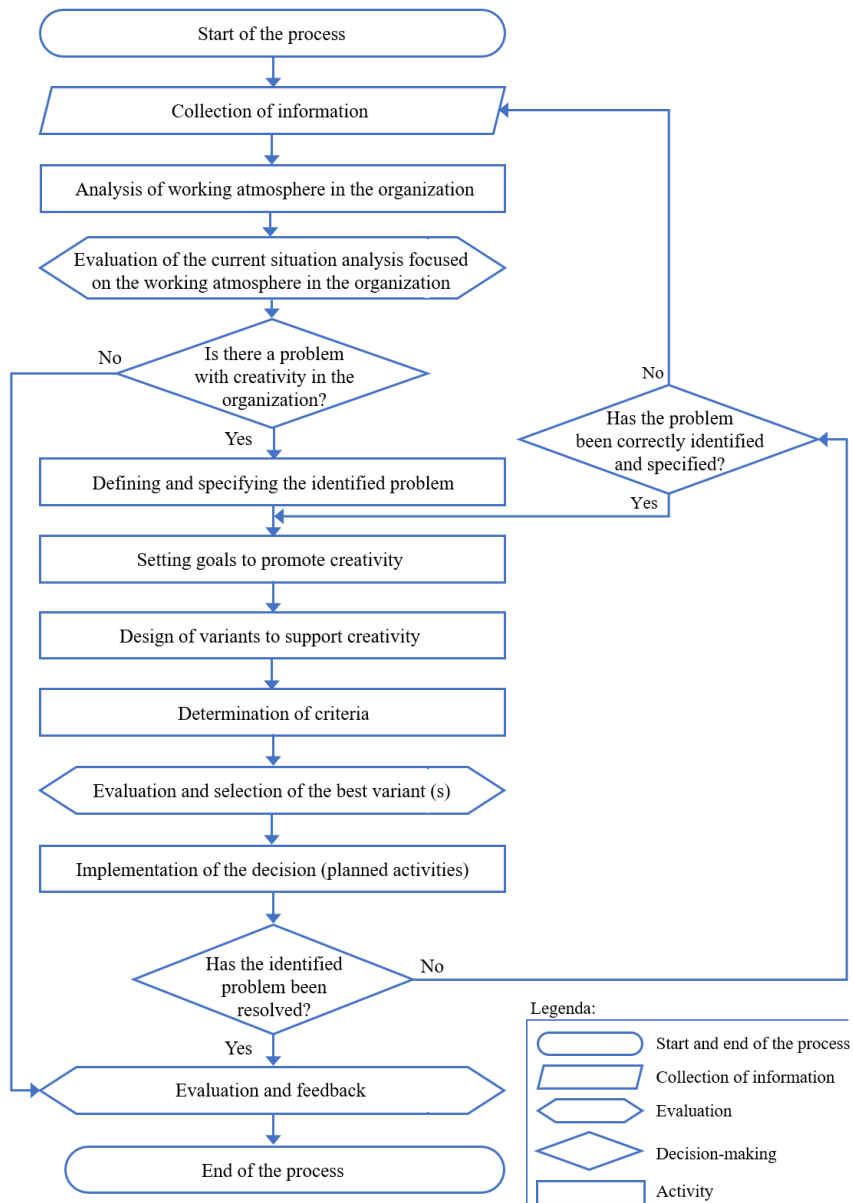
### References

- [1] Antalová, M., Rievajová, E. (2011). *Ludský kapitál v kreatívnej ekonomike*. In: RELIK, Praha. [online] [cit. 18-10-2019]. Available at: <https://relik.vse.cz/static/2011/sbornik/download/pdf/136-Antalova-Maria-paper.pdf>.
- [2] Barlett. (2016). *Agricultural Decision Making: Anthropological Contributions to Rural Development*. London: Academic Press. 395 p. ISBN: 1-4832-6841-1.
- [3] Cefis, E., Ciccarelli, M. (2005). *Profit differentials and innovation*. In: Econ Innovat New Tech, Vol. 14, Issue 1-2, 2005, pp. 43–61, Print ISSN: 1043-8599.
- [4] Dostál, P., Rais, K., Sojka, Z. (2005). *Pokročilé metody manažerského rozhodování*. Grada Publishing: Praha, 168 p. ISBN: 80-247-1338-1.
- [5] Fisher, J. (2018). *Cultivating Creativity: Understanding Visitor Perceptions of Creativity in Art Museum Exhibits*. A thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts, UW. [on-line] [cit. 22-10-2019]. Available at: <http://hdl.handle.net/1773/42017>.
- [6] Franková. (2011). *Kreativita a inovace v organizaci*. Praha: Grada Pub., 254 p. ISBN: 978-80-247-3317-3.
- [7] Hriníková, D. (2018). *Current situation in terms of motivation and creativity of human potential*. In: CER 2018, London: Sciemcee Publishing, November 2018, pp. 48–50, ISBN: 978-0-9935191-9-2. (b)
- [8] Hriníková, D. (2018). *Posilňovanie motivácie vo väzbe na proces orientácie vo vybraných spoločnostiach*. Diplomová práca. Žilinská univerzita v Žiline. (a)
- [9] Khedriharibvand, H., Azadi, H., Teklemariam, D., Houshyar, E., Maeyer, F., Witlox, F. (2019). *Livelihood alternatives model for sustainable rangeland management: a review of multi-criteria decision-making techniques*. In: Environ Dev Sustain, Vol. 21-1,(11–36). ISSN: 1387-585X.
- [10] Kozáková, V., Štefčeková, L. (2012). *Kreativita ľudských zdrojov ako faktor rozvoja územia*. In: Manažment ľudského potenciálu, BB: Univerzita Mateja Bela. pp. 192-199, ISBN: 978-80-557-0361-9.
- [11] Marquis, B. L., Huston, C. J. (2009). *Leadership Roles and Management Functions in Nursing: Theory and Application*. China: Lippincott Williams & Wilkins, 654 p. ISBN: 0-7817-7246-X.
- [12] Puryear, J. S., Kettler, T., Rinn, A. N. (2017). *Relating Personality and Creativity: Considering What and How We Measure*. In: Journal of creative behaviour, Vol 53, Issue 2, pp. 222–245. ISSN: 2162-6057.

[13] Rego, A., Sousa, F., Marques, C., Pina e Cunha, M. (2012). *Authentic leadership promoting employees' psychological capital and creativity*. In: *The JBR*, Vol. 65, pp. 429–437. ISSN: 0148-2963.

[14] Yu-Qian Zhu, Gardner, D. G., Houn-Gee Chen. (2016). *Relationships between Work Team Climate, Individual Motivation, and Creativity*. In: *Journal of Management*, Vol. 44, Issue 5, 2018, pp. 2094–2115, ISSN: 0149-2063.

Appendix 1. Model of the decision-making process to support the creativity of university employees (own elaboration)



## BIKESHARING IN ŽILINA AS ELEMENT OF SMART CITY

Oliver Bubelíny - Milan Kubina - Gabriel Koman

The University of Zilina, Faculty of Management Science and Informatics

Univerzitná 8215/1  
Zilina, 010 26, Slovakia  
+421 41 5134025

oliver.bubeliny@fri.uniza.sk – milan.kubina@fri.uniza.sk – gabriel.koman@fri.uniza.sk

**Abstract:** *The current trend of smart cities brings innovative solutions in the field of urban mobility. Not only does it promote intelligent traffic management using ICT technology, but it also offers the room for the use of non-motorized transport. Bikesharing can be classified as a smart solution in the city because the bike uses ICT elements (GPS, GPRS, Wi-Fi). Urban agglomerations are becoming overcrowded with cars as individual transport in cities is preferred over public transport. Since in most cities, there is no room to create additional roads, it is necessary to look for solutions without interfering with the infrastructure. Such a solution is the transition from cars to public transport. Besides, alternative non-motorized transport such as bike-sharing or shared electric scooters are an excellent option for maintaining mobility. This way will ensure that the passenger can choose an alternative, where they do not have to wait in the traffic jams, but by bicycle, they reach their destination in time. In addition, the environmental impact must also be highlighted. Bikesharing is a friendly option for the environment as it generates no emissions. This way of transport is very popular with the public in Slovakia and is gradually being introduced to cities. The system has been operating in the city of Žilina for less than a year and the interest of the public is very high. The article evaluates the use of bike-sharing as a service in the city of Žilina during the whole period of its operation.*

**Keywords:** *bike-sharing, public transport, bike-share, smart city*

### 1. Introduction

The number of passenger cars on Slovak roads continues to grow. The reason for the increase in the number of vehicles is mainly higher purchasing power of the population and economic growth. The available loans for various groups of people create conditions for the purchase of new or used cars. People often use this option because of rapid transfers in and between cities. It is forgotten that the road infrastructure in cities is limited, and the increase in the number of vehicles causes significant traffic jams and delays, especially during peak hours.

The solution to this problem may be to adjust the intersections to the so-called intelligent intersections equipped with sensors, or the development and implementation of cooperative navigation, which suggests to drivers several alternative routes to get to their destination. Another option is to create transport conditions in the city so that passengers can use public transport. In addition to public transport, other alternative modes of transport in cities, such as bike-sharing, are also coming to the forefront. It is for this reason that the notion of mobility, which represents the movement of goods or persons, is becoming more prevalent, taking into account both motor and non-motorized transport. [7] It can be argued that bike-sharing is also included in the urban transport system, which represents the possibility of fast transport within the city. Bikesharing can be defined as a bicycle rental service for people who do not own bicycles. People rent a bicycle for a small fee or for free, depending on the options. In most of the places where bike-sharing exists, it is part of public transport and passengers can get to their exact destination using this type of transport. This way of transport in cities can be classified as a smart

solution. Shared bikes use ICT technologies to "unlock" bikes or to pay for their rent. The bikes are equipped with GPS sensors that directly monitor their movement in the city, allowing the collection of the data on the movements of bicycles that can be further analyzed. [9]

### 2. Methodology

The strategy for the implementation of the document was based on obtaining individual information using the method of obtaining data, and processing and evaluating data. The gathering of information was carried out on the basis of an analysis of documents focused on public transport and the city of Žilina itself. These are mainly strategic documents of the city (territorial master plan, the vision of transport in the city). Further information was gathered from scientific articles on urban mobility. Secondary sources of information were also used, which provided the necessary data for the solution of bike-sharing in the city of Žilina. Conclusions from the analysis of documents were formulated by induction.

### 3. City Žilina

Žilina is the fourth largest city in the Slovak Republic and is located in the northwestern part of the country. It is one of the eight regional cities. It is also a district town. As of September 30, 2019, 82,948 inhabitants were registered in the town. The area of the city is 83.03km<sup>2</sup>. The town consists of 19 city parts namely: Staré mesto (the old town), Hliny, Hájik, Solinky, Vlčince, Rosinky, Trnové, Mojšová Lúčka, Bytčica, Závodie, Bánová, Žilinská Lehota, Strážov, Budatín, Považský Chlmec, Brodno, Vranie, Zádubnie and Zastranie. [11,12]

The total growth of vehicles is also recorded in the whole district of Žilina. As of December 31, 2018, 95 849 vehicles were registered. The development of the number of vehicles since 2008 is shown in Table 1. A higher number of vehicles is reflected in the traffic intensity in the city. The following are the most problematic sections: [10]

- Košická street
- Vysokoškolákov street

There are traffic lights on Košická Street, and the length of the green signal depends on the traffic intensity. During peak hours, traffic is controlled by police officers. Fifty-four thousand vehicles cross the intersection in 24 hours. Compared to 2006, this is a 133% increase in vehicles passing through the intersection. [11]

Vysokoškolákov street is ranked among the main ones in the city centre. Several shopping malls, petrol stations, university dormitories, a healthcare centre and a client centre of the Ministry of the Interior of the Slovak Republic are located on the street. Three roundabouts make intersections on the road. This road is the third in the number of car accidents in the city. The causes of accidents most often arise because of small distances between vehicles and the consequent failure to brake and stop the vehicle, or not giving way when driving into a roundabout. The slowing up or clogging of traffic at these intersections also constitutes a delay in public transport. [10]

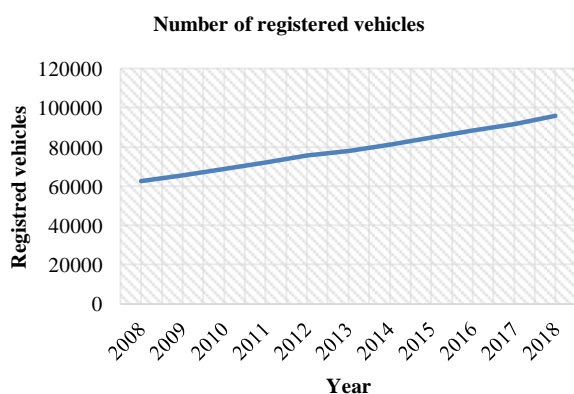


Figure 1: Number of registred vehicles

#### 4. Public transportation in Zilina

Buses and trolleybuses provide transport service in the city. Trolleybus transport forms the central part of public transport in the city. Trolleybuses provide transport in the central part of the city and also serve local neighbourhoods. An additional part of transport is the bus service, which connects the central part with suburban. Bus transport is provided by vehicles running on diesel, hybrid and electric vehicles. The total length of the public transport network is 81.85 km, while the trolleybus network is 22.3 km. On this network, the carrier provides 8 trolleybus and 11 bus lines. The carrier providing public transport in the city is the Transport Company of the City

of Žilina, where 100% owner is the City of Žilina. The transport company owns 82 means of transport, of which 42 are trolleybuses. The average capacity of trolleybuses (seating and standing are taken into account) is 121 seats. In the case of buses, the average capacity is 110 seats. [5] Most trolleybus lines operate regularly at 10-minute intervals during rush hour. Outside the busiest hours, trolleybuses operate at 20-minute intervals. [13] Basic and discounted fares are shown in Table 1. Travel fare in public transport is divided into zones. The first-rate fare represents travel up to 5 stops; the second-rate fare exceeds 5 stops. [4] From September 1, 2017, the Public Transport Company allowed students to travel for free from the age of 15 until the age of 26. The necessary condition for the possibility of free travel is to have a permanent residence in the city of Žilina. [6]

Table 1 Basic and discounted fares

TYPE OF TICKET	Basic fares in euro		Reduced fares in euro	
	1. ZONE	2. ZONE	1. ZONE	2. ZONE
Ticket usable for a ride in one bus	0.55	0.65	0.35	0.45
Ticket usable between buses (up to 30 min)	-	0.80	-	0.55
SMS ticket	-	1.00	-	-
Ticket bought at driver/night bus	-	1.20	-	-
Tourist ticket (24h)	-	2.00	-	-

There are several advantages of travelling by public transport in Žilina. In recent years, the Public Transport Company has procured new vehicles, which has significantly contributed to the rejuvenation of the transport. Passengers benefit from comfortable, modern low-floor vehicles that allow wheelchair access for passengers with reduced mobility and passengers with pushchairs. Compared to individual transport, it is cheaper, and the environmental impact on the city should also be noted. Primarily it is less passenger car emissions, less congested city and less noise.

The primary disadvantage compared to individual transport is that the passenger has to adapt to the timetable and walk the "last kilometer" from the public transport stop. Passengers are also dependent on waiting at the stops, which primarily acts as a demotivating factor in the winter months.

#### 5. Bikesharing in Žilina

Given the current situation of urban transport, it was necessary to consider how to allow citizens in the city to reach their destination on time without using a passenger car, which would again contribute to congestion of traffic. The ideal option is shared bikes. Bikesharing, as one of the elements of mobility, involves taking a bicycle at one of the self-service stations and then returning it to the nearest station after use. Bikesharing, after the year 2000, started to make meaningful use of information technology. Bikes

are equipped with a GPS system with information about their current location and an intelligent lock that unlocks the bike after pairing with the mobile application. [9] Bikesharing was officially launched in Žilina on March 29, 2019. User registration started on February 1, 2019. Registration is obligatory for using a shared bike. The user can register via a website or mobile application available for both Android and iOS. After entering the phone number and debit (credit) card number, it is possible to rent a bicycle from one of the 20 stations in the city. The rental itself works through the application, where the user scans the QR code of the bike, which is then unlocked and is fully usable. After using the bike, it is necessary to park it at one of the docking stations in the city, where another user can unlock it. [2]

Organizationally, bike-sharing in Žilina is funded by the BikeKIA Foundation, which provided hardware and software worth € 320,000. The city of Žilina itself contributed a space where it was possible to build 20 docking stations together for 120 bikes. Arriva is also involved in the shared bike project, which provides a fully functional shared bike system and also ensures its operation. The company also provides a shared bicycle system in Nitra. The shared bicycle system was purchased by ARRIVA from Nextbike, which offers shared bicycle solutions in cities. The bikes are intelligent - they support GPS, GPRS, Wi-Fi, NFC technologies and BlueTooth. [9,10]. It is these technologies that make ordinary bicycles smart bicycles. Users can unlock the bike via the online application. It is also possible to monitor the storage of bicycles, which will provide information for cyclists at what stations the bicycles are located. The location of the separate docking stations is located directly in the centre and the wider surroundings of the city to secure all the basic traffic junctions. Individual stations are in squares, in neighbourhoods, near colleges, universities, shopping centres and waterworks, which are often used by people to relax after work. The strategic location of each station is shown in Figure 1. [2]

Bikesharing service in Žilina is free of charge for one hour. After this time, the cyclist must return the bike to one of the available docking stations. If the bicycle rental is exceeded for more than one hour, the cyclist will pay € 20 for each additional hour started. This setting is justified by the availability of bicycles to other possible users. If the cyclist returns the bicycle after an hour of use, he can borrow another one for free for one hour. The possibility to use the bike for free increases the interest in its use. Nextbike, which provides 1 600 shared bike programs worldwide, records rental records. In May, Žilina broke the record of monthly bicycle rentals. Bicycles were rented up to 49 000 times. Among other things, Žilina broke the record of one bicycle rental in 24 hours. One bike was used up to 25 times in 24 hours. Other essential facts of shared bikes in Žilina include: [2]

- the average bike rental is 17 minutes,

- there are more than 17,000 registered users in the application, of which at least 10,000 are active,
- by the end of June, more than 135,000 rides had been carried out,
- the busiest stations are in the squares and colleges.

## 6. Discussion

The involvement of alternative modes of transport in cities is essential. The primary reason is the fact that cities are overcrowded with vehicles and the built infrastructure, especially during peak periods, does not manage to cover the vast onslaught of vehicles, which consequently slows down the entire traffic. Passengers moving to their destination, whether by an individual or public transport, are always running late. For commuters, this is why they have to travel early to arrive on time. Given the difficulty of completing urban infrastructure, it is essential to motivate passengers to move from individual to public transport with alternative transport options to help them overcome the "last kilometer" of the road. At present, the Public Transport Company of the City of Žilina has modern vehicles, which are supposed to support public transport. Much more will be needed for people to start using public transport in larger quantities. For example, free travel for all residents can support such travel, or use of repressive measures (increasing parking fee, reducing parking spaces, creating emission zones in cities). Last but not least, smart intersections should be emphasized, which can favour public transport vehicles over others.

Bikesharing in Žilina points out that the public is interested in using alternative transport as well. It is also necessary to emphasize several negative aspects that are connected with bike-sharing. Bicycle rentals can be significantly affected by the weather. Cyclists can use this service in good weather, but in the event of rain and winter, the bikes will not be used, and some passengers will use their cars again. Another of the critical things is that the city of Žilina has 8 694 m of cycle paths. It is necessary to complete cycle paths for cyclists or to reserve space on existing roads. This measure eliminates the risk of accidents, whether with cyclists or pedestrians. Finally, socio-economic characteristics should be emphasized. Bikesharing, as a smart service, is mainly used by the young generation. It is primarily about the ability to work with modern technologies, but it is also about health, where many older people prefer to use a different mode of transport. [1,3,8]

However, it should be stressed that the use of public transport in combination with bike-sharing has many more benefits and represents the future of smart cities. Cities will be relieved of the abundance of carbon-generating vehicles; they will then speed up public transport and will promote the healthy movement of people who arrive at their destination in time.

## 7. Conclusion

The article evaluates the first months of using bike-sharing as a smart element in the city of Žilina. The proof that this

is a smart solution is the fact that bikes are equipped with ICT technologies such as. GPS, GPRS, Bluetooth, Wi-Fi. This allows users to conveniently provide information about the position of the free bicycle, enabling the bicycle to be unlocked from the rack. On the other hand, for smart service providers, this smart solution provides a wealth of data that can be further analyzed and subsequently improved. The bike-sharing service in this city has made several records resulting from the interest of passengers in using this type of alternative transport. It is these facts that show that building smart cities is the future. The article also provides a basic overview of the city of Žilina and the organization of public transport in the city. In order to continuously improve urban mobility, it will be essential to create incentives for individual transport passengers to start using public transport with the addition of alternative modes. If this is not the case, traffic in cities will start to collapse, and people will spend a lot of time in the traffic jams, which in other circumstances they could have used it quite differently. The carbon footprint will also increase, and cities will not provide sufficient air quality for the population. The fact that the number of registered vehicles continues to increase is also underpinning the idea of travelling by public transport.

### Acknowledgements

This publication was implemented with the support of the Operational Program Research and Innovation in the frame of the project: ICT for smart society, code ITMS2014 +: 313011T462, co-financed by the European Regional Development Fund.

### References

- [1] Audikana, A.; Ravalet, E.; Baranger, V.; Kaufmann, V. Implementing bike-sharing systems in small cities: Evidence from the Swiss experience. *Transp. Policy* 2017, 55, 18-28.
- [2] *BikeKIA už tri mesiace v Žiline s rekordným počtom výpožičiek* [online]. 3.7.2019 [ref. 2019-10-23]. Available on: <https://bikekia.sk/bikekia-from-the-months-in-zilina-with-record-of-the-position/>
- [3] *Cyklodoprava v Žiline* [online]. [ref. 2019-10-23]. Available on: <http://www.cyklodoprava.sk/cyklodoprava/cyklisticke-komunikacie/zilina/>
- [4] *DPMŽ tariff* [online]. [ref. 2019-10-23]. Available on: <http://www.dpmz.sk/tarifa/>
- [5] *DPMŽ vehicles* [online]. [ref. 2019-10-23]. Available on: <http://www.dpmz.sk/from-park/>
- [6] *Investičný zámer mesta Žilina zaviesť bezplatnú mestskú hromadnú dopravu v Žiline pre všetkých obyvateľov mesta Žilina* [online]. 2018, 32 [ref. 2019-10-23]. Available on: <https://www.zilina.sk/userfiles/2018/zastupitelstvo/matarialy/mz20180625/Materi%C3%20dA11o%20MZ%20-ezplatn%20b%C3%A1%20MHD.pdf>
- [7] Litman, Todd. *Measuring Transportation Traffic, Mobility And Accessibility* [Online]. 2011, 17 [ref. 2019-10-23]. Available On: <https://www.vtpi.org/Measure.Pdf>
- [8] Machado, Cláudia & Hue, Nicolas & Berresaneti, Fernando & Quintanilha, José. (2018). An Overview of Shared Mobility. *Sustainability*. 10. 4342. 10.3390/su10124342.
- [9] *Our bike types* [online]. [ref. 2019-10-23]. Available on: <https://www.nextbike.net/en/pt-cities/>
- [10] PALÚCH, Ján, Veronika HARANTOVÁ, Alica KALAŠOVÁ and Zuzana OTAHÁLOVÁ. Selected transport problems in Žilina on the streets Vysokoškolačkov and Košická. *World of transport* [online]. 2019, 86-95 [ref. 2019-10-16]. ISSN 1338 – 9629. Available on: [http://www.svetdopravy.sk/wp-content/uploads/2019/07/PDF-1\\_2019.pdf](http://www.svetdopravy.sk/wp-content/uploads/2019/07/PDF-1_2019.pdf)
- [11] *Program hospodárskeho a sociálneho rozvoja mesta Žilina* [online]. 2016, 160 [ref. 2019-10-23]. Available on: [https://www.zilina.sk/userfiles/2017/PHSR\\_Zilina\\_2-0.pdf](https://www.zilina.sk/userfiles/2017/PHSR_Zilina_2-0.pdf)
- [12] *Štatistika o počte obyvateľov 2019* [online]. [ref. 2019-10-23]. Available on: <http://www.zilina.sk/statistika-o-pocte-obyvatelov/>
- [13] *ÚZEMNÝ GENEREL DOPRAVY MESTA ŽILINA* [online]. 2017 [ref. 2019-10-23]. Available on: [https://www.zilina.sk/userfiles/2017/ugd/UGD\\_ZA\\_PUM\\_final.pdf](https://www.zilina.sk/userfiles/2017/ugd/UGD_ZA_PUM_final.pdf)

## ADVANTAGES OF IOT IMPLEMENTATION IN ENTERPRISE PROCESS MANAGEMENT

Gabriel Koman – Milan Kubina – Dominika Šulyová

Faculty of Management Science and Informatics, University of Zilina

Univerzitná 8215/1  
Zilina, 010 26, Slovakia  
+421 41 513 4456

gabriel.koman@fri.uniza.sk – milan.kubina@fri.uniza.sk – dominika.sulyova@fri.uniza.sk

**Abstract:** *The possibilities of managing and controlling enterprise processes are constantly growing. The accelerating trend is reinforced, especially by development of information and communication technologies. New devices and software applications which generate and transmit data about ongoing enterprise processes in real or almost real time are emerging quickly. Facilitating a communication between devices and sharing data with persons and systems in order to process them further or to conduct decision-making is of utmost importance when using various devices in business. In the modern enterprise, smart devices can communicate with each other (internally as well as externally). The Internet of Things is a part of the Industry 4.0 strategy, being able to interconnect information systems, Big Data and others, forming a single digitalized unit. The issue that also is examined is an impact of information and communication technologies used to increase the efficiency of decision-making processes as well as potential consequences and changes in enterprise management caused by the implementation of Internet of Things Technology. The article aims at identifying positive impacts of Internet of Things solutions on enterprise processes.*

**Keywords:** *management, process, internet of things*

### 1. Introduction

The trend of implementing the Internet of Things affects production, logistic, information and communication processes, posing challenges in various levels of enterprise management. The objective of this article is to prove the convenience of employing the technology in enterprise process management, based on a theoretical base prepared and an initial analysis. Another current trend affecting enterprise operations include communication devices (device-to-device (D2D)) used in smart production and logistics, growing volumes of data, omni-channel, blockchain, augmented reality, artificial intelligence, digital twin and robotic automation.

### 2. Introduction

Materials used for preparing this Article were acquired by analysing secondary data obtained from available sources concerning the IoT, enterprise processes and associated technologies (Industry 4.0, Big Data, Blockchain, etc.). The analyses aimed at identifying benefits from the implementation of Internet of Things solutions in enterprise process management. The output data were evaluated qualitatively with the emphasis on the needs of the enterprise and its managers who conduct decision-making within enterprise processes. Applying a deductive and inductive method, possible pros and cons of IoT implementation in enterprise processes were specified.

### 3. The Internet of Things

Customer requirements are more and more demanding, which requires “customization” of products and shorter delivery periods in particular. This pertains to production and provision of complementary services. The fast-paced environment is currently following the Omni-Channel strategy, which is based on the technology and trend of the IoT (Internet of Things). [2] [5]

Emergence of Industry 4.0 has created chaos in production and logistic systems that have been used by now. The Semantic Web of Things platform (the so-called SWeTI) will facilitate integration into enterprise systems, simplify the comprehension of the domain (a problematic area) and support the use of smart devices in smart production. [4]

The IoT ensures the effective and easy communication and connection between D2D, creating a complex ecosystem enabling the global trouble-free inter-connection. It is necessary to have an easy access to data, to use smart network applications and to automate communication (using semantics and smart devices). [6]

The implementation of this technology with smart and automated devices brings problems in data security and reliability in the digital environment. Block-chains is a key technology helping to build trust and reshaping a way of sharing the information. It has become a strong trend after Big Data and Cloud Computing. [7]

#### 3.1 The Omni-Channel

Surveys reveal that China has been one of the leading online markets since 2013 (sales of USD 299 trillion – positively affecting the GDP), and in the territory concerned, the most effective business is Alibaba. The Omni-Channel together with Industry 4.0 also brings new challenges in the field of research, for instance: [2]

- the need to measure and ensure customer satisfaction, since a failure of Omni-Channel may cause that purchases will be made at competitors’,
- inventory management for trouble-free online and direct purchase, since over-supply increases operational costs and binds financial resources pointlessly,



- modern devices should be fully exploited, and they should cover all new functions of the Omni-Channel (in the sphere of B2B, B2C),
- delivery of the goods using automated means (robots, drones...) under consideration.

Omni-channel distribution operations are conducted using point-to-point transport, and communication nodes are composed of high-tech and the Big Data. [2]

Increasing the efficiency of collection, processing and evaluation of the Big Data, the IoT technology is one of the fundamental parts of the Omni-Channel. The aforementioned process directly leads to the creation of the product that meets customer requirements. Therefore, coordinating the online and offline regime of the purchase is reasonable when modelling the inventory. Flexibility is another important aspect, which raises a possibility to change items or cancel an order, and the Omni-Channel is a mediator of a value added passed on from a manufacturer to an end user. Production and logistic services are important, including delivery through Cloud platforms (with respect to the state of a transport vehicle and human resources, a choice of a route or a delivery regime). [2]

### 3.2 The SWeTI Platform

Network devices must be vertically and horizontally interconnected for successful system integration, interoperability, configuration and flexibility. Platforms designed for Industry 4.0 are for example RAMI 4.0 in Europe, IIRA in the USA, or SWeTI. The SWeTI platform consists of five layers (each of them involves tools and applications to process the so-called raw data into the information necessary for management and decision-making): [4]

- a physical layer – a human-machine interface. Communication is conducted through Bluetooth.
- edge layer/data layer – transforming collected data into the information. It involves the function of interoperability as well as tools used in practice (Amazon – Greengrass, Microsoft – IoT Edge, lambda functions from AWS).
- cyber layer – the so-called hub preparing the information for another layer (the data processing/analysis one). The cyber layer makes relevant data available. Blockchain is an alternative solution to this layer.
- data analysis layer – using AI data obtained from the analyses simplifying the decision-making, e.g. Azure by Microsoft, Predix by GE (preventive maintenance, etc.).
- application layer – showing the information acquired from the analysis and the previous layers. It is intended for domain experts in particular, and it uses the Augmented Reality Technology (communication with the Digital Twin, chat-bots).

Measurement performed between the devices deals with the issues of interoperability, e.g. Linked Open

Vocabularies (LOV) or media software ACEIS – for decision-making support; IoTSuite – creating prototypes of internet applications and specifying the properties of the device, having advantages like flexibility and generation of a source code for various languages, used for example in Androids and Arduinos. [4]

### 3.3 Integrating the IoT technology with D2D Devices

Protocols are used to transfer data. TCP/IP is the most frequently used protocol. It has 5 layers (physical, data, network, transport and application layers), which facilitate the development of network technologies. Collected data are processed into the information that requires the sufficient output and capacity of a device memory.

#### Possibilities of Interconnecting the Layers

The transfer of IPv6 packets facilitates the networks of devices with limited capabilities, i.e. 6LoWPAN. The following tools may also be included in a list of derived tools: [3]

- DECT ULE is a data transfer taking place under the packet regime. It is characterized by low energy consumption and used in wireless systems in particular, e.g. smart locks, monitoring of patient condition, etc.
- IEEE 1901.2 is a communication standard in narrow band. It is a wireless medium, e.g. smart street lighting, data transfer in road transportation, smart home, etc.
- RFID chips, readers and scanners are used for monitoring animals and vehicles. They are usable in logistics in managing the transport of things and packages in warehouses and similar places.
- Bluetooth is a technology for wireless and fast data transfer characterized by low energy consumption. The technology can be used, especially in automation, households, vehicles (a key), health care (monitoring of a patient's temperature). However, safety risks or low device performance are significant limitations of the technology.
- ZigBee IP is a wireless technology with low energy consumption, controlled centrally, usable especially in smart home solutions as well as in remote controls and health care (heart rate monitoring, data collection and automated data assessment), etc.

IoT integration with D2D devices is extremely important for the correct functioning of enterprise processes. Properties of interconnected devices are crucial in achieving the success since interoperability is currently being decentralized (for a better range of systems, simple configuration of new devices) and not centralized – being a disadvantage of regular updates. SDN-based solutions (Software Defined Network) or NFV-based solutions (Network Function Virtualization) are trends which will significantly affect the sphere of smart home and health care, logistics and enterprise processes. In addition, it is necessary to get prepared for potential limitations, risks

and problems that may arise (prevention reduces costs and uncertainty). [3]

### 3.3 The Blockchain

Bitcoin revolutionized monetary transactions. However, it is also associated with encryption criminality. The Blockchain Technology is able to secure the confidential and classified information and to ensure reliability and safety of not only transactions. The functions of directing (transaction transfer), saving (copies) and monetary services (security keys) are crucial. The process results in smart contracts supported by global corporations such as IBM or Intel. In this environment which develops rapidly and is full of threats and ambiguities, the Blockchain is the solution increasing transparency and trust. The credible environment finally leads to a reduction in costs. Information technologies used should be focused on and deal with this issue, and they should apply the knowledge about the IoT and Industry 4.0. In that sense, the Blockchain solution can be used in Industry 4.0 online transactions, logistics and processes in particular. However, risks and implementation limitations must also be considered in addition to its sunny sides. The implementation of the IoT and the Blockchain leads to a convenient trend ensuring faster interaction and secure online payments. [1]

### 4. Advantages of IoT Implementation in Enterprise Process Management

The technology enables collection, processing and analysis of a huge volume of data in real time, having the effect on enterprise management and decision-making on an operative, tactical and strategic level.

Fact-based decision-making (i.e. using the information acquired by processing the data) optimizes the logistic processes of stock manipulation, distribution, storage or shipment. The IoT, together with Industry 4.0 can predict a negative state or collision using sensors, creating a system of timely warnings.

Prediction is used mainly in preventive maintenance of devices to ensure un-interrupted and stable device operation.

Main advantages of the implementation of the Internet of Things in enterprise processes may include:

- positive feedback to a purchase. The satisfied customer will return to do the shopping, which results in profit and customer loyalty.
- interaction (between a human and a device) through the Omni-Channel and an analysis of online reputation and trends, which results in understanding purchase behaviour, a possibility to modify products based on feedback, inter-connected devices and communication between them (PC, tables, cell phones, etc.).
- more effective order handling, optimum inventory capacity setting, enterprise logistics and production optimization and interoperability, which results in

lower costs and higher savings of energy and limited resources.

Potential disadvantages of IoT implementation in enterprise processes involve:

- problematic interconnection and address adding of heterogeneous devices, which may result in insufficient interoperability,
- TCP/IP limitations (capacity, memory, absence of a built-in security function, etc.),
- costly implementation, which may cause chaos in ongoing processes,
- the necessity to change employee thinking,
- negative impacts on enterprise management and decision-making (especially in a traditional enterprise), and it is necessary to analyse them and define measures for their minimalization.

### 5. Conclusion

The IoT technology exerts a significant impact on enterprise production, logistic, information and communication processes. It is a novel trend which emerged in the market after Big Data and Cloud Computing. The devices that employ the IoT are able to gather data in real time and transform them into the information using information systems, which raises the possibility of fact-based decision-making. Applying the technology, management support is ensured on all levels of enterprise management (an operative, tactical and strategic level). In addition to its positive aspects (customer satisfaction, lower costs, shorter processes), IoT implementation produces abundance of various obstacles and limitations. Close attention must be devoted to enterprise infrastructure and interoperability issues. However, the benefits outnumber the obstacles, and the IoT is helpful not only in industrial production but also in enterprise management (in supervision and decision-making). In practice, IoT implementation in the enterprise can be facilitated by trainings, employee motivation and a change in employee thinking, increasing its effectiveness. The issue of IoT implementation in enterprise processes is topical, since the IoT as well as Industry 4.0, Big Data or Blockchain will be implemented and used even more widely in 2020.

### Acknowledgements

This publication was realized with support of the Operational Program Research and Innovation in frame of the project: ICT for smart society, code ITMS2014 +: 313011T462, co-financed by the European Regional Development Fund.

### References

- [1] Yaqiong, L.V., Lei, T.U., Lee, C.K.M., Xin, T.: IoT based Omni-Channel Logistics Service in Industry 4.0. In: *IEEE International Conference On Service Operations And Logistics, And Informatics (SOLI)*, vol. 88, pp. 240-243. IEEE, Singapore, 2018.

- [2] Bello, O., Zeadally, S., Badra, M.: *Network layer inter-operation of Device-to-Device communication technologies in Internet of Things (IoT)*. Elsevier Ad Hoc Networks 57, 52-62, 2017.
- [3] Patel, P., Ali, M.I., Sheth, A.: *From Raw Data to Smart Manufacturing: AI and Semantic Web of Things for Industry 4.0*. IEEE Intelligent Systems 33(4), 79-86, 2018.
- [4] Reyna, A., Martín, C., Chen, J., Soler, E., Díaz, M.: *On blockchain and its integration with IoT. Challenges and opportunities*. Elsevier Future generation computer systems 88, 173-190, 2018.
- [5] Falát L., Holubčík M. The influence of marketing communication on financial situation of the company – a case from automobile industry. In: *Procedia Engineering*, vol. 192, pp. 148-153, 2017
- [6] Soviar J., Holubčík M., Rečtorík M., Pollak F. The Presentation of Automotive Brands in the On-Line Environment The Perspective of KIA, Peugeot, Toyota and VW in the Slovak Republic. In: *Sustainability*, 11(7), 2132, 2019.
- [7] Holubčík M., Falát L., Possible implementations of prediction models for forming global cooperation relations. In: *Globalization and its socio-economic consequences*, 16th international scientific conference, pp. 670-677, Rajecké Teplice, Slovak Republic, 2016.

## KNOWING THE PARAMETERS OF PERCEIVED VALUE IN THE COMPANIES OPERATING IN SMART ENVIRONMENT

*Mária Demjanovičová - Michal Varmus*

**University of Žilina**  
 Univerzitná 8215/1  
 Žilina, 010 26,  
 Slovakia  
 +421 41 513 4020  
 maria.demjanovicova@fri.uniza.sk

**Abstract:** *The value as a term is very general and it can be approached from various perspectives. Within the concept of a company’s management in the SMART environment, it is necessary to know own values, so that they can be further transformed into the company’s operation. The company has to ask an important question: “What is the value of our company?”. Only after answering it, it is realistic to set the next steps for the cooperation with the value and to try to apply the value in all activities of the company. This way, the value will have effects on the general goals and results of the company. The company’s operation in the SMART environment often affects the overall linking of the value with its core activities. This paper is focused on the investigation of perceived value parameters via their idea-makers, CEOs or other leaders of the company. The research is based on the data gained from interviews with entrepreneurs and it is supported by foreign studies and value management models. The aim of the paper is to identify the main parameters of the perceived value as a starting point to be used in the following studies. What are the parameters of the perceived value in the company from the perspective of the founders? Do the companies even know their own social value? And can they define its parameters?*

**Keywords:** *business value management, parameters of the value, perceived value*

### 1. Introduction

Business value management is perceived as a financial activity, but this perception is misled. The value of the company lies in something deeper and its nature is directed towards the long-term goals of the company but also of the society. Since the 1960s, not only the corporate management approach has changed, but the companies’ values have changed as well. The business models that present flexible responses to the market needs are preferred, the offer is directly created by customers, business management is no longer directed only from top to bottom, and marketing is no longer just a tool to communicate the product’s and service’s prices.

Companies are much more aware of the impact of their business making because they are pushed to innovate not only by the state but also by the customer. The changes in the thinking of entrepreneurs as well as of the state are happening for several reasons, but the most important one is sustainability. An entrepreneur wants his/her business to prosper, grow and to have a promising future. The state wants companies to thrive because they generate the main financial income, but at the same time, they regulate the overall direction of the state. Recent studies (2018, 2019) on the topic of the value management in the business environment describing the value of a company mention concepts such as sustainability, circular economy, innovation, environmental aspects, and so on. But how to translate the changes in the overall perception of the business value into the real world of a local entrepreneur?

### 1.1 Theoretical background

When dealing with the value, it is essential to think about all the stakeholders that have an impact on the value but also those that spread its idea. Value can be addressed in several ways. Therefore, at the beginning, it is necessary to define all the directions that need to be known and distinguished.

*Table 1 Stakeholders from the company’s perspective*

<i>Stakeholder groups</i>		
<i>Internal</i>	<i>External</i>	
	<i>Not connected to the market</i>	<i>Connected to the market</i>
Company’s units Departments Divisions Management	Society Consumers organizations Media Civic initiatives Church Education system Cultural institutions Environmental groups	Customers Wholesale Retail Consumers
Owners Shareholders Associates Entrepreneurs	Future  State Legislation Executive Judicature	Suppliers Competitors Foreign capital owners
Employees Levels in the hierarchy Unions Demography		Companies providing services Cooperation partners

(Conrad, 2004)

### **Stakeholder groups**

Stakeholders may come from an internal or external environment. The internal or in-house environment is divided into a business environment, owners and

employees. Owners and employees are a substantial part. Within the business units, the company can almost to 100% influence the issue, change the structures, or manage individual parts. Within the owners and employees, the human capital of each stakeholder is also a matter of the decision-making. And here it is essential to identify them and to know how to work with each subject separately. It is about knowing his/her needs and values in his/her own life. Only then it is realistic to work with the person further.

In the external environment, there are entities related and unrelated to the market. It is about society, the future and the state. All of these entities have their own ecosystems, which are not affected by the company's operation. However, this works in the opposite direction and the company is significantly influenced by the actions and trends of individual entities within this area. The direct market players include the customers, suppliers, competitors, foreign capital holders, service enterprises and cooperation partners. They affect the company's operation.

### **Business value**

Value as an internal aspect of the company's mission can be seen from several points of view as well. One of the views is the customer's view. What are the internal values? But this also includes the values recognized in relation to the shopping behaviour. The other side is the corporate side. What values the company has and which of them are transformed into the products and services and which are also transformed into the management of the whole company? "The value is what is considered important, what an individual or a group assigns importance to. According to most authors (Hofstede, 1991, Kotter and Heskett, 1992, Hall, 1995 et al.), values represent the core of the organizational culture and they are considered important indicators of cultural content and a tool for the organizational culture." (Lukášová, Nový et al., 2004)

In most literature sources, the value is defined as an economic indicator of the business performance. There is rarely the term value associated with value in its environmental, emotional, or human meaning in the Slovak literature. (Jakubec, Kardos, Kubica, 2006)

The goal that a company seeks to achieve in using its assets is to create greater value for the customer. This will help to build and secure a competitive advantage in the market, making the company profitable in the long run. (Julia L. K. Nußholz, 2018)

### **Perceived value**

Customers want more of the things they value today. If low prices are important to them, they want them even lower. If they value convenience or speed when shopping, then they want these services to be faster and easier. (Lovelock, 2001) If they are looking for a state-of-the-art design, then they want to see the art to be pushed to its limits. If they need expert advice, they want companies to

give them more depth, more time and they want to feel more like their only customers. Companies responded to these expectations by increasing the value they offer to customers through the product improvement, price reduction or service improvement. By raising the level of the value that customers expect, business leaders can dominate the market and beat their competitors. (Collins 2001 Dodds 2003)

*Table 2 Today's successful business assumptions*

<i>Today's successful business is based on 4 assumptions</i>
Businesses can no longer raise prices in relation to higher costs, they must strive to reduce costs to accommodate the growing expectations of customers who want better prices.
Businesses must aim to achieve trouble-free service. Their customers enjoy an effortless, flawless and immediate performance from marketers.
Businesses can no longer assume that a good basic service is enough, customers require a premium service, while their standards and expectations are constantly rising.
Businesses can no longer compromise on product quality and capabilities. They need to create products that deliver nothing less than excellence and shocking innovation.

(Dodds 2003)

### **Emotions**

Emotions are an integral part of everything that happens in our lives. If a person thinks he/she can do any business plan without being affected by emotions, he/she is wrong. Once a human component enters any process, even for a moment, the result is influenced by emotion. (Vysekalová et al., 2014) Despite the existence of hundreds of theories and models of emotions that have arisen over the past 130 years since James - Lange 's theory, research and the formation of other new perspectives on the issue of emotions are still emerging. (Kleinginna & Kleinginna, 1981, Plutchik, 2001) Holodinsky and Friedlmeier (2006) talk about the presence of a connection in which the emotions always include the form and the function. The form focuses on what indicators can be used to identify the emotion. The functional aspect describes how the emotion reflects in the human activity in connection with the perception, memory, or motivation.

## **1.2 Studies**

### **Value understanding**

Hult, Morgeson, Morgan, Mithas and Fornell chose an interesting approach to the customer's interest. In January 2017, they published a study to see if business managers understood how their customers saw the company's offers and what led them to do so. They consider it a prerequisite for creating an effective marketing plan. The authors examined the extent to which managers' perceptions of the level and the influencing factors for customer satisfaction and loyalty were aligned with the perception of the actual customers (along with the customers' expectations, quality, value and complaints). The study consists of 70,000 customer surveys using the American Customer Satisfaction Index (ACSI) and 1,068 responses from business managers using the same index.

The results of the analysis indicate that managers generally fail to understand their own customers in two important aspects. First, managers systematically overestimate the level of customer satisfaction and loyalty as well as the level of the two underlying concepts in terms of customer expectations and perceived value. Second, the understanding of managers in influencing customer satisfaction and loyalty factors is not linked to how customers perceive it. The most significant differences are that managers underestimate the importance of how customers perceive quality in influencing their satisfaction and how satisfaction affects customers' loyalty and complaints. Thus, the results of the study show that companies need to do more to ensure that their managers understand how their customers perceive their products and services and why they perceive them in a particular way. (Hult, Morgeson, Morgan, Mithas & Fornell, 2017) This study is an interesting example of how companies believe they are doing "all right". However, it is essential not only to perceive the needs and requirements of customers but also to verify them. Verification is an essential part of the whole process of setting the company's values but also of their application.

#### ***Sustainability of the business models***

A similar study was conducted by *Robert Strand*, who gave a lecture at the Slovak conference Smart Head (June, 2019), where he was talking about his long-term studies on the sustainability of business models and the overall circular economy in the Nordic countries. In some parts, the indicators of his research coincide with the problem of the perceived value in Slovakia. For this reason, his research results served as an example of a "best practice".

This research examines the responsibilities of companies in the supply chains of the four largest Scandinavian multinational companies - IKEA, Nokia, Novo Nordisk, and Statoil Hydro - and offers two key findings. Firstly, all these Scandinavian companies have implemented responsible supply chain practices in which suppliers in the developing countries and their supplier communities are involved as key stakeholders and considered partners. Secondly, all of these supply chain practices share a common value of having honesty and establishing trust-based relationships. As a result, these Scandinavian companies have developed the ability to 'cooperate' in their ability to build successful long-term partnerships (sustainable development) in their supply chains.

The willingness and the ability of these Scandinavian companies to engage and form partnerships in cooperation with their suppliers testify to the attitude of stakeholders of these Scandinavian companies. The expert theorist, R. E. Freeman, assigns an important position to stakeholders in his theory because he comes from Scandinavia, recognizing the contributions of the Swedish teacher Eric Rhenman (Freeman, 1984, Jones et al., 2002). In a publication from 1964, they defined the stakeholders in the organization as: "individuals and groups that are dependent on the business to have the ability to achieve

their personal goals, and from whom the real business depends in terms of its very existence." (Rhenman, 1964) Rhenman identified suppliers as key actors in the process and stated that the very existence of the business depends on the "key role" of the management to establish a "stakeholder balance" where key stakeholders are incorporated and better understood (Rhenman, 1964).

Partnerships between Scandinavian companies and their suppliers are based on establishing open and trust-based relationships. The ability to form these relationships depends on Scandinavian dexterity and the ability to demonstrate honesty in their desire to partner with suppliers. Suppliers have to believe that processes such as local quality assessments are not only relevant, but they can also provide quality and relevant information directly during the contact with the stakeholders (e.g., price reductions). The Scandinavian region as a whole has a high degree of confidence. The ideal model for the success of this approach is based on four countries that claim to be the founders of these Scandinavian companies, finding themselves in the top ten least devastated countries in the world within the Transparency International list (TICPI, 2007). Determining the importance of the stakeholders and their impact on the customer, but also on society and the environment, is a significant basis for this topic. The change in the business thinking significantly affects the customer value parameters. And in terms of such a positive change directly from the companies, the impact on the overall economy and the state of the country is significant, and it is positive as well.

#### ***Parameters of the business value***

The applied method of identifying relevant information was of a qualitative nature, conducted via face-to-face interviews that provide more open information and an overall view of the atmosphere and the company. Therefore, the output is considered relevant and the information can be further used for a more detailed analysis.

Information from companies was obtained using qualitative methods - face-to-face interviews with the business leaders - entrepreneurs. The outcomes of these interviews are the specific parameters that explain the perceived value of each company in terms of its management or a founding member. From the results, the individual findings were divided into 4 main areas of the value perception, consisting of 15 parameters listed in the following table. The groups of the perceived values from the perspective of entrepreneurs are: the product, services, environment, emotion. The main objective was to find out what the entrepreneurs perceive as the value of their company. The purpose was also to provide an internal view of the value of the company and to name its main parameters.

Table 3 Parameters of the perceived value by the CEOs

Area of the perceived value	Parameter
Product	Quality Bio Local
Services	Interior – design Additional services Employees’ qualification Custom access Special accessories Supplementary program
Environment	Waste recycling Minimization of waste production Social business impact Eco products
Emotion	Atmosphere Company name

Based on the previous research, the main parts have been identified and the relationships between them have also changed. The main difference was the division of value into: the internal perceived value and the external perceived value. This fact has a significant impact on the possible business model, as the situation is not the same in each case. In addition, according to Robert Strand (2018), up to 78% of companies do not know what their customers really want and why they are their customers. This fact has also shifted the research into another area. A company that understands that its value settings significantly affect its employees can improve the quality of its services. The services leave customers feeling particular emotions. The product is well-set in terms of the value if its existence, even after its life cycle, does not harm the environment and therefore it is more a benefit for the environment than a burden. It is necessary to realize that value management cannot only solve the value of the company itself. When it comes to managing complex processes and impacts, it is necessary to address value in a comprehensive way.

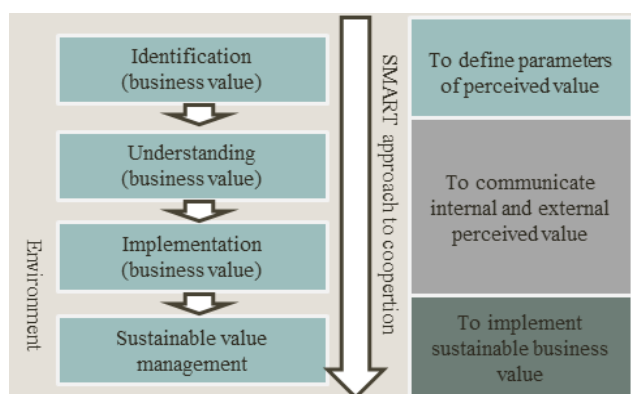


Figure 1: Process of knowing the value parameters

**2. Conclusions**

The research confirms that knowing business values affects customer preferences as well as it motivates employees to meet the business goals. However, this is only true if the value is identified, understood,

implemented and a system is provided for its management and sustainability. Only then it is possible to successfully work with its benefits and apply them in the SMART environment. These results will also be the subject of research focused on the relationships of the perceived and implied business value and the impact on the customers’ perception.

**Acknowledgements**

This publication has been produced thanks to support under the Operational Program Research and Innovation for the project: ICT for smart society, code ITMS2014 +: 313011T462, co-financed by the European Regional Development Fund

**References**

[1] Conrad J., Environmental Management in European Companies: Success Stories and Evaluation, 2004, Taylor&Francis, Amsterdam, ISBN 90-5699-085-3  
 [2] Lukášová, Nový a kol., Organizačná kultúra, 2004, Grada Publishing a.s., Praha, ISBN 80-247-0648-2  
 [3] Jakubec M., Kardoš P., Kubica M., 2006, Riadenie hodnoty podniku, KARTPRINT, Bratislava, 2005, ISBN 80-88870-48-8  
 [4] Nußholz Julia L.K., 2018, A circular business model mapping tool for creating value from prolonged product lifetime and closed material loops, Journal of Cleaner Production 197, DOI: 10.1016/j.jclepro.2018.06.112  
 [5] Collins J., Good to great, Bratislava, Eastone, s.r.o., 2005, ISBN 80-89217-09-5  
 [6] Lovelock, C. H., Services Marketing, 4thed, 2001, Prentice Hall International  
 [7] Vysekalová J., Emócie v marketingu – Ako oslovit’ srdce zákazníka, 2014, Grada Publishing, Praha, ISBN 978-80-247-4843-6  
 [8] Kleinginna, P.R., & Kleinginna, A.M., A categorized list of emotion definitions, with suggestions for a consensual definition - Motivation and emotion, 1981, DOI 10.1007/BF00992553  
 [9] Plutchik, R., The nature of emotions, 2001, American Scientist, DOI 10.1511/2001.4.344  
 [10] Holodynski M., Friedlmeier W., Development of Emotions and Emotion Regulation, 2006, New York – Springer, eISBN 978-0-387-23295-9  
 [11] Hult, Morgeson, Morgan, Mithas a Fornell, Do managers know what their customers think and why?, 2017, Springer, Journal of the Academy of Marketing Science, DOI 10.1007/s11747-016-0487-4  
 [12] Freeman R.,E., Corporate Social Responsibility Awareness, Firm Commitment and Organizational Performance, 1984, Journal of Human Resource and Sustainability Studies, Strategic Management: A Stakeholder Approach. Pitman, Boston, ISSN Online: 2328-4870

## THE ROLE OF EMOTIONS IN LEADERSHIP – CHALLENGE FOR SOCIAL WORK

*Lenka Chlebanová*

**Catholic university in Ružomberok**  
 Hrabovská cesta 1, 03401 Ružomberok  
 +421 904 941 671  
 lenka.chlebanova797@ku.sk

**Abstract:** *The paper is devoted to the role of emotions in the field of leadership, which, in the context of management theory and research studies in leadership, highlight the emotionally intelligent leader to be best suited to achieve goals of the organization. The aim of the paper is to identify concepts in the field of emotions that have a significant relationship to leadership. In conclusion, a call towards social work management for creating tools for developing knowledge and skills towards effective leadership is formulated.*

**Keywords:** *leadership, emotional intelligence, emotional labor, emotional contagion, emotional support*

### 1. Introduction

From originally volunteering and practical philanthropy, social work is gradually becoming established as an academic discipline and a professional and organized activity. As social work is provided by organizations, there is a need for making effective management, which is needed for all types of organizations. Leadership as an element of management work means influencing people in order to achieve the desired behavior and positive change in that way, that they are willing to engage in common goals [1] [2] [3]. Considering the specific mission and values of the profession of social work, there is a question of how do the style and quality of leadership affect outcomes in human services [4]? The time has come, says Sullivan [4], for social work to define and refine a distinct brand of leadership and catch opportunities to put those skills to work.

Network for Social Work Management in Guide book for Human Service Professionals highlighted four domains – Executive Leadership, Resources management, Strategic management, Community Collaboration. In its instructions, we can find these requires for manager's skills - employs skills of emotional intelligence, self-awareness and self-mastery, finds a positive relationship easily, inspires confidence in others, ensures positive and supportive culture, focuses on the welfare of displaced workers, finds an appropriate leadership style [5]. These skills and abilities of „managing“ own and other emotions should be well recognized in theoretical concepts and transformed into particular education and training of these skills required as a part of managerial and leadership work. In researches, we often see leadership associated with emotional intelligence, which is a prerequisite for success in both professional and personal life and an inevitable part of the successful manager's and leader's personality equipment. The linkage of emotional intelligence, management and leadership is still the subject of research on effective leadership [6] [7] [8] [9] [10] [11]. After the introduction of the concept of emotional intelligence in the literature and research studies, following concepts are further related to leadership: Emotional Labour [13] [14]

[15], Emotional Contagion [16] [17] [18] or Emotional Support [18] [19] [20] [21].

This paper aims to identify concepts related to emotions in relation to management and leadership as a new challenge for social work management.

### 1.1 Management and Leadership

Leadership is one of the basic managerial functions. According to Yukl [22] most definitions of leadership reflect the assumption that it involves a process of intentional influencing exerted over other people to guide, structure, and facilitate activities and relationships in a group or organization. Maxwell [1] sees the difference between management and leadership in that the manager focuses on managing and maintaining systems and processes, keeping the direction, but he is unable to change it. The way to identify a leader from a manager is to ask him to try to create a positive change. To do so, he needs to have an influence on the people. It is a question to be discussed whether the leadership is science or art, in other words, acquired skills or innate talent. The most common answer is that leadership is getting a balance between theory, building on innate personality traits, and developing practical and interpersonal skills and competencies associated with effective leadership [10].

### 1.2 Emotions and leadership

Emotions play an important role in all interpersonal relationships. According to Slaměnik [23], emotions are the basis of behaviour in all person relationships. Ferrada, Camarinha-Matos [18] report that emotions were gradually recognized as part of group dynamics in the working team and an important element affecting motivation, participation in common goals, and shaping positive organizational dynamics. They propose, in the context of collaborative networks, to talk about collectively experienced emotions that have an impact on work performance and efficiency, and to examine the emotions in a collaborative team in terms of valence (positive / negative), activation (passive / active) and intensity (weak / moderate / strong). Within the organization, they propose to distinguish the concepts of the emotional atmosphere



(common collective mood), emotional climate (an objective group phenomenon) and emotional culture (emotional group relations).

According to Yusof, Kadir, Mahfar [24], emotions play an important role in leadership. Proper use of emotions is a prerequisite for effective leadership. Leaders with high emotional competencies are perceived as effective by their followers. Effective treatment of emotions forms the concept of emotional intelligence, which is now considered to be an essential competence of the transformational leader. In this context, according to Newman, the notion of "affective leadership" has been created to represent the ability to rapidly assess the affective state of the other, to analyze its own affective state and to select the accurate impact to display the best achievable outcome [10]. Affective or emotional leadership is a frequent subject of leadership research [36].

### 1.3 Emotional intelligence

Around till the 1990s, management focused on rational processes, the emotional component was taken into account in conflict resolution and as a factor influencing decision-making processes. Emotional intelligence is a term used by P. Salovey and J. Mayer in 1990 [25] defined as the ability to perceive emotion, integrate emotion to facilitate thought, understand emotion and to regulate emotion to promote personal growth.

The term became known thanks to D. Goldman, who claims that high IQ is not a prerequisite for success. According to Goleman [26] [27], success in personal and professional life depends on 80% of emotional intelligence. The components of EQ are as follows:

1. self-awareness – how emotions affect performance,
2. self – regulation – the ability to control temper and stress,
3. motivation – enjoying challenge and seeking achievement,
4. empathy – the ability to understand others emotions,
5. social skills – influencing skills and the ability to deal with other emotions and behavior.

Along with Golem model, also called as „The mixed model“, Mayer and Salovey „The ability model“ (the ability to perceive emotions, use emotions, understand emotions, maintain emotions) and Petrides and Furham „The Trait model“ are featured in literature and research studies.

Owen [28] defines an emotionally intelligent manager as person, who can acquire employees to make a change, draw them into problem-solving, create work teams that are efficient. According to Pauknerová [29], an emotionally intelligent manager is characterized by a higher level of intellectual ability, the ability to flexibly respond to changing situations, make quick decisions,

empathically perceive the inner emotions of others, perform in both formal and informal relationships. Creativity, innovativeness, sense of responsibility, levity in dealing with various situations, communication skills and a sense of humour. Today, many research studies are devoted to the context of emotional intelligence and effective leadership.

### 1.4 Emotional labor

The concept of emotional labour was introduced by Professor Al. Hochschild [30] in the context of a customer service environment, where employees are expected to regulate their emotions while interacting with customers, co-workers, and supervisors. Emotional labour is the process where people are managing their emotions and expressions to fulfil the emotional requirement of their job. Employees in services perform emotional labor when they express socially welcomed emotions as part of their job role. These observable emotional expressions are likely to affect customers in a positive way. The concept has also been featured in leadership through Humphrey [12] [13]. As the author claims, leaders are managers of other emotions. Hochschild [30] described two ways of expressing emotions in order to fulfil a job role:

1. Surface acting - superficial manifestations of emotions which are not in accordance with real inner experience.
2. Deep acting - emotions are the product of self-control, an effort to turn its emotions into positive emotions
3. Genuine acting - described by Ashforth and Humphrey [12] represents an unplayed, spontaneous, "genuine" emotion experienced inwardly and manifested externally.

Humphrey [13] introduced the phrase “leading with emotional labour”, which refers to the activities of managers and leaders who use particular emotional expressions to influence the mood, emotions, motivation and performance of their subordinates and employees. He mentions several studies confirming that leaders have a significant impact on the moods and emotional states of their team members, which can increase or hinder employee performance. Pescosolido (in Humphrey [13]) claims that personalities developing as real leaders know how to “manage the emotions” of their followers by assessing and choosing the right response to particular circumstance and by “demonstrating” appropriate behaviour, by creating situations where emotions are shared, which strengthen the integration of group and increase the sense of common morality. Some studies point out the link between non-authentic emotions and burn-out syndrome [31], contrarily, deep acting and genuine acting have a positive effect on work performance, work satisfaction or well-being in the workplace [32] [31] [13].

### 1.5 Emotional contagion

Emotions “distributed” in the workplace form a database, which can be used in further research. In the context of modern studies in the field of neurobiology, the knowledge of so-called mirror neurons emerges, thanks to which Emotional contagion can be observed among people. Schoenewolf [38] defines emotional contagion as a process in which a person or group influences the emotions or behaviour of another person or group through the conscious or unconscious induction of emotional states and behavioural attitudes. It is a process in which individuals take on the emotions of others while interacting, as they observe and imitate the behaviour of others.

Research in this area [16] [17] [18] explains how a leader can influence his followers or subordinates through his emotions, even without realizing them himself. The process of emotional contagion lays in synchronizing internal mechanisms, emotional experience, and feedback. Mechanisms can be not only emotional but also motor and cognitive. Ferrada, Camarinha-Matos [18] report research studies confirming the positive effect of emotional contagion on group members and group members who experienced positive emotional contagion demonstrated improved cooperation, decreased conflict, and increased perceived task.

### 1.6 Emotional support

Emotional labour and emotional intelligence are one of the so-called soft skills of the management. Conscious work with emotions also includes emotional support, which is an aspect of social support. Caplan [33] among the first, defines social support. He perceives it as a support produced by lasting social relationships, in which “significant others” help an individual to mobilize his or her internal resources and manage emotional burden, share the demands that are put on him, while emotional support involves providing trust, love, empathy, care, interest, acceptance from others. Research confirms that emotional support is the most frequently perceived aspect of social support. Several studies are also focused on support from the leader and the work team. Tai [21] tried to find connections between the social support of the leader, the team and the reward system in relation to stress and its impact on work performance. The study claims that both social and emotional support and material rewards have a positive effect when they are internalized and accepted by employees, and, followingly, expressed by mood and emotions. Toegel, Kilduff, Anad [34] studied the emotional support of the manager. While employees perceived the emotional support as part of his job role, the managers perceived it as an extra role and lacked the moment of reciprocity in providing support to the subordinates.

K. Trobst [19] created the Social Support Circumplex, which illustrates how to work consciously and efficiently with emotions on both sides of a relationship (leader-follower). According to the author, the characteristic

features of social support is a reciprocity of relationships, while the author emphasizes in particular two content sources, positive emotions (love) and positive evaluation (status). This model was used by Janovská, Orosová [35], who studied the social support of a manager in the school environment (school head) and its relation to social well-being. Higher rates of well-being were reported among teachers who felt social support from the director through engaged behaviour of the director, providing conditions for mutual positive evaluation and transfer of positive emotions.

## 2. Discussion

Social work management is a continuously developing discipline. It is fulfilling normative, administrative and control functions, but is also required to use leadership as a high-level competence associated with effective managerial work. Effective leadership is related to a high level of emotional intelligence, emotional labor, and emotional support, or the ability of emotional contagion. These concepts could be those which social work management could be focused on in case of willing to transform managers also to effective (executive) leaders.

The autor of the paper believes, also as Sullivan [4], the challenge for social work in the area of leadership is about developing a unique body of knowledge and skills. And it should be done by a new bid of education and training for social work managers to become also effective leaders.

The social work profession is committed to the pursuit and maintenance of human well-being and aims to maximize the development of human potential and the fulfillment of human needs [37]. According to the Van Petegem well-being model (in Janovská, Orosova [35]), the nature of relationships and the rate of well-being in the organization are interconnected. Therefore, it is also needed to create quality working relationships between managers and employees and an environment positively influencing the quality of service to the client, protecting the values and goals of the organization, workers themselves and the status of the profession, as well.

## 3. Conclusions

The aim of the paper was to identify leadership as an important part of social work management and to define concepts in the field of emotions that have a significant relationship to leadership. As effective leadership is a required part of social work management, there has to be shown a way how to do it. Developing leadership in social work management can be done by the specific offers for managers aimed to develop knowledge and skills of emotional intelligence and other related skills to become effective leaders.

## References

- [1] J. C. Maxwell, *Become a leader*, Praha, Euromedia, 2017.
- [2] E. Janigova, *About management in social work. O manažmente v sociálnej práci*. Ružomberok, PF KU, 2008.

- [3] B. L. Bass. What is Leadership? *Leadership in Surgery*, Springer Nature Switzerland, 2019.
- [4] W. P. Sullivan, Leadership in Social Work: Where Are We? June 2016 *Journal of social work education*, Vol. 52, No. 1, 2016, p.1-11,
- [5]<https://socialworkmanager.org/wp-content/uploads/2018/12/HSMC-Guidebook-December-2018.pdf>
- [6] Kareem, M. K. Tai, The relationship between emotional intelligence of school principals in managing change and teacher attitudes towards change, *International Journal of Leadership in Education*. Vol. 22, No. 4, 2019, pp. 469-485.
- [7] C. E. Davis, Enhancing emotional intelligence in project management: *International Journal of Leadership in Education*, Vol. 22, No. 4, 2019, pp. 469-485
- [8] R. Priya, G. Vinothini, D. Corpus. *Emotional Intelligence for Transformational Leadership*. Journal of Advanced Research in Dynamical and Control Systems, 2019, doi: 10.5373/JARDCS/V11/20192685.
- [9] H. Wirawan, M. Tamar, E. Bellani, Principals' leadership styles: the role of emotional intelligence and achievement motivation, *International Journal of Educational Management*, Vol. 33, No. 5, 2019, pp. 1094-1105.
- [10] S. Held, J. McKimm, *Emotional intelligence, emotional labor and affective leadership*, Educational Leadership: Context, Strategy and Collaboration, 2011.
- [11] D. R. Caruso, J. D. Mayer, Emotional intelligence and emotional leadership, *LEA's organization and management series. Multiple intelligences and leadership*, pp. 55-74, 2002.
- [12] R. H. Humphrey, *Empathy, emotional expressiveness, and leadership*. Proceedings of the Southern Management Association, Charleston, SC., 2005.
- [13] R. H. Humphrey, J. M. Pollack, T. Hawver, Leading with emotional labor. *Journal of Managerial Psychology*. Vol. 23, No. 2, 2008, pp. 151-168.
- [14] W. L. Gardner, D. Fischer, J. G. Hunt, Emotional Labor and Leadership: A threat to Authenticity? *The Leadership Quarterly*, Vol. 20, No. 3, 2009, pp. 466-482.
- [15] Y. Li, K. Medmood, X. Zhang, C. M. Crossin, *A Multilevel Study of Leaders' Emotional Labor on Servant Leadership and Job Satisfaction*, Research on Emotion in Organizations, Vol. 15, August 2019, pp. 46-67.
- [16] S. Barsade, C. Coutifaris, J. Pillemer, *Emotional contagion in organizational life*, Research in Organizational Behavior 38, December 2018, doi: 10.1016/j.riob.2018.11.005
- [17] I. M. Snaebjornsson, E. Vaiciukynaite, "Emotion contagion in leadership: Followercentric approach", Business and Economic Horizons, Vol. 12, No. 2, 2016 pp.53-62
- [18] F. Ferrada, L. Camarinha-Matos, *An Emotional Support System for Collaborative Networks IFIP Advances in Information and Communication Technology Conference*, April, 2015.
- [19] K. Trobst, *An interpersonal conceptualization and quantification of social support transactions*. Personality and Social Psychology Bulletin, Vol. 26, No. 8, pp. 971-986, 2000.
- [20] N. Kock, J. Mayfield, D. Mayfield, S. Sexton, L. Garza, Empathetic Leadership: How Leader Emotional Support and Understanding Influences Follower Performance, *Journal of Leadership & Organizational Studies*, Vol. 26, No. 2, 2018.
- [21] CH. L. Tai, *The Relationships Among Leader Social Support, Team Social Support, Team Stressors and Team Performance*. Procedia - Social and Behavioral Sciences 57, 2012, pp. 404-411.
- [22] G. Yukl, *Leadership in Organizations*. 8th edition, Pearson Prentice Hall, 2013, 528 p.
- [23] I. Slaměnik, *Emotions and interpersonal relationships*, Emoce a interpersonální vztahy, Praha, Grada, 2011.
- [24] H. M. Yusof, H. Kadir, M. Mahfar. *The role of emotions in leadership*, April, 2014, doi: 10.5539/ass.v10n10p41
- [25] P. Salovey, J. Mayer, *Emotional Intelligence: Imagination, Cognition, and Personality*, Vol. 9, pp. 185-211, 1990.
- [26] D. Goleman, *Emotional intelligence: why emotional intelligence could be more significant than IQ*, Praha, Metafora, 2011.
- [27] D. Goleman, *Working with emotional intelligence*, New York, NJ, Bantam, 1998, 383 p.
- [28] J. Owen, *Three pillars of a successful manager*, Tři pilíře úspěšného manažera. Praha, Grada, 2008.
- [29] D. Pauknerová, *Psychologie pro ekonomy a manažery*, Praha, Grada, 2012.
- [30] A. R. Hochschild, *The managed heart: commercialization of human feeling*, Berkeley: University of California Press, 1983.
- [31] K. Lazányi, *The role of leaders' emotions*. Budapest: Corvinus University of Budapest, 2009.
- [32] S. W. Lee, S. K. Park, *Relationships between Emotional labor, Burnout and Job satisfaction among Social Worker: Focusing on Surface acting and Deep acting*, June, 2019, doi: 10.15300/jcw.2019.69.2.73
- [33] G. Caplan, *Support systems and community mental health: Lectures on concept development*. New York, Behavioral Publications, 1974, 267 p.
- [34] G. Toegel, M. Kilduff, N. Anand, Emotion Helping by Managers: An Emergent Understanding of Discrepant Role Expectations and Outcomes, *The Academy of Management Journal*, Vol. 56, No. 2, 2012, p. 334-357.
- [35] A. Janovská, O. Orosová, *Personality and interpersonal factors of with-work-satisfaction and teacher well-being*, Prešov, Univerzita Pavla Jozefa Šafárika, Katedra pedagogiky, Vol. 1, No. 2, 201, pp. 94-102.
- [36] K. P. Bergethon, *Emotional Leadership*, Handbook of Research on Effective Communication, Leadership, and Conflict Resolution, 2016.
- [37] <https://www.aasw.asn.au/careers-study/plan-your-career/understand-the-purpose>
- [38] G. Schoenewolf, *Turning points in analytic therapy: The Classic cases*. London, UK, Jason Aronson Press, 1990.

## Session: Economy, Financing, Public Administration

### Index of Author(s)

Antolová, Barbora  
Bališová, Jana  
Čičvara, Michal  
Duraj, Tomasz  
Kršjaková, Zuzana  
Kubolek, Peter  
Longauerová, Romana  
Lukáčka, Peter  
Lukáčková, Zdenka  
Munk, Rastislav  
Parvi, Rafał  
Smalik, Matej

## ORGANIZATIONAL UNITS CREATING THE STRUCTURE OF THE LIPTOVSKÉ SLIAČE MUNICIPAL OFFICE

*Barbora Antolová*

**Catholic University in Ružomberok**

Hrabovská cesta 1A

Ružomberok, 034 01, Slovakia

+421 44 430 46 93

baboka.antolova@gmail.com - barbora.antolova@edu.ku.sk

**Abstract:** *At the beginning of the paper we theoretically define the position and self-government of the municipality. Municipalities in Slovakia are local self-governing bodies, which are responsible for their own territory and inhabitants within the limits of the legislation of the given state and the European Union. Local government is considered to be the core of national development. Furthermore, the paper deals with the structure of self-government of the municipality through defining the mayor, deputies, the main controller of the municipality, commissions of the municipal council and the municipal office. For better representation of the organizational structure, we analyzed the municipal office in Liptovské Sliače in Slovakia. The aim of the paper is to point out the organization of work at the municipal office.*

**Keywords:** *local government, municipal office, structure, organization, work*

### 1. Introduction

Within the division of Slovakia into towns and villages, there are local self-government authorities, called municipal and municipal authorities. The paper focuses on municipal authorities in theory. The municipality is headed by a mayor, who, together with the deputies of the municipal council, is elected by citizens residing in the municipality within the municipal elections. The mayor of the municipality together with the municipal council are elected by citizens, the employees of the municipal office are civil servants. The mayor, deputies, inspectors, members of commissions and employees of the municipal office are employees of the given municipality, their work is governed by general binding regulations, which are in compliance with the Constitution of the Slovak Republic, constitutional laws, international treaties have been ratified and proclaimed in the manner prescribed by law and with laws. This means that for the employees of the municipality, the competences, competences and work activities are given by the Constitution of the Slovak Republic, Act of the National Council of the Slovak Republic no. 369/1990 Coll. on the municipal establishment, Act of the National Council of the Slovak Republic no. 311/2001 Coll. Labour Code, other legal regulations of the Slovak Republic and the European Union, generally binding regulations of the municipality and codes of ethics. By following these regular principles, municipalities and cities lead to prosperity. For mayors of municipalities and mayors of towns there is also a special Act of the National Council of the Slovak Republic no. 253/1994 Coll. on the legal status and salaries of mayors and mayors of cities, as amended.

### 2. Position and autonomy of the municipality

The municipality is the lowest element of self-government and appears to be the natural foundation of the state. The function of the municipality is determined by the Act of the National Council of the Slovak Republic No. 369/1990 Coll. on municipal establishment, as amended (hereinafter

referred to as “Municipal Establishment Act”), arising from the Constitution of the Slovak Republic, and in particular from Article 64a.

Pursuant to the Legislative Act on Municipal Establishment [13], the term “*municipality means an independent territorial self-governing and administrative unit of the Slovak Republic; it associates person’s resident on its territory. The municipality is a legal person who, under the conditions laid down by law, independently manages its own property and its own income.*” Furthermore, this Act [13] states that “*the municipality decides independently and carries out all acts related to the administration of the municipality and its property, all matters which are governed by a separate law as its self-governing powers, unless such acts are legally person or natural person.*”

The municipality is considered to be a legal entity that, on the basis of the statutory requirements laid down by law, independently manages its own property and income. Furthermore, according to the authors [10] in the exercise of self-government by municipalities, it can impose obligations and limitations through our state legislation and international treaty, namely the EU Charter of Local Self-Government.

The process of public involvement in the municipality mainly involves the views of people, which largely reflect local residents in the affected places of their permanent residence. The inhabitants of the municipality should always have information or access to knowledge about their municipality. The public involvement process uses one or more public discussions, questionnaires that respond to the needs of identified groups in the community. The municipality promotes full, authentic, effective and fair participation by the inhabitants in accordance with the procedural objectives. Local municipal workers communicate with local people and

their final decisions are to satisfy both individuals and the wider public [11].

As an example, we attach the structure of the village Liptovské Sliache, where the head of the village is the mayor, who together with the deputies of municipal or city council elected citizens with permanent residence in the village through municipal elections<sup>1</sup>. Municipalities have extensive powers to develop their own local projects and standards, provided that they do not conflict with national legislation.

Table 1 Structure of Liptovské Sliache

Name of the municipality	Position name	Count	
Liptovské Sliache	Mayor of	1	
	Local Members	11	
	Chief controller of the municipality	1	
	Commission of the Municipal Council	Commission for Construction, Spatial Planning and PLVH	5
		Commission for Finance, Administration and Management of Municipal Property	5
		Commission of Socio-Health, Protection of Public	Order 8
		Commission for Youth and Sport	5
		Commission for Culture and Education	9
		Editorial Board of the General Newspaper	5
		Inventory and liquidation commission	5
		Commission for the Protection of the Public Interest in the Exercise of the Function of Public Officials	3
		Commission on Wood Production and the Environment	5
		Municipal office	10

Source: Own processing, [5].

We can state that every municipality in the Slovak Republic is responsible for the management of the movable and immovable property of the municipality through the Act on Municipal Establishment [11]. It compiles and approves the municipal budget, decides on matters of local taxes and local fees. It directs economic activity in the municipality, i.e. it creates an effective control system and creates appropriate organizational, financial, personnel and material conditions for its independent performance. It provides construction and

maintenance and administers local roads, public spaces. It provides utility services, such as the management of municipal waste and small construction waste, keeping the village clean. It creates and protects healthy conditions and a healthy way of life and work of inhabitants of the municipality, protects the environment, as well as creates conditions for providing health and social care and the like.

## 2.1 Mayor

The mayor is a representative of the municipality, being its highest executive body and its position is public. In particular, the mayor should: convene and conduct negotiations with the municipal council and its councils to carry out the municipal administration. It should also represent the municipality in connection with state authorities, legal and natural persons. Decide on all matters within the administration of the municipality, which are not defined by the legislation or by the municipality's order [7].

Mayor of the village stands at the head of the municipal office. As mayor, he is responsible for the management of the municipality during his term of office and reports on the municipality for at least one calendar year. It also has the task of informing the public about the activities of the municipality on its state, progress or future objectives [8].

## 2.2 Local Members

In accordance with the Act on Municipal Establishment [13] “*may establish and dissolve, as necessary, permanent or temporary executive, supervisory and advisory bodies, in particular the municipal council, the commissions and determine their responsibilities; may be established and abolished by other bodies and departments, if so stipulated by a special law.*” The municipal council consists of a body of persons who were elected by direct municipal elections by the inhabitants of the given municipality.

The council according to the authors Berčík, Králik [2] and Peková [8] who agree is a collective elected body by local residents. The number of members of the local council depends on the size of the electoral territorial district of the municipality and the number of inhabitants in the municipality. The meetings of the local council are public to the citizens. The municipal council is a representative council of the municipality composed of deputies elected in direct election by the inhabitants of the municipality for four years. The term of office of the municipal council ends with the vow of the deputies of the newly elected municipal council. The number of deputies is determined by the number of inhabitants of the municipality. The local authority's task is to meet these local needs as far as possible. The local government is a process that brings together local government and local government within local government structures.

## 2.3 Local Members

Control over the municipal self-government is performed by the chief controller of the municipality. The deputy

<sup>1</sup> Elections to the bodies of municipalities in the Slovak Republic were held for the last time on 10 November 2018.

mayor also leads and organizes the work of the municipal office. According to the Act on Municipal Establishment [13] *“the chief controller is elected and removed by the municipal council. The Chief Controller is an employee of the municipality and, unless otherwise provided by this Act, he is subject to all rights and duties of the other senior employee under a special regulation. The Chief Controller may not conduct business or engage in any other gainful activity without the consent of the municipal council and be a member of the management, control or supervisory bodies of legal entities engaged in business activities. This restriction shall not apply to scientific, pedagogical, lecturing, lecturing, translation, journalistic, literary or artistic activities and to the management of their own or the property of their minors. It shall carry out its inspection activities independently and impartially in accordance with the basic rules of inspection activities.”*

#### 2.4 Commissions of the Municipal Council

Pursuant to the Act [13] for the municipality of Liptovské Sliače, it also issues the work for the commissions of the municipal council. Each municipality has a chief auditor, who, on recommendation, is elected by the municipal council and mayor.

*“The Chief Auditor oversees local finances, accounts, local property and asset management, and budget and final accounts. Local authorities can freely associate with other local authorities and thus form regional or other interest organizations. However, such associations may only manage those matters which are specifically referred to by local authorities. Local government and local government authorities in the administration of public affairs have strictly separate powers under the law, which also determines the principles of coordination on specific matters, such as spatial planning and emergency situations. Local state administrative authorities are appellate bodies in municipal administrative proceedings [1].”*

#### 2.5 Municipal Office

Municipal authorities in Slovakia are created by employed local officials who are responsible for administrative and organizational duties of the municipality. In local self-governing municipalities, the local authority is headed by the mayor of the municipality, but in large municipalities such authority may be led and managed by a superior appointed by the municipal council. Local officials play an important role, especially in designing processes and public engagement strategies [4].

The municipal office is an executive body composed of the municipal council, the mayor and the employees of the municipality. The municipal office has no legal personality. The internal organization of the Office is regulated by the organizational rules of the municipal office approved by the municipal council (see Table 2). The municipal office carries out professional, administrative and organizational work related to the fulfilment of tasks of the municipality self-government.

The work of the municipal office is led and organized by the mayor or the deputy mayor of the municipality to the extent defined by the municipal council [6].

#### 3. Organizational structure of working activities of the municipal office

The term organization is used in various scientific disciplines. The organization defines and generally refers to one goal-oriented division of labour, while harmonizing the approach to solving complex problems. We do not do what we want to do spontaneously, for example to come to work when we want, but we do what the organization wants and pays us.

The organizational structure relates to the way a group of people is formed and its communication lines and means of guiding authority and making decisions are. Each local authority employee should be included in the organizational structure. An efficient structure facilitates governance and clarifies relationships, roles, responsibilities, level of authority, oversight or reporting. By examining the structure of the organization, the manager can determine which are the most available, such as human, financial and technical resources, and how they are to be allocated and which resources are missing. Thanks to the graphical representation of the organization structure, the mayor is able to define tasks, determine the flow of information within the organization and ensure responsibility for achieving the goals and objectives of the organization, or municipal office. We think we need to understand that any organization, their shape and size, needs a digital strategy today. Modern digital technologies can be used to meet statutory requirements and legislative obligations, as well as realize other desired business results [3].

According to Reháč [9], municipal authorities may differ on the basis of structures. Most organizations are at different stages of growth, development and capacity. Every mayor should work with the employees of the municipal office. This will ensure that the structure of the municipal office positively fulfils the mission, mandate and program. The type of organizational structure affects the external environment, but also the ability of employees of a particular organization to accept and embody management mechanisms. If the right information methods of dialogue gradually enter everyday life, then all employees are able to work effectively and agree to work within the so-called environmental management system. As an example, we insert the organizational structure of the work of employees of the municipal office in Liptovské Sliače.

Table 2 Organizational structure of the municipal office of Liptovské Sliače

Name of the municipality	Position name
Municipal Office Liptovské Sliače	Mayor of
	Deputy mayor of the village
	Cultural worker, Library
	Wages and human resources, Cash desk

	Registry and population register
	Construction office
	Mail room, Social worker, Taxes, Tree felling
	Secretariat of the mayor of the village
	Cash desk
	Economics and accounting

Source: Own processing, [5].

According to the author [12], when organizing the management of an institution, we always encounter two opinions on the matter. The first is that if a good and correct organizational structure is created for an organization, such an institution will prosper and function, regardless of the employees working there. The second is the idea that an institution's good performance depends mainly on its staff. This means that if the institution is "lucky" to recruit excellent staff who will work well and efficiently, no matter what organizational structure they are in and work in, the organization will be extremely prosperous. The municipal office in the Slovak Republic is not considered a legal entity and has no legal personality. The mayor of the municipality determines the internal organization of the municipal office and that means also the number of employees and their work activities.

For each municipality it is necessary to have defined measures also from the point of view of the organizational order, which affect the individual bodies of the municipality and their competences. A well-established organizational order in the municipality or its organization can ensure the flawless functioning of the entire apparatus of the municipality.

#### 4. Conclusions

Citizens in the SR use permanent services provided by various public administration institutions. We think that it is precisely in contact with the staff of the municipal authority that the whole organization is assessed and that means that the local citizens assess the prosperity of their municipality, based on the running of the municipal authority. Local government at local and regional level is applied, according to municipalities and district councils, which are responsible for important public services in different sectors. Urban and municipal responsibilities are to arrange or mediate, for example, primary school facilities, childcare facilities, care for the elderly and care services and the like. Recreational and cultural activities in the village are also important for the development and communal interest of the inhabitants. We believe that adherence to the principles and procedures of work can be, in our opinion, useful indicators of effective and ethical public work by local municipal authorities.

#### References

[1] BERČÍK, P. – KUKLIS, P. 2019. Local Government in Slovakia. [online]. [cit. 2019.09.23.]. Available: <<http://unpan1.un.org/intradoc/groups/public/documents/UNTC/UNPAN013811.pdf>>.

[2] BERČÍK, P. – KRÁLIK, J. 2007. Základy verejnej správy. Bratislava : Akadémia Policajného zboru, 2007. 190 s. ISBN 978-80-8054-400-3.

[3] COCULOVÁ, J. 2009. Strategické plánovanie regionálneho rozvoja. In Zborník „Rozvoj sústavy verejnej správy v Slovenskej republike – problémy a východiská“ z medzinárodnej virtuálnej interdisciplinárnej vedeckej konferencie, február 2009, Bratislava. Bratislava : MV SR, 2009. ISBN 978-80-8054-464-5, s. 19-25.

[4] GEJDOŠOVÁ, Z. 2012. Sociálne zabezpečenie v systéme verejnej správy na Slovensku. Ružomberok : VERBUM, 2012. 218 s. ISBN 978-80-8084-894-1.

[5] LIPTOVSKÉ SLIACHE. 2019. Liptovské Sliače. Oficiálna stránka obce. [online]. [cit. 2019.10.01.]. Available: <<https://www.liptovskesliace.sk/>>.

[6] OROSZ, L. – MAZÁK, J. 2004. Obce a samosprávne kraje v konaní pred Ústavným súdom Slovenskej republiky. Košice : Mayor Group, s. r. o., 2004. 319 s. ISBN 80-969128-0-1.

[7] PALÚŠ, I. – JESENKO, M. – KRUNKOVÁ, A. 2009. Samospráva obcí (vybrané problémy). Košice : FVS UPJŠ, 2009. 155 s. ISBN 978-80-8908-992-5.

[8] PEKOVÁ, J. 2004. Hospodárení a finance území samosprávy. Praha : Management Press, 2004. 375 s. ISBN 80-7261-086-4.

[9] REHÁK, R. 2003. Manažment v sociálnej práci. Trnava : SAP, Slovak Academic Press, spol. s. r. o., 2003. 48 s. ISBN 80-89104-15-0.

[10] SCHAVEL, M. – OLÁH, M. – DEREVJANIKOVÁ, Š. – ZEMAN, K. 2008. Sociálna práca vo verejnej správe. 2. vyd. Bratislava : VŠZaSP sv. Alžbety, Bratislava, 2008. 192 s. ISBN 80-8082-065-1.

[11] TŘOS, K. – TŘOŠOVÁ, T. – BŘEZINA, M. 2009. Zvyšování výkonnosti pracovníků veřejné správy za podpory nového hodnotícího systému. In Zborník „Výkonnosť verejnej správy – aktuálne problémy“ z medzinárodnej virtuálnej interdisciplinárnej vedeckej konferencie, ktorý je parciálnym výstupom z vedeckovýskumnej úlohy č. 104 Teoreticko-praktické problémy optimalizácie štruktúry a funkcií verejnej správy. Bratislava : MV SR, 2009. ISBN 978-80-8054-460-7, s. 119-126.

[12] URBAN, J. 2004. Tvorba a rozvoj organizačních systému. Praha : Management press, 2004. 164 s. ISBN 80-7261-105-4.

[13] Zákon NR SR č. 369/1990 Zb. o obecnom zriadení v znení neskorších predpisov.



## LEGAL MEANS OF PROTECTION IN PRINT MEDIA

*Rastislav Munk*

**University of Comenius**  
 Šafárikovo nám. 6  
 Bratislava, 810 00, Slovak Republic  
 +421 904 249 033  
 rastislav.munk@flaw.uniba.sk

**Abstract:** *In the article, the author deals with the legislation provides a legal periodical in the Slovak Republic with emphasis on the legal institution of protection of subjective rights of natural persons and legal entities against the false statement of facts published in the periodical. Furthermore, the author assesses, discusses and analyzes the legislation right of reply in the Slovak Republic. In the main part, the author refers to the application of the legal problems of the institute and the right of reply raises his proposals de lege ferenda.*

**Keywords:** *legal means of protection in print media, application problems, future legislation*

### 1. Introduction

The term “print media” refers familiarly to periodical printings also according to Act no. 167/2008 Coll. on Periodicals and Agency news and the amendment and supplementing of certain acts (the Press Act) (hereinafter referred to as the “Press Act”). The fact is that above mentioned print media are currently experiencing recession and they are falling from the main positions of information channels not only in the Slovak Republic but also worldwide. This situation arose due to the development of the Internet and its spread to everyday life. Despite the fact that nowadays all print media in the Slovak Republic is already in electronic form and available on the Internet, the periodicals are still one of the important information media not only in the Slovak Republic. Nowadays, all daily, weekly or monthly periodicals are distributed in electronic version via the Internet. Everyone can read them through computers, tablets or mobile phones. Let us say that daily, weekly or monthly periodicals, especially in their Internet form, are today the main source of information for people around the world.

Therefore, we consider it necessary to pay attention to the periodical press, especially from the point of legal regulation of the periodical press. We think that in the Slovak Republic, an insufficient attention is paid to the periodical press and its legal regimentation.

In connection with the distribution of electronic daily, weekly or monthly periodicals via the Internet, it is quite possible to expect the disappearance of their print versions, as some publishers have already announced this fact in the past. In the future, the legislation will have to respond to this situation in order to ensure legal protection in case of the disappearance of printed periodicals and in case of dissemination of information exclusively via the Internet.

According to the current legal status, i.e. according to Section 2 par. 1 of the Act no. 167/2008 Coll. on Periodicals and Agency news and the amendment and supplementing of certain acts (the Press Act), cit.

“Periodicals shall be newspapers, magazines or other publications, issued under the same name, with the same content focus and in a uniform layout, at least twice a calendar year.”<sup>1</sup>

Periodical press involves newspapers, magazines or other press. Due to the fact that the Press Act only concerns periodicals, which are printed and not in the form of a digital Internet version, neither the right to rectification, the right to reply, nor the right to an additional notification is applicable to the electronic version of the periodical.

We draw attention to the Recommendation of the Committee of Ministers of the Council of Europe (2004) 16, which responded to the formation of new media, namely the electronic version of the periodical press distributed via the Internet. The recommendation extends the range of media covered by the obligation to publish a response also to newly formed type of media. In the preamble to the Recommendation of the Committee of Ministers of the Council of Europe (2004) 16, cit. ‘...*the right of reply is an appropriate remedy in the field of online media because of the possibility of immediate correction of the disputed information and technically simple means by which the reply of the concerned person can be attached to such disputed information.*’<sup>2</sup>

Nowadays, the issue of the periodical press in the Slovak Republic is even more resonant due to the fact that the National Council approved the Act amending Act no. 167/2008 Coll. on Periodicals and Agency news and the amendment and supplementing of certain acts (Press Act).

Following the ongoing legislative process, in spite of many comments and proposals, both from the public and members of Parliament, to amend this proposal to amend the Press Act, the amendment to the Press Act was finally

<sup>1</sup> Section 2 par. 1 of the Act no. 167/2008 Coll. on Periodicals and Agency news and the amendment and supplementing of certain acts (the Press Act).

<sup>2</sup> The Recommendation of the Committee of Ministers of the Council of Europe (2004) 16.

approved and it will come into effect as of 1 November 2019. Therefore, it is necessary to draw attention to the shortcomings of this amendment to the Press Act.

## 2. Legal means of protection against claims in print media in the Slovak Republic

The main issue of this paper is the question of legal means of protection against claims presented in the print media. By these legal means, we understand the right to rectification pursuant to Section 7 of the Press Act, the right of reply pursuant to Section 8 of the Press Act and the right to additional notification pursuant to Section 9 of the Press Act.

A common feature of these legal means of protection against claims published in print media is that they are intended to protect individuals or legal persons from the factual claims made in print media.

In the case of the right to rectification, according to Section 7 par. 1 of the Press Act, cit. *“If a periodical or agency news service contains a false statement of facts about a person from which the person or entity can be precisely identified, that person has the right to demand publication of a correction of the false statement of fact. The publishers of periodicals and press agencies must publish corrections free of charge.”*<sup>3</sup>

In the case of the right of reply, according to Section 8 par. 1 of the Press Act, cit. *“If a periodical or agency news service contains a false, incomplete or distorting statement of fact that impinges on the honour, dignity or privacy of a natural person, or the name or good reputation of a legal entity, from which the person or entity can be precisely identified, the person or entity has the right to demand publication of a reply. The publishers of periodicals and press agencies must publish the reply free of charge; by the publishing of the reply expires the right of correction in relation to the same statement of fact.”*<sup>4</sup>

In the case of the right to additional notification, according to Section 9 par. 1 of the Press Act, cit. *“If a periodical or agency news service contains a statement of fact relating to proceedings before a public authority conducted against a person, from which the person’s identity can be precisely identified, and a final decision has been reached in the proceedings, this person has the right to demand publication of supplementary information on the final result of the proceedings. The publishers of periodicals and press agencies must publish supplementary information free of charge.”*<sup>5</sup>

Each legal remedy is intended to protect natural or legal persons from other factual claims published in the periodical. On the basis of the draft law:

- The proposal by Deputies of the National Council of the Slovak Republic, i.e. by Dušan JARJABEK and Miroslav ČÍŽ, for the edition of the Act amending Act no. 167/2008 Coll. on Periodicals and Agency news and the amendment and supplementing of certain acts (the Press Act), as amended, submitted to the National Council of the Slovak Republic on 11 January 2019 (hereinafter referred to as the “draft law”) and approved by the National Council of the Slovak Republic, and which will enter into force on 1 November 2019, intends to extend substantially the right of reply.

Under the current legislation Section 8 par. 1 of the Press Act, cit. *“If a periodical or agency news service contains a false, incomplete or distorting statement of the fact that impinges on the honour, dignity or privacy of a natural person, or the name or good reputation of a legal entity, from which the person or entity can be precisely identified, the person or entity has the right to demand publication of a reply. The publishers of periodicals and press agencies must publish the reply free of charge; by the publishing of the reply expires the right of correction in relation to the same statement of fact.”*<sup>6</sup> Under this provision, the right of reply is guaranteed.

According to Section 8 par. 2 of the Press Act, cit. *“The right to demand publication of reply does not have a public official who is, for the purposes of this act, a person stipulated in applicable regulations, chairman of the political party or movement and vice-chairman of political party or movement in case of a statement of fact relating to the performance of their function. The right to demand publication of reply does not have a legal entity if statement of fact is relating to the performance of function of public official, chairman of political party or movement and vice-chairman of political party or movement acting for this legal entity.”*<sup>7</sup> Pursuant to the aforementioned provision, the right of reply to the public official<sup>8</sup>, chairman of political party or movement and vice-chairman of political party or movement acting for this legal entity, was excluded without any justification.

Based on the approved draft law, the wording of Section 8 par. 1 of the Press Act remains the same and at the same time, the wording of Section 8 par. 2 of the Press Act, which deprived the right of reply for public official, chairman of political party or movement and vice-chairman of political party or movement acting for this legal entity, was withdrawn.

The fact, that the draft law does not assess professionally this proposed change in any relevant way can be demonstrated based on the explanatory report to the draft law.

<sup>3</sup> Section 7 par. 1 of the Press Act

<sup>4</sup> Section 8 par. 1 of the Press Act

<sup>5</sup> Section 9 par. 1 of the Press Act

<sup>6</sup> Section 8 par. 1 of the Press Act

<sup>7</sup> Section 8 par. 2 of the Press Act

<sup>8</sup> The public official person can be considered a person listed in Art. 2 of the Constitutional Act no. 357/2004 Coll. on Protection of Public Interest in the Performance of Offices by Public Officials, as amended.

Thus, the approved amendment to the Press Act, gives the possibility to public official, chairman of political party or movement and vice-chairman of political party or movement acting for this legal entity to fully enjoy the right of reply, which has been withdrawn.

An important fact is that under the current legislation, the public official, chairman of political party or movement and vice-chairman of political party or movement acting for this legal entity does not have the right to reply. The exception is the case of factual arguments related to their office. Such legislation is based on the convictions, which in many cases has already been judged by judicial practice that public officials, chairman of political party or movement and vice-chairman of political party or movement acting for this legal entity have to bear a higher level of criticism than private individuals.

It should be noted that the public officials, chairman of political party or movement and vice-chairman of political party or movement acting for this legal entity have the opportunity to respond to false factual statements published in the periodical press, as well as to respond to false, incomplete or truth-distorting factual claims related to dignity or privacy as a natural person, if such factual claims are not related to the exercise of their function.

This means that the public official, chairman of political party or movement and vice-chairman of political party or movement acting for this legal entity have the right to exercise the right of correction in its entirety, they also have the right of additional notice in its entirety and have the right of reply in its entirety, with the exception of factual statements published in the periodicals, in respect of factual statements related to the exercise of their functions. In this context, we note that such rights of a public official, chairman of political party or movement and vice-chairman of political party or movement acting for this legal entity are sufficient, in particular in the light of the above. The public official, chairman of political party or movement and vice-chairman of political party or movement acting for this legal entity must bear a higher level of criticism than the private individuals and, secondly, they do not have a right of reply only in the case of factual arguments relating to the exercise of their functions.

Last but not least, we are convinced that, as it stands today, a public official, chairman of political party or movement and vice-chairman of political party or movement acting for this legal entity has sufficient space and the opportunity to defend themselves against the factual claims made in the print media, it is also because of the fact that they have much wider opportunities to respond to factual claims through the press releases, briefings, discussions, or many other media outputs.

In view of all the above, we consider the draft law to be purposeful, and the approval of this act is a decision that is

solely for the benefit of politicians and other public officials, without any social benefit.

Another change brought by the approved draft law, which will come into effect on 1 November 2019, is the addition of a new provision of Section 10 par. 4 of the Press Act, cit. *“(4) If a periodical publisher or news agency fails to publish a correction, reply or additional notice at all, or fails to comply with any of the conditions for their publication, the person who has requested their publication from the periodical publisher or news agency shall be entitled to an appropriate monetary compensation from EUR 1 660 to EUR 4 980. Entitlement to an adequate monetary compensation may be brought before a court together with a proposal under paragraph 2.”*<sup>9</sup>

We consider such a penalty in the form of monetary compensation to be inappropriate in several respects.

First of all, in the past, such monetary compensation was already limited in the original Press Act, which was later removed from this Act. Everyone could thus claim damages in full extent in the event of possible damage. Such monetary compensation has both the upper and lower limits, which is not an appropriate solution in this case.

Secondly, the adopted wording of the law amendment is unfortunate as it evokes that if a periodical publisher or news agency fails to publish a correction, reply or additional notice at all, whether or not such a request is well-founded or unfounded.

In conclusion, the lawgiver did not address the fundamental issue, which should be addressed, namely "equalizing" the periodical press and electronically published daily/ weekly/ monthly journals or newspapers; however, attention was paid to an irrelevant legislative change.

### 3. Summary

The aim of this paper, entitled Legal means of protection in print media in the Slovak Republic, was to outline a number of practical problems that arise in the application of legal means of protection of natural and legal persons against factual claims (false, incomplete, truth distorting) presented in periodicals.

At the same time, we pointed out the shortcomings of legal regulations in the area of legal means of protection of natural persons and legal entities against factual claims (false, incomplete, truth distorting) stated in the periodicals.

It is not possible to negate the legislation of the Press Act as a whole, since the legislation of the Press Act is in many ways excellent. However, given the above-mentioned problems, mainly distribution of daily, weekly and monthly newspapers via the Internet, the legislation does

<sup>9</sup> Point 4 of the draft law

not pay sufficient attention to necessary conceptual changes. On the contrary, the Act was amended on the basis of an individual's decisions without any society-wide discussion and without a real need for amending the Press Act.

The main problem discussed in this paper is the problem of the draft law, which extends the possibility of exercising the right of reply also to public officials, thus even without a real basis and without any professional explanations.

Last but not least, we assessed the problem of the draft law which will come into effect as of 1 November 2019 and state a monetary compensation if the publisher of the periodical or the press agency do not publish the correction, reply or additional notice at all or does not comply with any of the conditions for publishing.

### References

- [1] Act no. 460/1992 Coll. The Constitution of the Slovak Republic.
- [2] Act no. 81/1966 Coll. on the periodical press and other mass media.
- [3] Act no. 167/2008 Coll. on Periodicals and Agency news and the amendment and supplementing of certain acts (the Press Act).
- [4] Act no. 46/200 Coll. on Rights and duties related to publishing periodical press and on amendment to several other acts ( Press Act).
- [6] The proposal by Deputies of the National Council of the Slovak Republic, i.e. by Dušan JARJABEK and Miroslav ČÍŽ, for the edition of the Act amending Act no. 167/2008 Coll. on Periodicals and Agency news and the amendment and supplementing of certain acts (the Press Act), as amended, submitted to the National Council of the Slovak Republic on 11 January 2019.
- [7] Explanatory Report to the Proposal by Deputies of the National Council of the Slovak Republic Dušan JARJABEK and Miroslav ČÍŽ for the Act amending the Act no. 167/2008 Coll. on Periodicals and Agency news and the amendment and supplementing of certain acts (Press Act), as amended, submitted to the National Council of the Slovak Republic on 11 January 2019.
- [8] Constitutional Act no. 357/2004 Coll. on the protection of the public interest in the performance of the offices by public officials, as amended.

## THE LEGITIMACY OF PROTECTION OF PARENTAL RIGHTS OF PERSONS WORKING OUTSIDE THE EMPLOYMENT RELATIONSHIP IN THE LIGHT OF THE INTERNATIONAL, EU, AND POLISH LAWS

Tomasz Duraj

**University of Lodz**

ul. Kopcińskiego 8/12, 90-232 Lodz, Poland  
+48 42 6356371  
tduraj@wpia.uni.lodz.pl

**Abstract:** *The subject of this study is the legitimacy of protection of parental rights of persons working outside the employment relationship. There are three main underlying causes for the extension of this protection to those persons. Firstly, the requirements of the international and EU laws which enforce an extension of maternity protection to non-standard employment relations. Secondly, the constitutional norms that guarantee parental rights not only for workers on employment contracts, but also for other citizens or working people, including providers of services under civil law contracts. Thirdly, a valid argument for extending employee maternity rights to persons engaged in paid work outside the employment relationship is the need to provide them with a standard of protection similar to that of employees, as long as they provide work (services) in conditions similar to those of employees. Since 2016 legal mechanisms have been in place in Poland which extend certain parental rights to persons working on civil law contracts and self-employed people, as long as they are covered by social insurance in the event of sickness and maternity.*

**Keywords:** *protection of parental rights, persons working outside the employment relationship, non-standard employment relations, self-employment, civil law contracts*

### 1. Introduction

Both in the European Union and in Poland for quite a long time now we have been seeing civil law employment contracts and self-employment increasingly displacing the conventional employment relationship in the market economy [1]. This primarily ensues from the need to adapt to restructuring requirements, reduce labour costs, and usher in more flexible resource management under the circumstance of economic instability. In Poland, according to the National Office for Statistics, over 1.6 million people provide services on civil law contracts, hence every sixth person works under the civil law regime. When it comes to self-employment, the Economic Activity Research (BEAL) demonstrates that in the second quarter of 2017 self-employed accounted for 17.5% of the total number of employees in Poland (the average in EU countries is 16%). This means that the total number of self-employed in Poland oscillates around a million people, and this is only an estimate.

The widespread use of non-standard forms of employment has made it necessary to extend some employee rights, until recently exclusively reserved for the employment relationship, to contractors on civil law contracts, including self-employed. This postulate has been present in the Polish labour law doctrine since the end of the 1990s [2]. Under the *de lege lata* Polish law, persons engaged in paid work outside the employment relationship enjoy legal protection in such areas as: life and health, discrimination, minimum wage, and as of 1 January 2019 also protection of their collective rights, in particular the right to trade union membership, collective bargaining agreements and other arrangements, as well as the right to take industrial actions and adopt other forms of protest.

The subject of this study is the protection of parental rights which the legislator stipulates for individuals working on civil law contracts, and in particular the legitimacy of its extension beyond the standard employment relationship. Since 2016 legal mechanisms have been in place in Poland which extend certain parental rights to persons working on civil law contracts, as long as they are covered by social insurance in the event of sickness and maternity. The Polish legislator has granted an insured woman (mother) and an insured man (father or other immediate family member) the right to receive maternity allowance for a period corresponding to the duration of maternity leave and parental leave (in the case of fathers - also paternity leave).

When considering the legitimacy of this process, it is expedient to identify its three main underlying causes. Firstly, the requirements of the international and EU laws which enforce an extension of maternity protection to non-standard employment relations. Secondly, the constitutional norms that guarantee parental rights not only for workers on employment contracts, but also for other citizens or working people, including providers of services under civil law contracts. Thirdly, a valid argument for extending employee maternity rights to persons engaged in paid work outside the employment relationship is the need to provide them with a standard of protection similar to that of employees, as long as they provide work (services) in conditions similar to those of employees. These issues will be analysed in greater detail further in this study.

### 2. Protection of Parental Rights of Persons Working Outside the Employment Relationship in the Light of the International and EU Laws

International legal acts clearly offer parental and family rights protection that extends far beyond the employment

relationship. This is most prominent in the UN regulations. Article 16 of the Universal Declaration of Human Rights, adopted on the 10<sup>th</sup> of December, 1948, provides that the state is obliged to protect each and every family, since family is recognised as a natural and fundamental group unit of society. The state also stands committed to provide people with, e.g. adequate social benefits and medical care. As for parental rights, Art. 25 section 2 of the Declaration emphasises that motherhood and childhood are entitled to special care and assistance from the state. Also significant for the issue under study is the International Covenant on Economic, Social and Cultural Rights, adopted on the 19<sup>th</sup> of December, 1966 by the UN General Assembly, ratified by Poland on the 3<sup>rd</sup> of March, 1977. Article 10 section 2 of this act provides that special protection should be accorded to mothers during a reasonable period before and after childbirth. The state is also required to accord paid leave or leave with adequate social security benefits to working mothers as part of maternity protection. This guarantee is by no means conditional upon the employment relationship and applies to all working people, not just employees.

This act is further supplemented by the Convention on the Elimination of All Forms of Discrimination against Women, adopted by the UN General Assembly on the 18<sup>th</sup> of December, 1979, which obliges States Parties to enact appropriate regulations to protect maternity. The state is to counteract any discrimination against women in connection with maternity (regardless of the legal basis of their employment) and ensure their effective right to work. Article 11 section 2 of the Convention introduces a sanctioned ban on dismissal of women on the ground of pregnancy or maternity leave. Looking from a broad perspective at how international laws and regulations protect parental rights, it is impossible not to mention the UN Convention on the Rights of the Child of the 20<sup>th</sup> of November, 1989, also ratified by Poland. Article 3 of this act guarantees every child the right to protection and care to the extent necessary for his or her well-being, taking into account the rights and obligations of parents, legal guardians or other persons legally responsible for the child. In terms of Article 18 of the Convention, every child has the right to grow up in a family environment, to be brought up and taken care of by parents or legal guardians. Importantly, in the context of the issues under study, these guarantees are in no way conditional upon the legal form of earning a living by parents or other legal guardians of children.

The tendency to expand parental rights protection beyond the employment relationship is also prominent in the acts of the International Labour Organisation. The ILO Convention No. 3 on the Employment of Women Before and After Birth, revised in 1952 by its supplementary ILO Convention No. 103 on Maternity Protection and Recommendation 95, require Member States to provide working women during pregnancy, labour and immediately thereafter (especially during the postpartum period) with legal and social protection, in particular by enacting maternity leave, ensuring maternity benefits, and

protecting the permanence of their employment. The foregoing acts apply to all women employed in industrial undertakings and in non-industrial and agricultural occupations, including women wage earners working at home (hence, not only to female workers on employment contracts), where the term "woman" - within the meaning of ILO Convention No. 103 - means any female person, irrespective of age, nationality, race or creed, whether married or unmarried. On the other hand, the ILO Convention No. 102 on minimum standards of social security imposes on each Member State the duty to provide pregnant and postpartum women with cash compensations for loss of pay due to their incapacity to work, as well as to guarantee medical care and therapeutic services, including pre-natal, confinement and post-natal care, and hospitalisation where necessary. In terms of Article 47 of the ILO Convention No. 102, the contingencies covered include pregnancy and confinement and their consequences, and suspension of earnings resulting therefrom.

Also within the EU legislation parental rights regulations go far beyond the employment relationship. At this point, particularly noteworthy is the Charter of Fundamental Rights of the European Union of the 7<sup>th</sup> of December, 2000, in terms of which family enjoys legal, economic and social protection, and in order to reconcile family and professional life everyone (not just employees) has the right to protection from dismissal for a reason connected with maternity and the right to paid maternity leave and to parental leave following the birth or adoption of a child (Article 33 of the Charter). In terms of Article 34 section 1 of the Charter, the European Union recognises and respects the entitlement to social security benefits and social services guaranteeing maternity protection. This regulation is further supplemented by the so-called European Pillar of Social Rights adopted in Gothenburg on the 17<sup>th</sup> of November, 2017 during the Social Summit for Fair Employment and Economic Growth of the European Union. Chapter III of this document, entitled 'Social protection', contains principle 12 which provides that 'irrespective of the type and duration of their employment relationship, workers, and, under comparable conditions, the self-employed, have the right to adequate social protection', which should also extend to protection of parental rights.

### **3. Protection of Parental Rights of Persons Working Outside the Employment Relationship in the Light of the Polish Law**

In terms of the Polish Constitution protection of parental rights is very across-the-board. This act does not differentiate maternity rights, either with regard to parents - whatever the basis of their employment (employment relationship or other legal forms of work) or in respect of children - whatever the form of employment of their parents (employment relationship or other legal forms of work). Article 18 of the Polish Constitution provides that marriage, as a relationship between a woman and a man, family, maternity and parental rights are under the protection and care of the Republic of Poland. In terms of



Article 68 of the said act, every citizen has the right to health protection, and public authorities are obliged to provide special health care to children and all pregnant women. The state, through its social and economic policies, pursues the well-being of families, and mothers (regardless of the legal basis of their employment) before and after childbirth are entitled to special public assistance, the scope of which is defined by acts of Parliament (Article 71 of the Polish Constitution). Also, pursuant to Article 72 of the Constitution, the Polish state guarantees protection of the rights of the child, whatever the basis of employment of its parents, including the right to parental care [3]. The Constitution of the Republic of Poland outlines a clear imperative that ordinary laws must ensure that comprehensive protection of parental rights is not exclusive to workers on employment contracts, but is also extended to individuals working outside the employment relationship [4]. This proposition is also explicitly confirmed by Article 24 of the Constitution, in terms of which all work (regardless of its legal basis) is protected by the Republic of Poland and the state oversees the working conditions.

As a result of the amendment to the Polish Labour Code, which took effect on the 2<sup>nd</sup> of January, 2016, parental rights protection has been extended to persons who make their livelihoods outside the employment relationship and benefit from social insurance in the event of sickness and maternity. Priority in exercising the entitlement to maternity allowance for a period corresponding to the duration of maternity leave and parental leave is accorded to insured mothers. In terms of Article 29 section 1 of the Benefits Act, the only condition for an insured woman to become eligible for this entitlement is the birth of a child. Importantly, the current legal framework does not lay down any additional conditions of eligibility for the entitlement to this benefit. In particular, an insured mother does not have to stop her gainful activity in order to take personal care of the child. It is up to her whether she will continue to provide services under civil law contracts (also as a self-employed) or suspend her work. The foregoing solution raises serious doubts and is insufficient from the point of view of the constitutional guarantees of protection of labour, family and parental rights. First of all, it contravenes the insurance nature of maternity allowance, since in essence this benefit is to provide financial support for an insured mother on the occurrence of losing her livelihood due to childbirth. Secondly, the absence of a statutory requirement for an insured mother to cease gainful activity at least for the duration of the postpartum period (the first 8 weeks after childbirth) in order to take personal care of the child while receiving the benefit, violates the constitutional guarantee of protecting the health of women and children in the perinatal period, when the woman's body must regenerate, and the child needs direct and continuous contact with the mother. This is a surprisingly inconsistent solution, given that in the employment relationship, after childbirth a woman is required to stop working for her employer and must - as a rule - use the obligatory part of maternity leave (14 weeks after delivery - Article 180 section 5 of the Labour Code).

Thirdly and finally, the Polish legislator - unlike in the case of the employment relationship - does not provide *de lege lata* any additional guarantees enabling an insured mother to take care of her child immediately after its birth. This violates both the constitutional right of every mother (whatever the legal form of her gainful activity) to special assistance from public authorities before and after childbirth (Article 71 section 2 of the Polish Constitution), and the constitutional right of every child (regardless of the legal form of earning a livelihood by its parents) to care and help from public authorities (Article 72 section 2 of the Polish Constitution). A mother making her livelihood outside the employment relationship - unlike women with employee status - is denied by the Polish legislator both a break in providing services in the first period after childbirth (so-called maternity break), and protection against termination of her civil law contract, even if an insured mother economically relies on a single employer for whom she has been working for a long time, and her earnings under this contract are her main source of income. Childbirth does not suspend her obligation to perform the civil law contract (even during the puerperium), and the employer may at any time request that she provides the services under the contract. In the event of her non-performance, the employer has the right to terminate the civil law contract with such an insured mother. Consequently, the decision of an insured mother to stop providing services while benefitting from maternity allowance and taking care of her newborn child entails a high risk of losing business, as well as a strict liability for non-performance of the obligations under the civil law contract.

The laws and regulations outlined herein above and concerning the factors determining parental rights of insured mothers working outside the employment relationship (as compared to women enjoying the employee status) are in breach of the constitutional principle of equality before the law for being biased against women working on non-standard contracts. The Polish legislator *de lege lata* does not provide these women with the standards of health protection and postpartum childcare that would be comparable to those enjoyed by women working on employment contracts [5]. For a woman with the employee status the right to maternity leave is absolute and nonwaivable (Article 180 of the Labour Code), and for its duration the employer is prohibited from terminating her employment contract (Article 177 of the Labour Code). Additionally, the legislator guarantees that upon expiry of this leave a female employee can return to work in her previous position, and if this is not possible, in a position equivalent to that taken before the leave, or in another position adequate to her qualifications, for the pay she would have received, had she not taken the leave (Article 183 of the Code of Civil Procedure). Such protection, even to a limited extent, is not available to mothers remaining outside the employment relationship. Also, their children do not enjoy the constitutional right to parental care on a level approximating that of the children whose mothers boast the employee status.

The allegation of unconstitutionality also applies to the Polish laws regulating parental rights of insured fathers and other immediate family members who work outside the employment relationship. As a rule, the Polish legislator denies them the right to maternity allowance for a period corresponding to the duration of maternity leave and parental leave, as enshrined in the Labour Code, in separation from an insured mother. Only in enumerated situations may these individuals become eligible for this benefit, once the insured mother has used her entitlement to receive the allowance. In the absence of any special circumstances preventing the mother from directly taking care of a newborn child, the insured father may receive maternity allowance only after at least 14 weeks following the birth of the child, provided that the insured mother has chosen not to continue receiving this benefit. Nor is a similar entitlement granted to insureds being other immediate family members, who can "take over" from the insured mother of the child the right to receive maternity allowance only in special and exceptional cases. Such a solution, for being insufficiently flexible, raises justified doubts for two key reasons. First and foremost, what attracts criticism is the absence of the option for an insured father to receive maternity benefit within 14 weeks after childbirth. The mother (irrespective of the basis of her employment) should have the right to waive her benefit and assign it to the father upon expiry of the 8-week period after childbirth (postpartum period, when the woman's body needs to regenerate and the child needs a direct and constant contact with the mother), when the parents should be free to decide between them how to share their parental responsibilities. Secondly, the disadvantage of the said regulation is the inability to "take over" from an insured mother, otherwise than under special circumstances preventing her personal care of the child, the right to maternity allowance by insureds being other immediate family members, especially when the father is not covered by sickness insurance or will not look after the child.

Another controversial Polish regulation relating to the exercise of the entitlement to maternity benefit of an insured being the father or other immediate family member who works outside the employment relationship, is an additional requirement conditioning the eligibility for this benefit, namely: "discontinuation of gainful activity with a view to exercising personal childcare." This requirement grossly violates the constitutional principle of equal treatment and discriminates against these individuals in relation to insured mothers and employees on parental leave who do not need to stop working in order to exercise their parental rights. This requirement unduly interferes with the principle of freedom to work and the constitutional principle of freedom to engage in economic activity, and what is worse, it is unfit for the purpose which the legislator was hoping to achieve.

#### 4. Conclusions

*De lege ferenda*, there is a need to extend parental rights to non-standard employment relations. This is in line with the requirements of the international and EU laws as well as with the constitutional regulations. In Poland, the scope of

parental protection dedicated to people who work outside the employment relationship and pay regular contributions for voluntary sickness insurance is insufficient. Obviously, the level of this protection should not be equated with that which under the labour law regulations is guaranteed to employees. The legislator should provide the latter with the broadest possible parental rights. However, this does not justify the massive differences in the existing standards of this protection which legally violate the constitutional principle of equality before the law. This leads to a situation when a regulation on parental rights ceases to pursue its original purpose. At present, the Polish legislator does not ensure efficient and effective rights to postpartum childcare and full exchangeability of parental privileges between the parents, with the support of immediate family members, and fails to create optimal financial conditions for such care. To make things worse, Polish laws and regulations do not sufficiently protect the health and life of mothers working outside the employment relationship, and their children too, in the period before and immediately after childbirth.

#### References

- [1] P. np.: A. Chobot, Warszawa 1997. Nowe formy zatrudnienia; P.L. Davies, Zatrudnienie pracownicze i samozatrudnienie w świetle common law [w:] Referaty na VI Europejski Kongres Prawa Pracy i Zabezpieczenia Społecznego; Warszawa 1999; Z. Hajn, Elastyczność popytu na pracę w Polsce. Aspekty prawne [w:] Elastyczne formy zatrudnienia i organizacji pracy a popyt na pracę w Polsce. E. Kryńska (red.). Warszawa 2003.
- [2] Zob. np. Z. Hajn Regulacja pozycji prawnej pracownika i pracodawcy a funkcje prawa pracy, PiZS nr 10, pp. 5 i 11.
- [3] A. Sobczyk, Prawo dziecka do opieki rodziców jako uzasadnienie dla urlopu i zasiłku macierzyńskiego, PiZS 2015, nr. 9, pp. 11 i next.
- [4] M. Gersdorf, Między ochroną a efektywnością. Systemowe i terminologiczne aspekty objęcia cywilnoprawnych umów o zatrudnienie ustawodawstwem pracy, PiZS 2019, nr 1, pp. 2 i next.
- [5] Por.: M. Mędrała, Uprawnienia rodzicielskie niepracowników na gruncie prawa pracy i ubezpieczeń społecznych, [w:] J. Czerniak-Swędzioł (red.), Uprawnienia pracowników związane z rodzicielstwem, Warszawa 2016, pp. 84-85; R. Babińska-Górecka, Uprawnienia związane z rodzicielstwem osób wykonujących pracę zarobkową, [w:] G. Goździewicz (red.), Umowa o pracę a umowa o zatrudnienie, Warszawa 2018; M. Latos-Miłkowska, Ochrona rodzicielstwa osób zatrudnionych na podstawie umów cywilnoprawnych, PiZS 2019, nr 1, pp. 71 i next.



## EU TRADE POLICY INTEGRATION IN TIMES OF CRISIS

Jana Bališová

**Pan-European University**

Tomášikova ul. 20

Bratislava, 82102, Slovakia

jbalisova@gmail.com

**Abstract:** *The present research paper operates under the working hypothesis that the crisis accelerated and intensified the EU trade policy discharge, obliterated the trade policy cleavages between member state coalitions, and activated dormant trade policy subfields – all on the grounds that trade liberalization is one of the main drivers of economic growth. To this end, the EU is employing a new strategy involving bilateralism with equal trade partners on a strictly reciprocal basis, which with certain alterations provides support for the existing neoliberal trade policy paradigm. The research paper aims to determine how the conglomerate of crises affected the integration process within the field of EU trade policy, focusing mainly on the points of direction, intensity and depth of policy changes as well as on the discussion of the respective findings against the backdrop of countervailing factors.*

**Keywords:** *EU trade policy, bilateralism, crisis*

### 1. Introduction

Several authoritative studies originating in diverse scientific fields assert that events of crisis provide fertile grounds for change – factual as well as paradigmic [1]. The „Great Recession,“ also known as the latest crisis striking in the EU and around the globe in the period from 2008 to early 2010s, may very well represent such an occasion; however, it shall not be regarded as just one critical event. Instead, it should be understood as „a conglomerate of specific but interconnected crises“ spanning several instances: economic, financial, fiscal, monetary [2]. The multiplex character of the recent crisis offers multiple opportunities for policy change. Whether it will be a positive change, remains to be seen.

Applying the aforementioned concepts (conglomerate of crises, multiple opportunities for policy change, and no predetermined policy outcomes) to the context of EU integration generates a range of possible corollaries: (1) *further integration*, (2) *disintegration*, and (3) *quiescence*. The first corollary entails a centralizing policy course, the so-called „deepening“ (the EU gains competencies, policy fields are uploaded to the EU level, intergovernmental issues are upgraded to the supranational). On the contrary, disintegration, partial or complete, refers to the decentralization of EU policies (downgrading of issues from supranational to the intergovernmental level, re-nationalization). Quiescence, implying the unchanged status quo, can mean two different things – a *stalemate* (EU actors are deadlocked on a highly sensitive issue and cannot reach consensus) or an *indifference* (issues of low salience, absent political pressure). The intensity of policy change also operates on a scale; according to Hall’s model there are four different orders of policy change: (1<sup>st</sup> order) adjustment of existing instruments on policy level; (2<sup>nd</sup> order) change of instruments or techniques on policy level; (3<sup>rd</sup> order) new goals and priorities on policy level; and (4<sup>th</sup> order) paradigmic change of the intrinsic policy spirit [3]. Perhaps the most surprising outcome of the economic crisis in regards to the European integration process has

been the absence of any consequential disintegrative or re-nationalizing tendencies [4], particularly, in terms of financial markets policy and trade policy [5]. On the other hand, responses fueled by long term dissatisfaction with the EU (i.e., UK/Brexit), attest to a different reality [6].

The research paper operates under the working hypothesis that the crisis accelerated and intensified the EU trade policy (EUTP) discharge, obliterated the trade policy divide between member states (MS) with more and less liberalized economies, and activated dormant trade policy subfields – all on the grounds that trade liberalization is one of the main drivers of economic growth, job creation and business opportunities. The principal approach to achieve these goals is bilateralism with equal trade partners on strictly reciprocal basis. For the aforementioned purposes, the paper aims to determine how the conglomerate of crises affected the integration process within the field of EUTP, focusing mainly on the points of direction, intensity and depth of policy changes (further integration, paradigm shifts, delegitimization, reinforcement) as well as on the discussion of the respective findings against the backdrop of countervailing factors.

### 2. Legal and institutional aspects of EUTP

The EU conducts trade with third countries under the chapeau of the „Union’s external action“. Beside trade in goods, the EUTP also incorporates trade in services, foreign direct investment (FDI), commercial aspects of intellectual property and measures related to liberalization, export policy and trade defense. EUTP falls under exclusive competences of the EU that has been last extended through the Treaty of Lisbon. Several factors significantly temper the impact of the EUTP exclusiveness: the Commission, while empowered to propose trade policy actions and lead negotiations with third countries, remains firmly bound by decisions of the Council and Parliament; and the new trade issues require unanimity voting in the Council. Yet, the Treaties provide

for regulations as the means and the ordinary legislative procedure as the standard method of adopting measures defining the framework for EUTP implementation; and for qualified majority voting in Council regarding international agreements not warranting unanimity or mixed conclusion.

### 3. Rejection of trade protectionism

The EU's unrelenting trade policy response to the most recent crisis has been deemed a surprise by many considering the preponderance of protectionist tendencies after major economic downturns vividly exemplified by historical events associated with the Great Depression of 1930s, the OPEC oil price shocks and the stagflation of 1970s [7]. With the view of rebuilding the devastated economy, the idea behind trade protectionism rests on the intersecting premises of, firstly, minimizing imports in order to shield domestic production, industries as well as employment and, secondly, raising consumption of domestically produced goods. Typical instruments imposed by protectionist policies include tariffs, quotas, embargoes and subsidies. Nowadays, however, states are mostly prevented from liberally deploying these measures by their multilateral and bilateral commitments (WTO, FTAs). That being said, the majority of those commitments is based on international treaties that generally allow for denunciation, withdrawal, termination or temporary suspension. The EU offers a limited catalogue of „protectionist” measures ranging from sensitive policy opt-outs (EMU, CSDP) to full withdrawal, but affords none in regards to the EUTP. However, selected trade policy sub-fields and trade measures are attached to stricter decision-making procedures such as unanimity voting in the Council, which virtually grants each MS the power of veto (Arts. 207 and 218 TFEU). The fact that the MS have unexpectedly forsaken the protectionist path – particularly by passing on adoption of defensive trade policy measures or re-nationalization – implies either their agreement to maintain the current EUTP course or, at the very least, their acquiescence thereto.

Or maybe this course of action might not seem that surprising at all. The EU is still considered a project of primarily economic nature concentrated around the internal market. Its other dimensions (CFSP, CSDP, ASFJ) merit also, however without the free movement of goods, services, capital and people among the MS, the EU would have little reason for existing. Internal market essentially equates to an *internal* trade policy and runs the risk of being delegitimized together with the *external* trade policy (EUTP) if trade protection was exercised. Moreover, the absence of positive policy outcomes flowing from protectionist measures enacted by states to combat various historic crises has been noted time and time again. At best, protectionist policies may help in achieving short-term gains of political capital and boosting the public morale, but without lasting benefits. At worst, trade protectionism happens at the expense of other states and induces retaliation (trade wars, armed conflicts) [8]. Thus, the

adoption and implementation of trade protectionist policies presents a mere Band-Aid rather than a workable solution to any crisis, yet, it can induce some very serious domestic as well as international consequences. This contention appears even truer for the Great Recession, which came to pass in a world of complex, globalized commercial relations.

### 4. Reinforcement of the existing trade paradigm

Having established that the EU, had little reason to adopt trade protectionist policies in order to leave the crisis, and that the MS lacked any incentive to demand them or, alternatively, request the devolution of trade-related competences back to the purview of their governments, attention should be shifted towards the question of what trade policy the EU really adopted and why. Contemporary research [9] shows that the EUTP has stayed the course and is continuing in its pre-crisis direction by relentlessly reinforcing the neoliberal trade paradigm first established through the 2006 Global Europe communication [10]. The sense of urgency, rising frequency of trade policy deployment, and new parameters for the identification of viable trade partners and treaty contents, however, amounted to a momentous shift in EUTP. Certainly not on the scale of a 4<sup>th</sup> order policy change, but definitely including 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> order policy changes [11].

Firstly, if beforehand the Commission used to conduct parallel trade negotiations only if absolutely necessary (EPAs with ACP, Barcelona process), nowadays it keeps running large-scale negotiations (Canada, Japan and South Americas) simultaneously on multiple tracks. Secondly, the pre-crisis trade agenda still embraced goals such as prioritizing of multilateral trade liberalization through the WTO, preferential treatment for developing countries and pursuit of neighborhood policy objectives through PCAs promising at least partial market access and aid. The current EUTP, while still employing these instruments to a limited extent, has altered its priorities to predominantly seek bilateral engagements featuring reciprocal distribution of rights and obligations [12]. This change in EUTP priorities could be explained by the crisis putting pressure on the Commission to look for more expeditious, cost-effective and efficient trade opportunities in order to facilitate economic recovery. Grounds for the EU's pivot to full-on bilateralism appear manifold and mostly pertain to policy failures of the pre-crisis era: the Doha round has been at an impasse for almost two decades, the preferential trade agreements have proven costly, unreliable and mostly ineffective at nudging the democratic transition in developing countries and, finally, the geopolitical crises in the EU's immediate neighborhood turned averse to genuine trade policy solutions [13].

Before the crisis, apart from pre-accession agreements, the EU concluded bilateral trade agreements with three kinds of partners: with developed countries within the region for purposes of economic integration and association, (EFTA, EU-Switzerland), with developing countries in the broader neighborhood for purposes of fostering cooperation and

supporting regime transitions to democracy (Euro-Mediterranean Treaties), and with least developed countries for the purpose of granting them preferential market access (GSP, Aid for trade). The currently negotiated FTAs pertain to mostly developed countries (Canada, Japan) or emerging economies (India, Chile), expressly targeting economic growth and job creation in the EU. The FTA with South Korea could be considered a precursor of this trend; however, as the negotiations started before the advent of the crisis, it may be argued that the pivot to bilateralism with developed countries has been on the cards for quite some time – in line with the neoliberal trade policy paradigm. Nonetheless, the FTAs which are in the process of conclusion (CETA, EUSFTA) or negotiation (EU-Japan) show explicit marks of being engendered by the crisis. Furthermore, even the anatomy of EU FTAs changed. “New generation” FTAs, the so-called DCFTAs (acronym for *deep* and *comprehensive* free trade agreement), go beyond simple trade in goods and related issues by also covering matters such as trade in services, FDI or commercial aspects of intellectual property and addressing subjects such as competition, government procurement and regulatory approximation on a much larger scale than ever before. The reasons for this development are twofold: on one hand, the aforementioned incorporation of the “new trade issues” into the EUTP falling under the exclusive competence of the EU and, on the other hand, the necessity to generate greater capital mobility. Even though the former reason does not pertain to the crisis in any direct way, it should be noted that the FTA with South Korea, which has been both based on the post-Lisbon trade policy and entered the negotiation phase before the crisis, is devoid of a chapter on mutual investment promotion and protection. The negotiations commenced in the aftermath of the crisis (CETA, TTIP), however, all expressly featured a distinct chapter on FDI including a separate set of provisions on investment dispute settlement.

Based on the presented arguments it can be concluded that the EUTP adopted after the advent of the crisis, while embracing the previously established neoliberal paradigm, has broken the mold of its previous, tame and predictable, conduct. The multilateral ambitions in regards to WTO have been reduced in priority, whilst pure and unadulterated bilateralism has ascended to prominence, giving precedence to strictly reciprocal, deep and comprehensive arrangements with trade partners on comparable level of economic development and infrastructure to the EU. Thus, when talking about EUTP adjustments invited by the global conglomerate of crises, the operative word shall be the *refocusing* – on more profitable ventures.

### 5. Discreet nature of the EUTP integration

In view of the recent crisis triggering adjustments and intensification, as opposed to paradigm shifts, of the EUTP (i.e., 1<sup>st</sup> to 3<sup>rd</sup> order changes), the outstanding question pertains to the character of said policy adjustments in terms of integration processes. It has been previously

established that the crisis did not lead to disintegration or re-nationalization of the EUTP or its parts. On the contrary, the crisis literally galvanized the EU into a flurry of activity on the trade policy front, especially in regards to bilateral trade liberalization. The following section examines if the EUTP has been subject to integration after the outbreak of the crisis and on what level.

The pre-crisis trade policy of the EU has been marked by frequent clashes among the MS as well as between the MS and the EU institutions. At that time, the divide between MS coalitions separated the northern countries from the southern ones. Whereas the former together with the EU advocated for wider and deeper liberalization of external trade, the latter rather opposed this initiative, particularly with regards to specific sectors important to their domestic economies in terms of EU exports, production and employment [14]. The bitterest opponents to all sorts of trade agreements have been Greece, Italy, Spain and Portugal as well as (at times) France; the most susceptible trade sectors have featured agriculture, iron and steel production, clothes manufacturing and automotive industries. Conversely, the northern coalition usually comprised United Kingdom, Germany, the Benelux as well as the Scandinavian MS. However, the crisis seems to have scattered the protectionist southern block and, thus, voided any viable opposition to the new rapid advancement of trade liberalization [15]. Some authors ascribe this development to the crisis-precipitated onset of economic enlightenment experienced by the southern and southeastern countries, which may have borne the worst brunt of the crisis, and have finally awoken to the economic reality where popular policy decisions can lead to unsustainable costs and generate adverse financial consequences. Hence, these countries started to analyze the causes of their economic, fiscal and other policy failures, whereupon, they arrived at an interim realization that emulating the policies and positions of the northern coalition which has weathered the crisis with fewer struggles (e.g., Germany, Belgium, Netherlands, etc.), may help them turn the tide. Finally, one such position pertained to external trade and trade liberalization, which at present time the southern block, if not openly embraced, then at least acquiesced to; possibly because it has been one of the easier policy choices compared to the austerity measures and consolidation of public finances. There is, however, one outlier from this assertion: Ireland, which, albeit having an open and highly liberal economy and inclination to full trade liberalization, has wound up among the most crisis-afflicted MS. Other research studies attribute the lack of trade protectionist forces among the MS to the preoccupation of the usual actors with domestic matters. Again, it is worth mentioning that the anti-trade liberalization bloc consisted of many MS which almost crumbled during the crisis. Accordingly, their governments have been inundated with a host of domestic issues requiring immediate consideration and settlement, which led to proportionally lesser attention being paid to the EU level policies. This argument is neither void of inconsistencies, as recent developments have shown that

the southern coalition maintains its new position of not opposing trade liberalization, even though the crisis has been over. Despite the slight incongruities, however, both arguments offer some viable points. The real reason for the cessation of the anti-trade coalition among the southern, less economically sophisticated MS may lie somewhere in the middle – on one hand, the southern coalition states have come to the conclusion that many of their contemporary policy decisions and positions were no longer sustainable and in certain cases downright harmful to their continued wellbeing; on the other hand, due to preoccupation with domestic issues combined with the newly awoken doubt about own policy choices, may have resulted in the abstention of the coalition from further input into EUTP, thus, giving the EU almost free reign. In general terms, this means a policy rapprochement among the MS as they now seem to be on the same page with regards to external trade. Thus, it is possible to talk about de facto integration of the MS positions on EUTP.

The crisis also impacted the activity in new policy subdomains inserted by the Treaty of Lisbon. Particularly in regards to services, FDI and intellectual property; all of which have been employed before only sparsely. A good illustration of the aforementioned situation presents the FTA between the EU and South Korea – having been the first FTA to enter the negotiations both since Lisbon and before the crisis. While the agreement covers subjects such as provision of services, government procurement and intellectual property, its reach just barely surpasses that of WTO. Contrastingly, the envisaged DCFTAs reflect their name very appropriately by addressing trade-related and additional policies in a deeper and more comprehensive fashion. Considering the fact that the DCFTAs only made a public appearance after the outbreak of the crisis, and have been promulgated as crucial for economic recovery as well as for sustainable living standards within the EU, it can be inferred that the crisis did have a significant impact on the activation of several dormant and underutilized EUTP subdomains by effectively integrating them into the active fabric of the EUTP discharge.

## 6. Conclusion

The present research paper attempted to verify the working hypothesis about the recent conglomerate of crises impacting the integration within the field of EUTP. Firstly, based on the presented findings, the EU is currently experiencing a burst of activity pertaining to trade liberalization through the negotiation and conclusion of bilateral free trade agreements (CETA, EU-Japan). These events correlate with the assertion of an accelerated and intensified EUTP discharge. As countervailing factors have been examined in this context the failure of the Doha round and the applicable WTO rules both of which may have prompted the EU into the direction of trade-related bilateralism. However, none of these reasons proved convincing enough to belie the hypothesis, particularly considering the continued trade policy efforts of the EU even after the crisis. Secondly, the current trade policy course encountered a rare consensus of the MS; especially

observable within the Council, i.e., the usual divide between MS coalitions – the opponents and the proponents of trade liberalization – has been conspicuously absent. Thus, evidencing the acceptance of (or at least the acquiescence to) the neoliberal trade policy paradigm by all MS. Alternative interpretation of this occurrence featured the policy learning of the economically weaker states from the example of the more liberal ones as well as the preoccupation with domestic matters. Again, the continuous support of the previously trade-liberalization opposed MS even after the crisis rather negates the countervailing factors. Thirdly, the post-crisis trade policy underwent a certain degree of deepening, albeit not in a strictly official capacity such as by Treaty revision or through the application of the flexibility clause. The extended scope can be more likely ascribed to the activation of certain, previously underused or dormant, policy subfields as has been amply demonstrated by the inclusion of the new trade issues into the latest free trade agreements. The opposable circumstances included the stalemate of the multilateral negotiations on new trade issues. However, since the FDI has only been included into the new DCFTAs and after the outbreak of the crisis, this avenue does not seem to hold much merit either.

## References

- [1] Cf. Kuhn, T. S., *The structure of scientific revolutions*, Chicago, UCP, 1962; Hall, P. A. *Policy paradigms, social learning, and the state: the case of economic policymaking in Britain*, *Comparative Politics*, Vol. 25, No. 3, pp. 275–296, 1993.
- [2] Falkner, G., *The EU's current crisis and its policy effects: research design and comparative findings*, *JEI*, Vol. 38, No. 3, p. 220, 2016.
- [3] Falkner, pp. 224 et seq.
- [4] Falkner, p. 229.
- [5] Cf. Kudrna, Z., *Financial market regulation: crisis-induced Supranationalization*, *JEI*, Vol. 38, No. 3, pp. 251-264, 2016; Bollen, Y., De Ville, F., Orbie, J., *EU trade policy: persistent liberalization, contentious protectionism*, *JEI*, Vol. 38, No. 3, pp. 279 -294, 2016.
- [6] Falkner, 229.
- [7] De Ville, F., Orbie, J., *The European Union's Trade Policy Response to the Crisis: Paradigm lost or reinforced?*, *EIOP*, Vol. 15, No. 2, p. 3, 2011; De Ville, F., Orbie, J., *The European Commission's Neoliberal Trade Discourse since the Crisis: Legitimizing Continuity through Subtle Discursive Change*, *British Journal of Politics & International Relations*, Vol. 16, No. 1, p. 156, 2014; Bollen, De Ville, Orbie, p. 279.
- [8] Cf. O'Rourke, K. *Government policies and the collapse in trade during the Great Depression*, *VOX: CEPR's Policy Portal*, <http://voxeu.org/article/government-policies-and-collapse-trade-during-great-depression>, 2009.
- [9] Cf. Niemann, A., *EU External Trade and the Treaty of Lisbon: A Revised Neofunctionalist Approach*, *JCER*, Vol. 9, No. 4, pp. 633-658, 2013; De Ville, Orbie (2014); Bollen, De Ville, Orbie.
- [10] European Commission, *Global Europe: Competing in the world*, COM(2006)576, <http://trade.ec.europa.eu/doc>

lib/docs/2006/october/tradoc\_130376.pdf, 2006; De Ville, Orbie (2011), p. 14 et seq.

[11] Cf. Hall; Falkner; Bollen, De Ville, Orbie.

[12] De Ville, Orbie (2011), p. 7.

[13] Niemann, p. 646.

[14] Bollen, De Ville, Orbie, p. 284.

[15] Bollen, De Ville, Orbie, pp. 284 et seq.

## VOLUNTARY SECTOR IN THE SLOVAK REPUBLIC

Romana Longauerová

### Catholic University in Ružomberok

Hrabovská Cesta 1A  
Ružomberok, 03401, Slovakia  
+421 44 430 46 93  
romanalongauerova1111@gmail.com

**Abstract:** *The contribution points to the current state of volunteering in the territory of the Slovak Republic. Volunteering is part of humanity since the distant past. This phenomenon includes the degree of responsibility for each other and for the whole world. Volunteering was founded on the principles of the democratic society and mental health of people. In a postmodern society, volunteering is supported by a wide range of positive human values and is also a contradiction of materialism and consumer society. The contribution focuses on the writing of volunteer themes to the implementation of volunteering. It points to the issue of volunteering and the identification of the prosocial characteristics of the volunteer personality. The postmodern company has also brought new trends in the voluntary sector in Slovakia. The importance of volunteering becomes the subject of research, political and practical reflexion to what demographic and technological change and globalisation contribute. The contribution is a picture of volunteering in Slovakia in the context of current trends.*

**Keywords:** *volunteering in Slovakia, motivation of volunteers, trends in volunteering*

### 1. Introduction

In the current socially developed countries, we observe a societal interest in the volunteering. The beginnings of scientific interest in volunteering dates back to the 19th century, when A. Comte created the concept of altruism, which had to express the unselfish behavior of man. Volunteering was also influenced by the growing notion of the welfare state, which was to cover the decisive needs of society.

However, the current situation indicates that volunteering has a non-recoverable place in the post-modern society. It significantly strengthens civic participation, decentralizes power and contributes to compensate for the lack of social services in society (e.g. the United States of America is 75% of volunteers involved in caring for dying). At the same time, volunteers weaken bureaucratic and strengthen democratization in society. The need for volunteers also increased thanks to the non-profit sector, which needed them to effectively meet the objectives and the mission of the organisation itself [1].

The following contribution seeks to give a systematic overview of volunteering in Slovakia and to describe its current state in the territory of the Slovak Republic.

#### 1.1 Volunteering in Slovakia

The concept of volunteering comes from Latin from the word "voluns" which means choice. The authors of Hall, Lasby, Ayer, Gibbons [2] indicate that they are "people who perform a service without being paid for it, and this service is carried out on behalf of a charitable or other nonprofit organization. Such activity includes any unpaid aid to schools, religious organisations (churches), sports clubs or community associations. "

According to Brozmanová Gregorová, Šolcová, Siekelová [3], volunteering is perceived as an expression of active

civic involvement, education and learning. The reason why volunteering is an important indicator in society is that it has benefits in an emotional, acting and cognitive area for humans. It is also a source of positive feelings, helping to create positive and desirable values, is a source of social interaction, helps to acquire specific skills and knowledge and contributes to the self-realization of man. In the territory of the Slovak Republic, the position of the managerial type of volunteering in social and healthcare establishments and organisations is progressively developed within the social services facilities.

Many of the definitions of volunteering are known, but most of them coincide in certain specific criteria:

- unpaid activity,
- its implementation is subject to a free will,
- is carried out for the benefit of other people,
- individual volunteer activities require human behaviour with large input costs and a relatively low form of remuneration.

The absence of financial rewards in the voluntary sector is replaced by a symbolic remuneration from an organisation in the form of non-financial donations, the possibility of participation in education, actions of the organisation. Voluntary work organisations provide significant cost compensation.

In the legislative conditions of the Slovak Republic we can define two forms of volunteering:

1. Activity carried out under an activation activity by unemployed persons to gain the experience necessary for the labour market, under Act No. 330/2008 Coll. on employment services and on amending certain laws as amended.

2. Corporate volunteering – Voluntary activities are attended by company workers during working hours.

However, volunteering is also carried out outside the organizational structures [1].

## 2. Characteristics of Volunteering

Volunteering is a social phenomenon that is historically and culturally contingent on individual characteristics:

- motivation
  - organisation of volunteering.
- A. Volunteer Motivation – Volunteer motivation is a rather complex phenomenon. It expresses the relationship to why individuals want to become volunteers, the variability of objectives and the reason for human action. The themes regulate volunteering and their knowledge is important in terms of the question of why volunteers are pretending volunteering. The analysis of the motivation of volunteers, thus contributing to understanding why people end up volunteering in a long period of time [3]. According to the silence and the malicious [1] we can identify ten categories of themes to volunteer work:
1. Values – a volunteer performs volunteering on the principle of altruism and belief to help others.
  2. Social recognition – it brings psychological and physical challenge, motivates volunteers to new knowledge, improve their knowledge and skills.
  3. Social interaction – the volunteer builds its social network and contacts with other people through interaction.
  4. Career development – a volunteer is gaining a job experience important for a career through volunteering.
  5. Protective protection – provides a volunteer space to cope with your personal problems and interpersonal conflicts.
  6. Social function – provides the opportunity to forge new interpersonal relationships.
  7. Personal development – strengthening self-confidence and self esteem.
  8. Reactivity – motivation to address your past and present problems.
  9. Understanding – a volunteer exercises knowledge that is not normally used.
  10. Reciprocity – expresses its motivation to help with the expectation that the efforts made by the volunteer will return in a certain way.
- B. Volunteering – the organisation of volunteers can be managed and unmanaged:
1. Managed volunteering – implemented within a constitutional organisation. It is a type of volunteering that is carried out in many cultures with a permanent existence.

2. Unmanaged volunteering – takes place outside of a certain type of organisation. Volunteers help themselves, spontaneously and sporadically [3].

## 3. The benefits of volunteering

In the year 1990, in Paris, the International Volunteer Effort Association adopted the General Declaration on volunteering [4], which states that *"volunteers consider their action as a tool that contributes to the social, economic and Environmental development."* The declaration also mentions that volunteering *"enhances human potential and the quality of everyday life, strengthens human solidarity, provides answers to the important challenges of our present and seeks to contribute to the creation of A better and more peaceful world"* also *"contributes to the viability of economic life and also to job creation and new professions."*

Volunteering Presents:

- Economic benefits
- Significant added value
- Creation of social capital
- Public service Savings
- Personal and social development
- Positive impact on human health
- Direct involvement of citizens in the development of society and democracy.

Volunteering in Slovakia also benefits the volunteers themselves:

- Development of exist and new skills
- Development of career
- Get a new perspective at different situations
- Participate in the life of the community
- To get a sense of meaningful and important work
- Development of professional skills
- Contribute to building solidarity in society.

Volunteering is also a good signal for employers, school, family, friends. Academic institutions are interested in the activities of their employees in free time. Volunteers are often confronted with societal and current challenges in society. Volunteering creates benefits not only for the second person, but also for the whole society and the volunteer itself [3].

## 4. Trends in volunteering

Post-modern time has also brought new trends in the voluntary sector in Slovakia. Technological development, globalisation and individualisation processes have brought an automatic decline in people participation and changes in volunteering. Changing living standards and lifestyle access have also brought more opportunities for volunteers.

Evans and Saxton [5] identified nine trends in volunteering in the 21st century:

- Interest in the so-called knowledge volunteers
- Increase in materially stimulated volunteers
- The need to professionalise volunteer management
- Increase in selfish volunteering
- The rise in the interest of young activists and the decline in young volunteers
- Increase in the interest of corporate volunteers
- Volunteer life stage when engaged in volunteering
- Demand and offer of organisations in the field of volunteering
- Development of social and community capital.

The reported trends and innovations in the field of volunteering differ from past trends and from the previous generation of volunteers. According to Pospíšilová and Frič [6] There are differences in the identification of volunteers. The ongoing metamorphosis volunteers distinguish the classic type and the new type of volunteering. The classic type is characterized by stability and coherence, inspired by traditional roles in society and collective values. The new type is characterized by volatility, unpredictability and personal preferences. However, today's volunteering is a combination of several dimensions: organisation selection, activity selection, the cultural framework of volunteers, relation to the aid beneficiary, motivation structure, environment of the organisation, social capital of volunteers. The trends mentioned also influence the form of volunteering in the future. In the process of volunteering, it is necessary to develop a practical aspect of the work with volunteers.

## 5. Conclusions

Volunteering in Slovakia is a form of prosocial and altruistic behaviour of man. In a post-modern society, volunteering has a non-eminant position while fulfilling a number of important functions. Systematic work with volunteers is the basis for voluntary activities. The contribution deals with the issues of volunteering and identifying the prosocial characteristics of the volunteer personality. It points to the current state of volunteering in the Slovak Republic. In each society, volunteering significantly strengthens civic participation, weakens bureaucratic and strengthens democratization, decentralizes power and contributes to compensate for the lack of social services in society. Volunteering is a manifestation of free will so everyone can engage in volunteering.

## References

- [1] MLČÁK, Z. – ZÁŠKODNÁ, H. 2013. *Prosociální charakteristiky osobnosti dobrovolníků*. Ostrava: Ostravská univerzita v Ostravě, filozofická fakulta, 2013. 333 s. ISBN 987-80-7464-462-7.
- [2] HALL, M., LASBY, D., AYER, S., GIBBONS, W. D., *Caring Canadians, Involved Canadians: Highlight from the 2007 Canada Survey of Giving, Volunteering and Participating*. Ottawa: Ministry of Industry. ISBN 978-1-100-11869-7.
- [3] BROZMANOVÁ GREGOROVÁ, A. - MATULAYOVÁ, T. - MRAČKOVÁ, A. - VAVRINČIKOVÁ,

L. - VLAŠIČOVÁ, J. - KORÓNY, S. 2012. *Dobrovoľníctvo na Slovensku výskumné reflexie*. Bratislava: IUVENTA, 2012. 208 s. ISBN 978-80-8072-119-0.

[4] Všeobecná deklarácia o dobrovoľníctve. 1999. In: *Fakty o treťom sektore na Slovensku*. Bratislava: SAIA.

[5] EVANS, E. – SAXTON, J. 2005. *The 21<sup>st</sup> century volunteer. Report on the changing face of volunteering in the 21<sup>st</sup> Century*. London. 2005.

[6] FRIČ, P. – POSPÍŠILOVÁ, T. 2010. *Vzorce a hodnoty dobrovolnictví v české společnosti na začátku 21. století*. 1. vydanie. Praha: Agnes, 2010. 263 s. ISBN 978-80-903696-8-9.



## CORPORATE SOCIAL RESPONSIBILITY AND RESPONSIBLE PUBLIC PROCUREMENT IN CENTRAL EUROPE AND SLOVAKIA<sup>[1]</sup>

*Peter Lukáčka – Peter Kubolek*

### Comenius University in Bratislava, Faculty of Law

Šafárikovo nám. č. 6, P.O.BOX 313  
Bratislava 810 00, Slovakia  
00421 2 592 44 304  
peter.lukacka@flaw.uniba.sk

### Office for Public Procurement (SK)

Ružová dolina 10, P.O.BOX 98  
Bratislava 820 05, Slovakia  
00421 2 50 264 202  
peter.kubolek@uvo.gov.sk

**Abstract:** *This text elaborates legal and practical opportunities to implement Corporate Social Responsibility through Responsible Public Procurement. In an environment where public services are provided by many kinds of organizations including private enterprise is appropriate to request integration of social and environmental concerns into business. Article provides information on EU legal possibilities to implement such solutions and gives some (good) examples of implementation of CSR through RPP (environmentally friendly solutions, employment of people disadvantaged in the labour market including those with a criminal background) in Central Europe.*

**Keywords:** *corporate social responsibility, public procurement, Central Europe*

### 1. Introduction

In accordance with the Directive 2014/24/EU of the European Parliament and of the Council on public procurement, with a view to an appropriate integration of environmental, social and labour requirements into public procurement procedures it is of particular importance that Member States and contracting authorities take relevant measures to ensure compliance with obligations in the fields of environmental, social and labour law that apply at the place where the works are executed or the services provided and result from laws, regulations, decrees and decisions, at both national and Union level, as well as from collective agreements, provided that such rules, and their application, comply with Union law [2].

As one of the relevant measures to adequately integrate environmental, social and labour requirements as distinctive attributes of corporate social responsibility (CSR) to business relations, public procurement rules can also be considered with certainty, especially in current economic realities where (a) public procurement as one of the market-based instruments to be used to achieve smart, sustainable and inclusive growth while ensuring the most efficient use of public funds [3] and (b) the very notion of “public sector” is in any case reductive: the fact that a service is publicly financed does not mean that it is produced by people directly employed by the state or other public entities. In education and health, services are provided by many kinds of organizations, including foundations and associations, which are in fact intermediate forms between the state and private enterprise [4].

### 2. Corporate Responsibility

In the existing globalized business world, trade is often used as a means of exporting the concept of human rights protection (or at least part of it), even to countries that do not recognize it. Recent trends have left the classic concept of applying international principles only through governments towards an extensive concept, through

governments and companies. In these new trends, a (multinational) company is understood as an “organ of society” by definition of the Universal Declaration of Human Rights (“every individual and every organ of society shall strive by teaching and education to promote respect for these rights and freedoms and to secure their universal and effective recognition”). For this reason, the relevant parts of fundamental human rights have become globally applicable and open markets require market players to uphold them. The transfer of responsibility for respect for human rights from states to the private sector is mainly through various UN initiatives on responsible business (e. g. UN Principles for Responsible Investment, UNEP Equator Principles, UNHCR Business and Human Rights, UNODC Anti-corruption or UNCTAD Corporate Responsibility Reporting) [5].

Most CSR definitions are linked by a unifying element, which consists in defining this concept through certain characteristic features of business implementation integrating social and environmental concerns into business of their own and interact with stakeholders on a voluntary basis [6] [7].

In order to stabilize the CSR definition, it is important to note that this issue has also been addressed in a significant way by the European Commission, which was the first to attempt a legal (formal) CSR definition in an official paper: Green Paper: Promoting a European framework for Corporate social responsibility, which defines corporate social responsibility as a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis [8].

In general, CSR is a concept shifting the perspective from profit-only, business approach and profit limitations, to the triple-bottom-line level, a business based on the social, environmental and economic pillars in order to achieve sustainable, transparent and responsible development [9].

### 3. Responsible Public Procurement

Starting from the premise that entrepreneurs and companies that have a significant impact on the quality of life, the environment and the lives of their employees need to be reflected in some form on these facts and the corresponding degree of responsibility, the concept of CSR seems to be a good and appropriate for general support. The question remains, however, to resolve the conflict between the goal of maximizing profit of company and implementing CSR principles, which are in a certain way linked with increased costs. Apart from the private law options for regulating the relationship of (a) the liability of statutory bodies of companies for (maximum) profit of the company and (b) the CSR concept [10], public procurement law as part of economic law [11] recognises some elements of the CSR concept which may be required from economic operators participating in public procurements in order to obtain a public contract.

Responsible Public Procurement (RPP) can be defined as a process whereby organisations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organisation, but also to society and the economy, whilst minimising damage to the environment [12].

Directive 2014/24/EU on public procurement provides that contracting authorities shall base the award of public contracts on the most economically advantageous tender. The most economically advantageous tender from the point of view of the contracting authority shall be identified on the basis of the price or cost, using a cost-effectiveness approach, such as life-cycle costing in accordance with Article 68, and may include the best price-quality ratio, which shall be assessed on the basis of criteria, including qualitative, environmental and/or social aspects, linked to the subject-matter of the public contract in question. Such criteria may comprise, for instance:

- a) quality, including technical merit, aesthetic and functional characteristics, accessibility, design for all users, social, environmental and innovative characteristics and trading and its conditions;
- b) organisation, qualification and experience of staff assigned to performing the contract, where the quality of the staff assigned can have a significant impact on the level of performance of the contract; or
- c) after-sales service and technical assistance, delivery conditions such as delivery date, delivery process and delivery period or period of completion.

The cost element may also take the form of a fixed price or cost on the basis of which economic operators will compete on quality criteria only. Member States may provide that contracting authorities may not use price only or cost only as the sole award criterion or restrict their use to certain categories of contracting authorities or certain types of contracts.

The contracting authority shall specify, in the procurement documents, the relative weighting which it gives to each of the criteria chosen to determine the most economically advantageous tender, except where this is identified on the basis of price alone [13].

### 4. CSR and RPP in praxis

As specific options for implementing CSR through RPP can be identified the following socio-economic instruments (opportunities) [14]:

- 1) employment of people disadvantaged in the labour market including those with a criminal background
- 2) support of education, practice and retraining
- 3) decent working conditions
- 4) promoting the participation of social enterprises in public procurement
- 5) promoting SME participation in public procurement
- 6) benefits for the local economy or community
- 7) ethical purchase
- 8) fair trade conditions in the supply chain
- 9) environmentally friendly solutions, including circular public procurement

#### 4.1 Example from Austria

Case C-448/01 - The defendant (EVN AG and Wienstrom GmbH) in the main proceedings invited tenders by way of an open procedure for the award of a public contract for the supply of electricity. The contract to be awarded consisted of a framework contract followed by individual contracts for the supply of electricity to all the Federal Republic's administrative offices in the Land of Kärnten (Carinthia). The invitation to tender included the following provision under the heading „Award criteria”:

“The economically most advantageous tender according to the following criteria: impact of the services on the environment in accordance with the contract documents.”

The subject - matter of the case was the admissibility of including non-economic aspects among the criteria for evaluating tenders in an electricity purchase contract and acquisition of electricity from renewable sources as a partial evaluation criterion.

The Court of Justice in the judgment held that the Community legislation on public procurement does not preclude a contracting authority from applying, in the context of the assessment of the most economically advantageous tender for a contract for the supply of electricity, an award criterion with a weighting of 45% which requires that the electricity supplied be produced from renewable energy sources - however, the evaluation criteria must be directly related to the subject of the public contract, not to the candidate's capabilities or capacity. The fact that that criterion does not necessarily serve to achieve the objective pursued is irrelevant in that regard [15].

CSR & RPP conclusion of the case is that the contracting authority is entitled to define and evaluate non-economic

aspects (e.g. electricity produced from renewable energy sources) among the criteria for evaluating tenders submitted by economic operators (business companies) in procurement procedures.

#### 4.2 Example from Czechia

An example from the city of Prague (Prague 2 district) may be appropriate good practise study for demonstration of employment of people disadvantaged in the labour market including those with a criminal background.

As a contracting authority, Prague 2 district is asking for the cleaning service of public areas. Current contractor, based on a contract resulting from the regular tendering procedure, is a commercial company (Komwag, a.s.), that involves persons serving a custodial sentence in the performance of public areas cleaning services (including seasonal maintenance of greenery) since the beginning of 2017 - in particular, those convicted persons whose profile and wrongdoing in certain circumstances do not constitute a restriction for part-time outside presence for the purpose of work. These persons so perform field cleaning, greenery maintenance or work in waste sorting.

Although no specific condition or requirement of the contracting authority was applied in the procurement procedure, the implementation of this CSR instrument was achieved by contract management between the contracting authority and the contractor.

According to the contracting authority, under current conditions, the employment of prisoners does not imply any immediate economic benefit or special savings - lower labour costs are complemented by additional costs related to the employment of prisoners. On the other hand, it does not cause any increase in costs in relation to working with this specific target group. Several prisoners even obtained a job offer from the contractor after serving their sentence, and in neither case was the case of recidivism and the employee's return to prison [16].

CSR & RPP conclusion of the case is that the socially responsible aspects can be applied not only as conditions in the public procurement procedure, but can also be implemented in the post-procurement phase, in the form of contract management as fair and accommodating relations between the contracting authority and the supplier.

#### 4.3 Example from Slovakia

Recently, the Office for Public Procurement (based in the city of Bratislava - SK) purposely used RPP instruments to apply the CSR concept for model procurement and purchase of electro-car.

The Office for Public Procurement (PPO) is central state body for public procurement in Slovakia and model procurement and purchase of e-car was the performance of the task adopted by the Government and at the same time, the challenge and the opportunity of using green public procurement aspects (or environmentally friendly

solutions) directly when purchasing a vehicle for the needs of the PPO, while also being an inspiration for other contracting authorities in this way.

In order to ensure the wide-ranging knowledge relevant to the procurement of an e-car (as an environmentally friendly solution), the PPO, as the contracting authority, carried out preliminary market consultations laid down by Article 40 of the Directive 2014/24/EU on public procurement. Environmental requirements have been transformed into questions relating to emissions, propulsion, energy sources used to manufacture the battery, energy sources used to produce the electric car itself, questions concerning the disposal and recycling of batteries, battery disposal and recycling, etc. All involved suppliers could clearly declare the issue of 100% electric propulsion and zero direct CO<sub>2</sub> emissions on environmental parameters. However, there were no clear and demonstrable answers to all the questions. In this area, there seems to be a room for EU guideline to develop a uniform system and methodology of calculation and demonstration for these parameters.

Based on the needs of PPO, the evaluation criteria included five - price, consumption, combined range (both according to the new WLTP methodology), luggage space and car equipment as additional criterion. For the evaluation of the proposals, an absolute value formula with linear point allocation was proposed for this case [17].

CSR & RPP conclusion was the acquisition of an e-car, when potential suppliers (automotive companies) were required to take into account environmental parameters all over the purchase process and these parameters were also used to select the winning supplier. However, a room for (EU) guideline on standardisation and methodology was exposed.

#### 5. Conclusions

Both, governments and companies take responsibility to ensure compliance with obligations (legal and moral) in the fields of environmental, social and labour requirements that apply at the place where the works are executed or the services provided. Whereas for business companies that are primarily driven by maximizing profitability, it is not always easy to require compliance with the CSR concept, RPPs seem to be a suitable means of increasing the presence of CSR in the business environment. The legal acts of the European Community allows such procedures and practical examples from Central Europe (Austria, Slovakia, Czechia) demonstrate their application on a practical level. However, a room for further guideline or standardisation is present.

#### References

[1] This article has been prepared under project APVV-17-0641: Enhancing effectivity of Public Procurement Law and its Application in the Context of European Union Law (Slovak: Zefektívnenie právnej úpravy verejného

obstarávaní a jej aplikácie v kontexte práva Európskej únie).

[2] Recital 37 of the Directive 2014/24/EU on public procurement

[3] Recital 2 of the Directive 2014/24/EU on public procurement

[4] Piketty T., *Capital in the twenty-first century*, Cambridge, Massachusetts London, England, The Belknap Press of Harvard University Press, 2014, p. 435.

[5] Kováčiková H., Blažo O., *Entrepreneurs' legal responsibility for Human Rights observance in globalized business world*. Globalization and its socio-economic consequences [electronic document]: proceedings. 1. ed. Žilina: University of Žilina, 2018. [online], p. 214.

[6] WBCSD (World Business Council for Sustainable Development) *Stakeholder Dialogue on CSR*, The Netherlands, Sept 6-8, 1998 [online] <https://growthorienteedsustainableentrepreneurship.files.wordpress.com/2016/07/csr-wbcd-csr-primer.pdf>

[7] As an alternative term to Corporate Social Responsibility, the OECD introduced the term Responsible Business Conduct (RBC) and defined RBC as (a) making a positive contribution to economic, environmental and social progress with a view to achieving sustainable development and (b) avoiding and addressing adverse impacts related to an enterprise's direct and indirect operations, products or services. *OECD Guidelines for Multinational Enterprises* [online] <https://www.oecd.org/daf/inv/mne/48004323.pdf>

[8] *GREEN PAPER: Promoting a European framework for Corporate Social Responsibility* [online] <https://ec.europa.eu/transparency/regdoc/?fuseaction=list&coteId=1&ear=2001&number=366&language=en>

*Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of The Regions A renewed EU strategy 2011-14 for Corporate Social Responsibility* [online] <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52011DC0681>

*Commission Staff Working document - Corporate Social Responsibility, Responsible Business Conduct, and Business and Human Rights: Overview of Progress* [online] <https://ec.europa.eu/docsroom/documents/34482>

[9] Šmida E., Hrdinová G., Sakál P., *Prerequisites for building a socially responsible business as part of a sustainable society in the sense of the concept of sustainable development*. Transfer inovácií. No. 21/2011, pp. 198 – 199.

[10] more in: Lukáčka P., *Category of Liability and Responsible Entrepreneurship in the Slovak Republic in the Context of Exercise of Duties of Limited Liability Company's Directors*, Wolters Kluwer SR, Bratislava, 2019, pp. 33-45

[11] In the Slovak Republic sets the legal basis for the application of the CSR concept (in public procurement) the Constitution of the Slovak Republic in Article 55 (1), which provides that “The economy in the Slovak Republic shall be based on the principles of a socially and ecologically orientated market economy”.

[12] This definition was specified by UK's Sustainable Procurement Task Force in 2006 (SPTF was jointly funded by the Department for the Environment, Food and Rural Affairs). The definition was adopted by Marrakech Task Force on Sustainable Public Procurement (MTF on SPP), which is an international initiative to promote sustainable public procurement in developing and developed countries. It was launched by the government of Switzerland in 2005, as one of seven Task Forces under the Marrakech Process on Sustainable Consumption and Production, which is led by the United Nations Environment Programme (UNEP) and the United Nations Department of Economic and Social Affairs (UNDESA). <http://sustainableprocurement.eu.com/documents/MTFonSPPReportCSD19FINAL.pdf>

[13] Article 67 (1) (2) (5) of the Directive 2014/24/EU on public procurement

[14] Novák D., Gergelová Šteigrová L., Dobrovodská M., Ingerová P., Chvaiková E., Janečková M., Hulmanová R., Matysíková M., Látalová H., Gromnica A., Kůrková G., Kocián P., Prokš J., Kvašňáková I., *Responsible Public Procurement – guideline*, The Ministry of Labour and Social Affairs (CZ), 2. Ed., Prague, 2019, pp. 7-8

[15] Case C-448/01 (ECLI:EU:C:2003:651) <http://curia.europa.eu/juris/document/document.jsf?jsessionid=50DCA95D91CCBE19242B82C4B1E2572A?text=&docid=48779&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=6589299>

[16] Novák D., Gergelová Šteigrová L., Dobrovodská M., Ingerová P., Chvaiková E., Janečková M., Hulmanová R., Matysíková M., Látalová H., Gromnica A., Kůrková G., Kocián P., Prokš J., Kvašňáková I., *Responsible Public Procurement – guideline*, The Ministry of Labour and Social Affairs (CZ), 2. Ed., Prague, 2019, pp. 71-72

[17] The Office for Public Procurement - Public Procurement Institute, *How we procured the electromobile*, The Office for Public Procurement - Public Procurement Institute (SK), Bratislava, 2019

## OPTIMAL LEGISLATION OF PROCUREMENT OF CONTRACTS IN WHICH THE ESTIMATED VALUE IS BELOW THE FINANCIAL LIMITS DEFINED BY THE SECONDARY LAW OF THE EUROPEAN UNION

Zuzana Kršjaková

**Comenius University in Bratislava**  
Šafárikovo námestie  
Bratislava, 810 00, Slovak republic  
0917 841 715  
zuzana.krsjak@gmail.com

**Abstract:** *This paper deals with definition of scope of the Directive 2014/24/EU of the European Parliament and Council on public procurement from the point of view of financial limits and estimated value of the contract. The author examines the possibilities of legislation in case of contracts that do not fall within the scope of the Directive in terms of defined financial limits. The author thoroughly looks into legislation of the Slovak Republic and attempts to find an answer whether this legislation is optimal or not. Legislation in other Member States of the European Union dealing with this group of contracts is also discussed here. Afterwards, the author attempts to propose optimal legislation for procurement of contracts with the estimated value below the financial limits defined by the Directive.*

**Keywords:** *public procurement, low-value contracts, contracts below the limit, financial limits, principles of public procurement*

### 1. Introduction

Pursuant to the Treaty on the Functioning of the European Union, the Member States are obligated to respect the exclusive competence of the European Union in the field of definition of competition rules required for the functioning Internal Market.

In order to define individual rules of competition in public contracts, i.e. to define individual rules and procedures in public procurement, the Directive 2014/24/EU of the European Parliament and Council was issued on 26 February 2014 (hereinafter referred to as “Directive”). This Directive defines individual rules which the Member States are obligated to follow by contracts falling into the scope of the Directive. The Directive also includes definition of cases when it is not to be applied. One of such cases when the Directive is not to be applied are contracts below the limits defined by the Directive. These contracts and their procurement are in the competence of each Member State, although it is necessary to comply with minimal rules.

In the following parts of this paper the author will deal with definition of individual financial limits and definition of minimal rules which the Member States are obligated to adhere to. Next, the author will examine legislation of the Slovak Republic and provide a summary of legislation of contracts below the limit in selected Member States. In the conclusion the author will provide a recommendation on optimal legislation for this group of contracts.

### 2. Financial limits and rules defined by the Directive

Pursuant to Article 2 of the Directive, public contracts are paid contracts concluded in writing between one or more economic operators and one or more procuring authorities. The subject of these contracts is realisation of construction works, delivery of goods or provision of services [1]. Those can be contracts for realisation of construction

works, delivery of goods or provision of services, and contracts for provision of social or other specific services which are defined in Annex XIV of the Directive. The Directive also defines which contracts are not included in its scope and which are left for national legislation of the Member States. One of such groups are contracts below the defined limits.

#### 2.1 Financial limits and the amount of financial limits

The financial limits defined by the Directive are also based on the Agreement of the World Trade Organization (hereinafter referred to as “WTO”) on government procurement (hereinafter referred to as “GPA”). The GPA obliges the countries that agreed to it to make their markets accessible and enable the economic operators from these countries mutual access to public procurement. At the same time, the GPA defines joint and non-discriminatory rules. Last but not least, the GPA also defines financial limits for contracts by which the GPA application is mandatory. The European Union approved the GPA, and the financial limits defined by the Directive are based on the GPA.

The financial limits are revalued once per two years in the context of their adherence to the limits defined by the GPA. If necessary, they are altered accordingly. However, this change is a mathematic operation only based on the formula, or more precisely on the method of calculation defined by the GPA. Pursuant to Article 6 of the Directive, in accordance with the calculation method the European Commission’s calculation of the amount of these financial limits is based on the average daily value of Euro articulated in special draw rights for the period of 24 months which ends on 31 August of the previous revision with effect from 1 January. The revised financial limits shall be rounded down, if necessary, to the nearest thousand euro in order to make sure that the valid financial

limits defined in the GPA and articulated in special draw rules will be adhered to [2].

The financial limit for public contracts for realisation of construction works is set to 5.548.000,-- €. The financial limit for public contracts on delivery of goods and provision of services, if the contract is awarded by a central body of public administration, is set to 144.000,-- € while in the case of contracts in the field of defence and security the limit for delivery of goods defined in Annex 3 of the Directive is to be applied. The finance limit for awarding of contracts for delivery of goods or provision of services on a lower level, i.e. not directly by central bodies of public administration, is set to 221.000,-- €. And finally, the financial limit for public contracts for provision of social and other specific services listed in Annex XIV of the Directive is set to 750.000,-- € [3].

In connection with the definition of amount of financial limits there is a salient matter of definition of the estimated contract value which has to be defined pursuant to the Directive and its goal must not be to divide the contract below the defined financial limit.

## **2.2 Rules of the primary law of the European Union related to the contracts below the defined financial limits**

The process of contracts awarding by the bodies of Member States or on their behalf has to be in accordance with rules of the Treaty on the Functioning of the European Union, in particular in accordance with rules of free movement of goods, freedom, freedom of establishment, and freedom of services, as well as with rules which they are based on (equal treatment, non-discrimination, mutual recognition, proportionality and transparency) [4]. In accordance with what was stated above in connection with awarding contracts that are below the limits defined by the Directive, the secondary law of the European Union is not related to awarding these contracts. However, the primary law of the European Union is related to awarding these contracts, i.e. the Treaty on the Functioning of the European Union. In regard of the issue of rules for awarding contracts below the threshold of the Directives of the European Union, the Court of Justice of the European Union prepared quite a robust law dedicated to rules the Member States are also obligated to adhere to in cases of contracts with estimated value below the limits defined by the Directive.

In general, the Court of Justice of the European Union concluded that, by awarding contracts, the public bodies are generally obligated to adhere to basic rules of the Treaty on the Functioning of the European Union and specifically rule of prohibition of discrimination on the basis of nationality. Especially in cases when the public contract demonstrates a certain cross-border interest, awarding the contract to an economic operator based in the member state of the procuring authority without any transparency presents a difference in treatment to the detriment of economic operators based in other Member

States which might be interested in this contract. Such difference in treatment, which by exclusion of all economic operators based in other Member States causes a detriment especially to these economic operators, presents, without an objective justification, an indirect discrimination on the basis of nationality which is forbidden pursuant to the Treaty on the Functioning of the European Union [5]. This opinion is also presented in the judgements of the Court of Justice of the European Union, for instance in C-213/03 Coname, C-147/06 and C-148/06 SECAP and Santorso, C-221/112 Belgacom, C-113/13 Anzienda sanitaria locale n. 5 „Spezzino“ and C-278\*14 SC Enterprise Focused Solution SRL.

The European Commission, summarizing the case law of the Court of Justice, issued explanatory statement 2006/C 179/02. From the above mentioned case law of the Court of Justice it is possible to conclude that in case of contracts below the threshold of the Directives and which nature is of cross-border importance are the procuring authorities obligated to adhere to basic rules of the Treaty on the Functioning of the European Union, and in particular, rule of prohibition of discrimination on the basis of nationality. In such cases it is necessary according to the above mentioned case law of the Court of Justice of the European Union to effectively publish the intention to conclude a contract. The standards of the Treaty on the European Communities are only applied to awarding contracts which are sufficiently related to the functioning of the Internal Market. For instance, in case of negligible economic significance of awarded contracts these would be of no importance for the Internal Market, the impact on liberties protected by the Treaty on the Functioning of the European Union are more random and indirect and therefore it is not necessary to apply rules of the Treaty on the Functioning of the European Union. However, the procuring authorities are obligated to review the possibility of a cross-border overlap and the possible interest by cross-border economic operators before awarding the contract. At the same time, they must do so with regard to specific circumstances of the respective case. Then, by contracts which do not reach the threshold value for application of Directives on public procurement the fact that pursuant to the case law of the Court of Justice of the European Union individuals have the right for effective judicial protection of rights which follows from the law of the Community has to be taken into account. The right to this protection is one of the general legal principles and it is based on the constitutional traditions which the Member States have in common. If there are no respective provisions of the Community, the Member States themselves have to set the necessary rules and procedures to provide effective judicial protection [6].

## **3. Legislation of contracts below the limit in selected Member States**

In the Slovak Republic, public procurement legislation is centrally regulated by Act No. 343/2015 Coll. of Laws on public procurement (hereinafter referred to as „Public Procurement Act“). The central body of public

administration of the Slovak Republic that is responsible for public procurement, as well as possible supervision over adherence to its regulation, is the Office for Public Procurement.

In the Public Procurement Act, contracts are divided from the point of view of limits into contracts above the limit where contracts are fully regulated by the Directive and all rights and obligations are defined by the Directive are preserved. Furthermore, the Public Procurement Act defines a group of contracts below the limit, low-value contracts, and contracts of limited scope. Contracts of limited scope are contracts which value is lower than 5.000,- € within the entire calendar year. Due to their small value, the Public Procurement Act does not apply to them. Despite that, the procuring authority is obligated to submit quarterly summary reports in case of contracts with negotiated price of 1.000,- € and more. These reports are to be issued so that it can be checked whether there has not been a case of superficial division of contracts in order to avoid the obligations following from the Public Procurement Act.

Low-value contracts are the other group of contracts . Their value starts at 5.000,- €. In case of contracts for delivery of goods and provision of services the upper finance limit for low-value contracts is 70.000,- €. By contracts for realisation of construction work awarded by a procuring authority the upper finance limit for low-value contracts is 180.000,- €. In case of contracts for provision of social services and services pursuant to Annex XIV of the Directive (Annex 1 of the Public Procurement Act) the low-value contracts are determined by the amount of 260.000,- €. By low-value contracts, the procuring authorities are obligated to take steps to ensure economical usage of funds for the subject of contract. If the procuring authority invited more economic operators to offer their proposals in order to award a contract, the procuring authority is obligated to ensure following the principles of equal treatment and non-discrimination. The procuring authority is obligated to adhere to the principle of transparency, and document the entire process of public procurement, so that the taken steps can be reviewed without regard to the used tools of communication. Moreover, the procuring authority is obligated to take an action to prevent conflict of interest.

The so called contracts below the limit which are legislatively treated similarly like the contracts above the limit are among the upper limits for low-value contracts and contracts above the limit to which the provision of the Directive applies to, pursuant to the Public Procurement Act, . From this follows that there are defined precise procedures and individual steps for contracts below the limit, as defined in the Public Procurement Act, , as well as in the Directive. The procedures for contracts below the limit are similar to the procedures for contracts above the limit, however, they are simplified and their time limits are shorter.

After examining legislation of other Member States it is necessary to note that there is a group of states which have defined national limit like the Slovak Republic. This means that their national legislative and public procurement will not be applied at all. For example Poland, Hungary, Finland, Greece, and Bulgaria are among these countries. On the other hand, there are countries which do carry out public procurement or they have defined rules for procurement for any price – even the lowest price. Examples of such countries are Malta or Ireland.

In all countries of the European Union there are also rules defined for procurement of contracts below the limit defined by the Directives.

#### **4. Optimal legislation**

In the context of the identified facts as well as due to the listed case law of the Court of Justice of the European Union, legislation which provides the scope for the Member States to define their own limits that oblige the procuring authorities to apply rules defined by national legislation appears to be optimal. Despite the possibility of prolonging the public procurement procedure, listed legislation is optimal from the point of view of the obligation to act in accordance with the primary law of the European Union. Although the Directive does not relate to the listed contracts, the Member States are obligated to ensure that by awarding these contracts the primary law of the European Union is adhered to. The simplest and most effective way to ensure the adherence of the obligation by a Member State is to subject the listed contracts to separate legislation and thus determine possible violations of the primary law.

Despite fixed rules, the ultimate responsibility lies with the contracting authority which should always be obligated to evaluate possible cross-border interests related to a specific contract. This obligation should be firmly anchored in legislation of the Member States.

Last but not least, it is important to note that definition of national rules of each Member State in the case of contracts below the limit also serves their internal control and possible interference of the state by the usage of its funds. At the same time, more detailed definition of individual rules and procedures for these contracts seems probably more appropriate, as leaving the regulation in the hands of the procuring authorities and only defining the obligation to adhere to the principles of public procurement could lead to their violation, should these principles not be understood properly.

However, a precise definition of rules in procurement and of possible procedures, is not the only option.. The Member States can also choose the path of centralised purchases. Centralised purchases are used, for instance, in Sweden or Malta.

Outside of firm definition of rules, it is also necessary to professionalize the process of public procurement. Optimally, the obligation of a guaranteed expert in public procurement should be implemented. This expert would guarantee meeting the goal, i.e. abide rules also without a precise definition of steps to be taken directly in a normative regulation. The contracting authorities in Ireland have in case of contracts for realisation of construction works the obligation to consult the respective public administration body about these contracts before issuing the contract notice.

It is also important to note the option of full digitalisation of the process by these contracts, as well as establishing of a digital system which would enable to preserve a cross-border interest, as well as other rules of the Treaty on the Functioning of the European Union. The concept of mandatory publishing of contracts before conclusion of the contract itself appears to be basic, as it is the case in England, for instance.

## 5. Conclusion

Contracts, which considering their estimated value are not subject to the Directive and the secondary law of the European Union, are contracts which are not contracts of low value and which can be of importance for the Internal Market of the European Union. At the same time, it is in accordance with the Treaty on the Functioning of the European Union that individual Member States implement effective rules which ensure equal rights for economic operators from all Member States. With regard to this, as effective appears to be such legislation where a Member State sets rules similar to those defined in the Directive for the mentioned contracts.

It is certainly not desirable to be left on wilfulness of procuring authorities for the listed contracts, and if so, then together with definition of responsibility relations. In such case, as well as when effective legislation is implemented, it is necessary to pay attention to professionalization of public procurement, as well as to promote digitalisation as this is the best tool for 100% transparency in public procurement.

## 6. References

- [1] <https://eur-lex.europa.eu/legal-content/SK/TXT/?uri=CELEX:32014L0024>
- [2] <https://eur-lex.europa.eu/legal-content/SK/TXT/?uri=CELEX:32014L0024>
- [3] <https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2018/118/20180420>
- [4] <https://eur-lex.europa.eu/legal-content/SK/TXT/?uri=CELEX%3A12012E%2FTXT>
- [5] <http://curia.europa.eu/juris/document/document.jsf?text=&docid=67795&pageIndex=0&doclang=SK&mode=lst&dir=&occ=first&part=1&cid=6093855>
- [6] <https://eur-lex.europa.eu/legal-content/FR/TXT/?uri=CELEX%3A52006XC0801%2801%29>



## ECONOMIC AND LEGAL PERCEPTION OF CORPORATE INDEBTEDNESS IN SLOVAKIA AND ITS IMPACT ON THE FINANCIAL STABILITY OF THE BUSINESS ENVIRONMENT <sup>[1]</sup>

Zdenka Lukáčková - Matej Smalik

Comenius University in Bratislava, Faculty of law  
Šafárikovo námestie 6  
Bratislava, 810 00, Slovenská republika / Slovak republic  
zdenka.lukackova@flaw.uniba.sk - matej.smalik@flaw.uniba.sk

**Abstract:** *The paper focuses on the analysis of indebtedness and structure of corporate financing in the Slovak Republic in comparison with other EU countries. The authors further examine the impact of increased corporate indebtedness [2] on their financial stability and the fulfillment of their obligations in commercial obligations. The term and concept of indebtedness is examined both from an economic as well as from the legal point of view.*

**Keywords:** *corporation, indebtedness, sources of corporate financing, liability of the statutory body.*

### 1. Introduction

During dynamic and competitive market conditions, each corporation is exposed to greater or lesser risk. No corporation has the guarantee that its business will continue to run constantly and that its products or services will always be in demand and that due to fluctuations in demand, it will not be necessary to change the amounts of goods produced, or to amend the funding structure, solve the redundancy of its employees or to even leave the market. The most serious consequence of underestimation of such risk is the bankruptcy of the corporation, which has negative consequences not only for the corporation but also for its employees, other enterprises, the state and the society. [3]

Recently, we have seen an acceleration in the growth of final household consumption, which is, among other things, a reason for household indebtedness. In recent times, in addition to the high level of household indebtedness, we have also seen a high rate of indebtedness of corporations in Slovakia compared to other EU countries. Studies suggest a slowdown in the economic growth and the emergence of the financial crisis. We shall not forget to mention that the 2008 crisis has not been finally resolved, but rather covered by issuance of money into the market circulation. High level of indebtedness combined with the poor economic situation of the corporation represents the biggest risk for the bankruptcy of the corporation.

We know from history that the best time to push for deeper reforms is the period following the economic crisis, which has revealed the shortcomings of the existing institutional framework and its functioning. From this perspective, we are now at a time when one of the main objectives of the reforms and the objective of the new institutional architecture should be greater and more sustainable economic and social convergence and deeper integration between EU Member States. [4] In this context, the Slovak Republic is also trying to catch up with the most developed EU countries in the area of improving the quality of the

business environment in the context of responsible entrepreneurship.

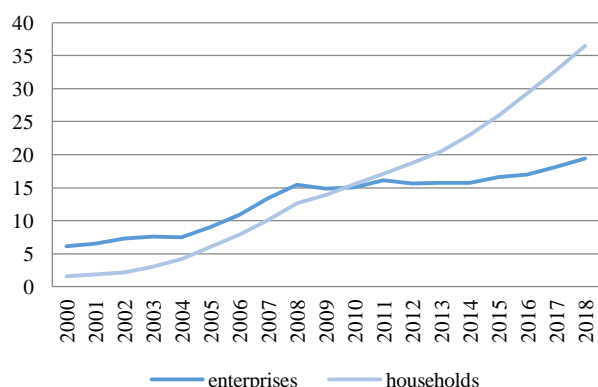
### 2. Indebtedness of the corporations from the economic point of view

Indebtedness is an economic term that reflects the fact that the corporation uses leverage (borrowed money) to finance its assets. [5] The indebtedness indicator is used to express the level of indebtedness, which expresses the ratio of total debts (leverage) to total net assets (assets). [6] The indebtedness of the company makes it difficult to obtain additional leverage capital. In general, the more leverage the corporation has, the lower is its creditworthiness.

The most widespread source of business financing in Slovakia are the bank loans as one of the types of "debt" financing. In addition to loans provided by the banks operating on the Slovak financial market, corporations also largely borrow from abroad, where companies draw more than 36% of their total loans. [7] To a lesser extent, companies resort to their own sources of funding, as such funding is too costly and time consuming for the enterprise. The financing of the company from its own resources may lead to a loss of influence on the management of the company by the accession of the new shareholders or lead to a change in the ratio between the shares of individual shareholders due to the increase of the share capital only by some shareholders. [8]

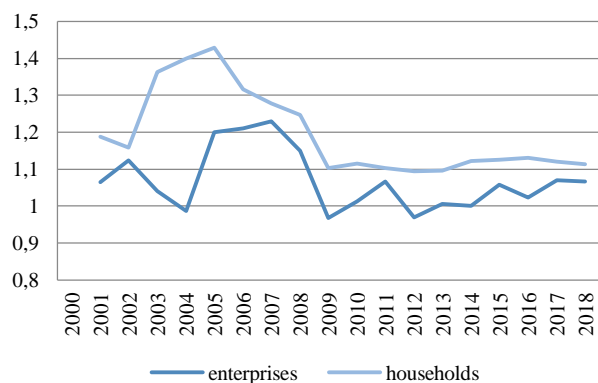
Loan activity in the corporate sector in Slovakia is much lower than that of households, but the growth rate of corporate debt is significant. Until recently, the problem was that loans to non-financial corporations have not increased since the last crisis and credit activity has frozen at the 2008 level. However, in recent years there has been a turning point and since mid-2015 the loans to non-financial corporations have expanded even more dynamically than the loans to households.

Diagram 1: Loan activity of non-financial corporations and households in Slovakia (billions of euros)



Source: personal processing according to NBS financial accounts statistics

Diagram 2: Growth rate of loan activity



Source: personal processing according to NBS financial accounts statistics

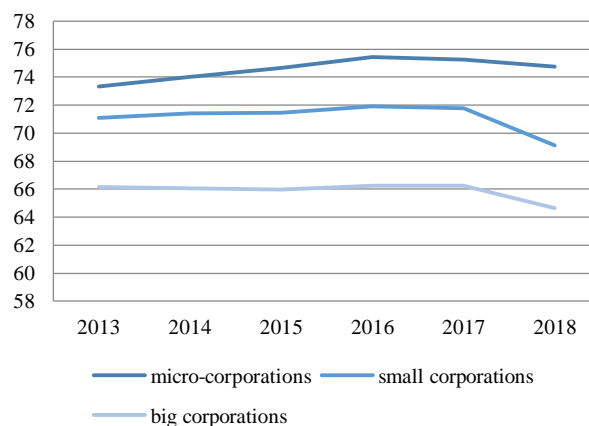
Increasing the lending activity of the corporations and the households does not present such a high risk at present, as for the fact that the period of high economic growth continues to prevail. The demand for corporate loans continues to be shaped by a period of strong economic expansion, optimism in the corporate sector and low interest rates, but excessive debt increases the likelihood of financial crises, exacerbates its consequences and reduces the potential for further economic growth.

Based on Diagram 3, we observe an upward trend in leverage capital on assets since 2013, when Slovak utilities started issuing debt securities on a large scale. The overall debt ratio is highest for micro-corporations [9] and lowest for large corporation, as for the fact that the large corporations have bigger scope for the tax optimization and thus the larger share of their own funds.

During the last period we can observe a decrease in the indebtedness of Slovak companies, which is caused by stricter measures on the credit market by the National

Bank of Slovakia and by stricter legislation in the area of requirements for responsible entrepreneurship (company in crisis, ban on repayment of deposits into the corporation). Recently, large corporations are transferring the cost and efficiency problems to micro, small and medium-sized subcontracting corporations, which is advantageous for the large enterprises in terms of sales, but micro, small and medium-sized corporations are pushed to reduce costs (prices), affecting their profitability and sustainability on the market.

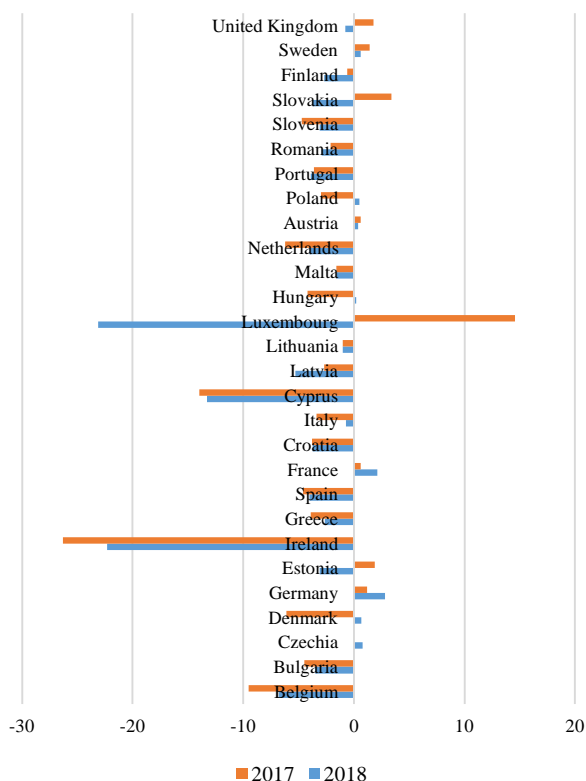
Diagram 3: Median indicator of total indebtedness of enterprises in Slovakia



Source: personal processing according to FinStat

Within the international comparison we came to the following conclusions. As shown in Diagram 4, the growth rate of indebtedness of the domestic business sector in 2017 compared to 2016, as measured by the total indebtedness of non-financial corporations to GDP, remains one of the highest in the EU. Only Luxembourg had a higher ratio of foreign capital (leverage) to assets. More favorable development in the rate of indebtedness of enterprises in Slovakia can be seen in 2018, when the rate of indebtedness of enterprises decreased in 2018 compared to 2017. A similar development is observed in the countries of Central and Eastern Europe as well as in the whole EU. This declining rate of corporate debt is due to the introduction of regulatory measures on the Slovak credit market by the National Bank of Slovakia, as well as the ever-increasing rate of GDP growth in Slovakia.

Diagram 4: Growth rate of total debt of non-financial corporations in the EU (% of GDP)



Source: personal processing according to Eurostat

### 3. Indebtedness of the corporations from the legal point of view

On the one hand, In the context of the abovementioned, the concept of indebtedness is primarily a term used by economics and is not a term legally defined by law. On the other hand, it is necessary that the field of economics and law are not understood separately, but on the contrary, we consider that economics and the law shall necessarily be applied in the field of business in mutual symbiosis and complementarity. In this sense, the concept of indebtedness in law is identified especially in the context when the enterprise efforts to proceed with recovery procedures (a company in crisis §67a et seq. Of Act No. 513/1991 Coll., Commercial Code, as amended). Such recovery procedures intend to release the company from the financial problems, or such procedures lead to filing the petition for bankruptcy pursuant to Act no. 7/2005 Coll. on Bankruptcy and Restructuring and on the amendment of certain acts, as amended, hereinafter referred to as “ZRC”). In a sense, both afore mentioned unfavorable conditions of the company are strongly linked to the excessive indebtedness of the companies.

Under current legislation, a company is in crisis if it is in bankruptcy or threatens to fall into the bankruptcy. The Company is in the vicinity of the bankruptcy if the ratio of equity to its liabilities is less than 8 to 100. The term

'bankruptcy' is defined in Paragraph 3 of the ZRC, according to which a debtor is insolvent if it is insolvent or over-indebted.

A legal entity is insolvent if it is unable to fulfill at least two monetary obligations to more than one creditor within 30 days after the due date. All receivables that initially belonged to only one creditor during the 90 days prior to the filing of the insolvency proceedings are considered as one receivable in assessing the debtor's solvency.

Over-indebted person is the entity that is obliged to keep the accounting according to the special regulation, has more than one creditor and the value of its liabilities exceeds the value of its assets. The determination of the value of liabilities and the value of assets is based on the accounting or the value determined by an expert opinion, which takes precedence over the accounting and also takes into account the expected results of further management of the assets or expected results of further business operation, if it possible to reasonably presume that it will be possible to continue to manage the assets or to operate the business.

The amount of liabilities does not include the amount of liabilities associated with the subordination obligation or the amount of liabilities that would be settled in the bankruptcy in the same order as the subordinated claims. [10] In addition to other significant restrictions and obligations relating to the period during which a company is in crisis (e.g. prohibition of repayment of replacements of own funds; securing of replacements of own funds; prohibition of repayment of deposits, etc.), the legislator introduces a specific duty of the statutory body of the corporation that is in crisis according to the abovementioned criteria. [11] In this sense, a statutory body of the company which has established or, having regard to all circumstances, should have established that a company is in crisis; is obliged to perform the activities to overcome the crisis, which would be performed in a similar situation by another reasonably diligent person in a similar situation in accordance with the requirements of appropriate professional and due care.

It follows from the above mentioned that there is a relatively wide scope for the eventual application of liability relationships towards the statutory bodies of the companies, since the legislator has created a relatively new set of specific duties of those bodies for which the non-compliance, i.e. the failure to "do everything" that a reasonably caring person in a similar position would perform to overcome the crisis would in a similar situation would mean the possible enforcement of liability claims. [12]

Equally problematic, in relation to the high level of corporations' indebtedness, is the bankruptcy of corporations (see above), which we consider to be the most unfavorable state of the company as for the fact that high indebtedness of corporations usually terminates business activities and harms creditors. As for the fact that in the

bankruptcy proceedings (with the exception of the secured creditors) there is not a full satisfaction of the obligations of the bankrupt corporation owed to the business partners of the bankrupt corporation, such proceedings (bankruptcy) shall be considered as negative fact in the business environment and should be prevented, respectively to make every effort to ensure that corporations file their bankruptcy motions in a timely manner, i.e. at the stage when their creditors will be satisfied to the greatest extent possible.

In this respect, the legislator seeks to set the legal framework so that the effective fulfillment of this obligation can be ensured, respectively to enforce and sanction. For this purpose, in the last period, it significantly interfered with this legal framework, when it introduced a contractual penalty for failure to file a timely petition for bankruptcy pursuant to Section 11 subsection 2 of ZRC equal to half of the lowest share capital for a public limited company (currently € 12,500), as well as the introduction of special liability for damage caused by not filing a bankruptcy petition (Section 11a ZRC) as well as criminal liability for failure to file the bankruptcy petition in time (Section 242 par. 1 letter a) of Act no. 300/2005 Coll. Criminal Code, as amended). [13]

In view of the requirement to ensure timely filing of the bankruptcy petition, we consider it necessary to point out that, as shown in Diagram 3, corporate debt is beginning to decline and, as shown in Table 1, the number of companies with negative equity decreases, while the negative value of equity capital constitutes one (but not the only) of the basic conditions for determining the obligation to file a bankruptcy petition pursuant to Section 11 subsection 2 of ZRC in conjunction with section 3 subsection 3 of ZRC. In this sense, we identify the positive trend that we attribute to the adoption of recent legislative changes in the area of commercial law.

*Table 1 Development of the number of companies with negative equity in Slovakia*

Year	Total amount of corporations	Number of corporations with negative equity
2016	158 853	36 404
2017	166 741	35 594
2018	175 622	34 254

Source: personal processing according to FinStat

#### 4. Conclusion

Enterprises (in economic concept), resp. corporations (in legal terms) realize their business activities, especially in the initial period through the leverage financing, which, however, cannot be considered a priori as something negative. On the contrary, leverage financing often makes it possible to carry out the projects that would never have been possible without such a way of funding. The aim of this paper was to point out the development in the area of indebtedness of Slovak entrepreneurs in comparison with

EU countries, which reflects positive trends in the level of indebtedness of businesses in the Slovak Republic in 2018 compared to 2017. Such positive trends are in our opinion the result of the adoption of several legislative changes as well as significantly tightened policy of the NBS. Due to the decreasing value of debt (foreign capital), the number of companies with negative equity is also decreasing, while in 2018 of the total number of companies 19.5% were companies with negative equity, which represents an improvement by 1,85%, when several regulations came into effect, increasing the obligations of corporations in the area of maintaining financial stability.

The opinions of the author Matej Smalik presented in this article may not coincide with the official statements and positions of the National Bank of Slovakia.

#### References

- [1] This paper was elaborated within the framework of the VEGA grant No. 2/0167/19 Real convergence in the European Union: empirical evidence and implications. /VEGA č.2/0167/19 Reálna konvergencia v Európskej únii: empirické dôkazy a implikácie./
- [2] We are using the word enterprise in the economic point of view, the content of which is similar to the term entrepreneur.
- [3] [8] POLÁKOVÁ, Z. – KÚTNA ŽELONKOVÁ, I. – STANEK, D. (2018). Zadlžovanie podnikov v kontexte ostatných zmien Obchodného zákonníka. In Veriteľ v centre pozornosti práva [elektronický dokument]. - : 1. vyd. ISBN 978-80-7160-488-4. - Bratislava : Faculty of law, UK, 2018. - pages 123-128 [online]
- [4] STANEK, D., POLÁKOVÁ, Z.: Globalization and its impact on divergence in the EU with regard to the direction towards trade wars. In. Globalization and its socio-economic consequences [elektronický dokument] : proceedings : 6. - : 1. vyd. ISBN 978-80-8154-249-7. - Žilina : Žilinská univerzita v Žiline, 2018. - S. 2821-2829
- [5] KISLINGEROVÁ, E. a kol. (2004). Manažérske financie. Praha: C.H.BECK. ISBN 80-7179-802-9
- [6] KUPKOVIČ, M. a kol. (1996). Podnikové hospodárstvo. Bratislava: Sprint. ISBN 80-88848-01-6
- [7] National bank of Slovakia. Financial Stability Report 2017. Available at [https://www.nbs.sk/\\_img/Documents/ZAKL\\_NBS/PUBLIK/SFS/protected/SFS\\_112017.pdf](https://www.nbs.sk/_img/Documents/ZAKL_NBS/PUBLIK/SFS/protected/SFS_112017.pdf)
- [9] Enterprises are categorized into size groups according to section 2 subsection 5 of Act no. 431/2002 Coll. on Accounting.
- [10] Definition of the term "bankruptcy" see in: LUKÁČKA, P.: KATEGÓRIA ZODPOVEDNOSTI A ZODPOVEDNÉ PODNIKANIE V PRÁVNOM PROSTREDÍ SLOVENSKEJ REPUBLIKY V KONTEXTE VÝKONU FUNKCIE ŠTATUTÁRNEHO ORGÁNU SPOLOČNOSTI S RUČENÍM OBMEDZENÝM. Bratislava: Wolters Kluwer SR, p. 70-71
- [11] DURAČINSKÁ J. Riadenie spoločnosti v kríze. In Bratislavské právnické fórum 2016: Riadenie a kontrola v obchodných spoločnostiach v kontexte s vývojom v práve EÚ [elektronický zdroj]. Bratislava : Comenius University

in Bratislava, Faculty of law, 2016, p. 5 – 14 [CD-ROM] (Symposiums, colloquiums, conferences).

[12] LUKÁČKA, P.: Spoločnosť v kríze - vybrané aplikačné problémy. In. Míľniky práva v stredoeurópskom priestore 2016 [elektronický zdroj]. - Bratislava : Comenius University in Bratislava, Faculty of law, 2016. p. 270-271 [CD-ROM] (Symposiums, colloquiums, conferences)

[13] See also MAMOJKA, M.: Penalties in the corporate law of the Slovak Republic, New York: Iglobal Writer, 2015, 110 pages, 1. Edition.

## COMPARISON OF CURRENT STATE OF RENEWABLE ENERGY SOURCES AND VISIONS FOR THE NEXT PERIOD OF THE SLOVAK AND CZECH REPUBLIC WITHIN THE FRAME OF ENERGY POLICY (POLICY OF USING RENEWABLE SOURCES OF ENERGY)

*Michal Čičvara*

**University of Prešov**  
**Slovak National Museum - Museum of Ukrainian Culture in Svidnik**  
Centralna Street 258  
089 01 Svidnik  
Slovak republic  
0902 753 730  
michalcicvara1@gmail.com

**Abstract:** In this paper we deal with issue of renewable energy sources. Particularly, we focus on the current state of renewable energy sources in the Slovak and Czech Republic as we are in the final phase of the functioning of the Europe 2020 Strategy. In addition to the above, we also pay attention to the visions and assumptions for the future. On the basis of information mentioned above, the current state of renewable energy sources of European Union Member States will be clearly identifiable.

**Key words:** *renewable energy sources, Slovak Republic, Czech Republic, Europe 2020 Strategy*

### 1. Introduction

The negative impact of conventional energy sources constantly causes environmental degradation, and the use of renewable energy sources is an acceptable option how to stop the process. In this case, we will focus on highlighting the current state of these resources in the Slovak and Czech Republic before the end of the Europe 2020 Strategy's term. Attention will also be given to describing visions and assumptions of stated countries for the next period of time until 2030. During the validity of this not only environmentally important strategy, a number of policy measures have been approved, and on the basis of this contribution, we will be able to assess whether the set objectives have been met and what are the prospects for the next period.

### 2. Current state of renewable energy sources of the Slovak Republic and visions for the future

At the beginning of the paper we will discuss the general state of the European Union in this area. As regards the data highlighted by Eurostat in 2017, the situation has not changed significantly since then. From the sectoral point of view, it is necessary to state that the share of renewable energy sources for the period from 2015 to 2017 in the most of the EU Member States increased, but in the other countries this share changed only minimally, namely by less than 0.3%. An important fact is that 7 Member States including: Austria, Germany, Latvia, Romania, Slovenia, Slovakia and Spain, have significant doubts with regards to the fulfillment of the national targets set within Europe 2020 Strategy. There is some uncertainty about the achievement of the set level of the share of renewable energy sources. Their ability to achieve national binding priorities for 2020 depends mainly on the level of energy demand. In the context of the policy objective set by the European Union, more specifically, becoming a world leader in the field of these, for nature saving sources, they try to ensure full representation of renewable energy

sources from the point of view of Energy Union. The whole thing has a clear explanation. Increase energy security and reduce dependence on conventional energy imports through renewable energy sources. In addition, the importance of gases from these alternative energy sources has increased. A good example is the share of biogas in total gas consumption in Denmark in July 2018, as the level was 18.6%, there was an increase of 50% in comparison with 2017. It shows significant progress. In terms of energy efficiency, throughout the reduction of energy consumption, which is closely connected to achieving a higher level of share of energy obtained from alternative energy sources and intensive integration of renewable energy sources in buildings, particularly in small-capacity renewable sources, considering all of the costs it leads to more effective increasing of energy economy. In addition, alternative energy sources comprise a significant contribution from the point of view of innovation. The European Union has achieved a high degree of success in the field of renewable energy innovation, with the aim of becoming a world leader because the share of innovations of European Union is, in comparison with the other major economies, much higher. Within strengthening the industrial base in favour of renewable energy sources in Europe, the European Commission has ensured the establishment of an industrial forum in relation to clean energy coming from alternative energy sources. Via this forum, there is close cooperation with major players in this sector, and thereby the increase of competitiveness of the European supply chain is ensured. Thanks to renewable energy, a large number of Europeans have found job, because from the point of view of the local level, there are 1.4 million people working in this sector, which helps both, increasing economic growth and employment. According to the latest report oriented to energy prices and costs in Europe, the positive effects on industrial competitiveness are highlighted, because increasing of the energy volume obtained by renewable

sources represents a key factor in the reduction of wholesale energy prices in recent years. Except above mentioned, the level of air pollution is being mitigated, while helping developing countries to gain access to energy that is both clean and more affordable. Reducing costs also constitutes a significant element in increasing of alternative energy consumption by businesses, mainly because business customers make agreements aimed at buying electricity directly from the implementer of the project devoted to renewable energy sources. [2]

The national priority in the field of renewable energy sources in Slovakia is not met. This Member State within its national energy plan, which will be adopted on 31 of December 2019 (this document must be aligned with regulation, which is regarded to Energy Union and also measure concerning climatic area), will announce its investment needs by 2030 for various aspects of the Energy Union, including, of course, the area of alternative sources, energy efficiency, security of supply, climate change mitigation and adaptation. Obviously achieving a renewable energy target will require a significant amount of effort. An important fact is that the financial burden of subsidies in favor of alternative energy sources culminated in revision of the law concerning the issue and resulted in a shift from the production price to the auctions, but the timing and the scope of the auctions are not yet well known. From 2014 to 2020, support of the purchase of smaller equipment producing renewable energy for households is operational. In this area, the aim is to expand their scope, which will stimulate the involvement of low-income households, thereby energy poverty can be reduced. The Slovak Republic is a country belonging to those Member States of the European Union, whose energy intensity of the economy is one of the highest in this European Community. In addition, the European Union faces the huge challenge of moving to a low-carbon economy characterized by a more efficient use of resources and a significant reduction in air pollution. The needs concerning high priority investments aim to support measures ensuring energy efficiency and renewable energy production. [3]

We would like to highlight the fact that increasing of the share of renewable sources in the European Union has risen from 17% in 2016 to 17.5% in 2017, but national values have already evolved differently with large differences in the proportional fulfillment of set priorities of individual Member States. Several countries have already met the 2020 target. In Slovakia, however, the share of renewable sources has varied considerably, as compared to 2015, when the share of alternative sources amounted to 12.9%, a year later it was 12% and in 2017 the value fell to 11.5%. [5]

The level of renewable energy sources decreased mainly due to the low growth of their use in comparison with the growth of final energy consumption. Similarly, an increase in electricity consumption and significant increase in the use of motor fuels have resulted in a dynamic increase in

energy consumption. One of the most important objectives of the Slovak Republic is to ensure energy efficiency, which would reduce energy consumption and consequently save conventional energy sources and reduce the level of greenhouse gas emissions. [10]

As is apparent from the above mentioned, Slovakia is unlikely to reach its national priority, 14% of the share of renewable energy. Within the statistics presented by Eurostat, the country's share of renewable sources has even decreased again, which means that the distance from achieving the national target is still far away. Since 2014, there has also been an increase in total electricity consumption, and other forecasts suggest that the increase will occur again, but the effort of political leaders in Slovakia is to ensure that part of the consumption should be represented also by alternative sources. [7]

From the 2030 targets' point of view, the Slovak Republic will strive to focus more on renewable energy production in a higher amount, which will contribute to the sustainable development of our country, as well as improving the state of the environment. The aim is to develop rules and criteria for their sustainable use for individual renewable sources. Only those renewable resources that clearly demonstrate that they do not cause environmental degradation will be supported. [12]

The recommendation for the Slovak Republic by 2030 is to significantly increase the level of ambition regarding the share of energy obtained by alternative energy sources to the amount of 24%. European Commission also requires further details about specific steps focused on ensuring sustainability of supplies and also the use of biomass in the energy mix, as biomass has a distinct share in the energy mix of the Slovak Republic within the energy mix. We believe that above-mentioned knowledge and recommendations of the European Commission will provide a sufficient picture of the state and visions of renewable energy sources in Slovakia. The next period will show whether we can achieve our goals and visions and learn from our mistakes. [1]

## **2. Current state of renewable energy sources of the Czech Republic and visions for the future**

At the beginning, it's important to state that legislation dedicated to promoting the acquisition of energy from alternative sources was introduced in the Czech Republic in 2005. The two most important supporting measures are guaranteed feed-in tariffs in abbreviation FiT and so-called green bonuses in abbreviation FiP. The functionality of the first mentioned prices depend on long-term contracts concerning purchase of electricity obtained from renewable sources, and on the other hand, an essential element of FiP was to offer a fixed premium above the market price of both electricity and heat. It's worth to mention that in 2010, thanks to acceptable market conditions supported by lowering solar panels prices as well as via generous guaranteed feed-in tariffs FiT in favor of renewable electricity, they helped the Czech Republic

rank fourth in terms of solar photovoltaic market this year. The government later recognized that it was necessary to take corrective action in order to minimize the impact of the development of the FiT support scheme towards electricity end prices. There was also a revision of the Act from 2005 in 2012, where the conditions for the allocation of the above-mentioned FiT support mechanism were more strictly defined, with the fact, that the support was limited to the maximum installed capacity of 100kW, except for small hydro power plants. [8]

From the point of view of assessment of the Czech Republic's 2030 target, there is doubt that this renewable energy priority should be at least 3% more ambitious than the 2018 National Climate and Energy Plan set. This determines the share of alternative sources in the energy mix at the amount of 20.8%. However, it is proposed to increase this share to 23.8%. It is important to note that this increase in the share of renewable energy sources in the energy mix doesn't have to impose an additional burden on that country's public resources. According to the assumptions, increasing of this target to 23.8% would also benefit the modernization of the energy sector as well as strengthening the Czech economy. In particular, energy obtained from solar and wind power plants should be the main contributor for improving the state of energy. Not only the European Commission, but also Ministry of Industry and Trade of the Czech Republic count with this increase of the share level by 2030. There is also presumption that this Member State of the European Union could reach up to 24% of the share of energy acquired from alternative sources in 2030. [6]

It also worth noting the fact, according to which the possibility of achieving a higher share of renewable energy sources through the cooling and heating sector, since in 2017 these resources accounted for 19.7% of gross final energy consumption in this area. It is assumed to increase to 2030, and this year the level should rise to 30%, mainly due to biomass. As far as prices of renewable energy sources are concerned, they are more competitive every year in electricity production, which should result in an increase of the share in terms of consumption. In addition, we can also count with developing energy production thanks to wind power plant, but it is necessary to remove the various administrative barriers that prevent their construction in the Czech Republic. It is necessary to reflect on a given situation, which may even lead to the fulfillment of the set priorities which could not be fulfilled. Transport is another sector where the share of renewable energy sources should be clearly demonstrated, as the aim is to ensure that the number of second-generation biofuel-driven means of transport increases. These are obtained through animal and vegetable fats. [9]

In terms of progress and question of achieving national targets set by 2020 to meet the Europe 2020 Strategy priorities in most areas, the Czech Republic has already reached or is well on track to reach these levels. Specifically, it is about meeting objectives in areas such

as poverty, social exclusion, employment, the share of renewable energy, greenhouse gas emissions and tertiary education. As far as transport infrastructure is concerned, it is still incomplete. Investment in the transport sector as a percentage of GDP decreased by as much as 12% between 2010 and 2015, causing the country to fall below the European Union average. In transport, the biggest problem is road infrastructure, which is constantly facing deficiencies in terms of coverage, quality, standards and carbon issues. Except this, the lack of a complete legal and institutional patronage of the support of renewable energy projects related to energy obtained through renewable sources is a shortcoming. Not only technical but also legal barriers related to the domestic production of alternative sources haven't been solved, namely we talk about the connection to the system and charges. Also, the retroactive changes have caused uncertainty and have increased costs in current and future investments, triggering a negative perception by public opinion. In its final national plan concerning energy and climate sector, which should be adopted by the end of December 2019, the Czech Republic will present an overview of its investment needs by 2030, all in relation to the different dimensions of the Energy Union, including renewable energy, efficiency of supply security and mitigation of climate change impacts. It's necessary that the increased energy intensity associated with poor air quality reflected to a significant increase in priority investments in favor of promoting low-carbon and greener energy production, higher energy efficiency and, last but not least, a number of renewable energy sources. [4]

The Czech Republic continues with the effort to implement the State Energy Policy of May 2015, which is dedicated to supporting the achievement of the renewable energy targets and priorities focused on energy efficiency. Its aim is to achieve an 18% share of renewable energy sources in relation to electricity generation. In addition, the Czech Republic's National Renewable Energy Action Plan, which provides long-term stability and sustainable conditions for the support of energy production from the given sources, is an important strategic document of the Czech Republic in the field of alternative sources. Based on this document, the Czech Republic is expected to reach 15.3% of energy from alternative sources in gross final energy consumption in 2020. Except this data, the National Action Plan for Renewable Energy of the Czech Republic is expected to achieve a 10% share of energy from alternative sources in terms of gross final energy consumption in transport. [11]

Using this knowledge, we create an overview of the current state and visions for the next period of the Czech Republic. By meeting our goals, we can ensure better living conditions.

### 3. Conclusions

In our contribution we focused on familiarization with the current state of renewable energy sources in the Slovak and Czech Republic. We have tried to answer the question



of whether these Member States of the European Union can or have already managed to meet the national targets set by the Europe 2020 Strategy in this area. In addition, we also looked at visions and assumptions for the next decade (until 2030). On the basis of the above, we are able to evaluate the correctness and acceptability of the visions and assumptions, it means whether these countries' future views are real or insufficient. It is necessary to gradually avoid the degradation of the environment, and another aim is to ensure a better life for future generations.

## References

- [1] Európska komisia kritizuje Slovensko za nízky cieľ pre obnoviteľné zdroje [online]. [cit. 2019 – 10 – 22]. Available: <https://euractiv.sk/section/energetika/news/eur-opaska-komisia-kritizuje-slovensko-za-nizky-ciel-pre-obnovitelne-zdroje/>
- [2] EURÓPSKA KOMISIA, 2019. Správa Komisie Európskemu parlamentu, Rade, Európskemu hospodárskemu a sociálnemu výboru a Výboru regiónov. Správa o pokroku v oblasti energie z obnoviteľných zdrojov [online]. [cit. 2019 – 10 – 22]. Available: <https://ec.europa.eu/transparency/regdoc/rep/1/2019/SK/COM-2019-225-F1-SK-MAIN-PART-1.PDF>
- [3] EURÓPSKA KOMISIA, 2019. Pracovný dokument útvarov komisie. Správa o Slovensku 2019. Sprievodný dokument. Oznámenie Komisie Európskemu parlamentu, Európskej rade, Rade, Európskej centrálnej banke a Euroskupine. ZNÁMENIE KOMISIE EURÓPSKEMU PARLAMENTU, EURÓPSKEJ RADE, RADE, EURÓPSKEJ CENTRÁLNEJ BANKE A EUROSKUPINE Európsky semester 2019: Hodnotenie pokroku dosiahnutého pri vykonávaní štrukturálnych reforiem, pri prevencii a náprave makroekonomických nerovnováh a výsledky hĺbkových preskúmaní na základe nariadenia (EÚ) č. 1176/2011 [online]. [cit. 2019 – 10 – 22]. Available: [https://ec.europa.eu/info/sites/info/files/file\\_import/2019-european-semester-country-report-slovakia\\_sk.pdf](https://ec.europa.eu/info/sites/info/files/file_import/2019-european-semester-country-report-slovakia_sk.pdf)
- [4] EVROPSKÁ KOMISE, 2019. Pracovní dokument útvarů Komise. Zpráva o České republice 2019. Průvodní dokument k sdělení Evropskému parlamentu, Evropské radě, Radě, Evropské centrální bance a Euroskupině. Evropský semester 2019: Posouzení pokroku ve štrukturálních reformách a v předcházení a nápravě makroekonomické nerovnováhy a výsledky hloubkových přezkumů štrukturálních reforem podle nařízení (EU) č. 1176/2011 [online]. [cit. 2019 – 10 – 22]. Available: [https://ec.europa.eu/info/sites/info/files/file\\_import/2019-european-semester-country-report-czech-republic\\_cs.pdf](https://ec.europa.eu/info/sites/info/files/file_import/2019-european-semester-country-report-czech-republic_cs.pdf)
- [5] Podiel obnoviteľných zdrojov energie na Slovensku opäť medziročne klesol [online]. [cit. 2019 – 10 – 22]. Available: <https://www.energie-portal.sk/Dokument/podiel-obnovitelnych-zdrojov-energie-na-slovensku-opat-medzirocne-klesol-104957.aspx>
- [6] Podíl OZE v roce 2030:20,8%? Anebo 23,8% a více nesplní [online]?. [cit. 2019 – 10 – 22]. Available: <https://www.fintag.cz/2019/09/06/podil-oze-v-roce-2030-208-anebo-238-a-vice/>
- [7] POTOČÁR, R., 2019a. Stĺpček. Slovensko cieľ pre OZE do roku 2020 nesplní [online]. [cit. 2019 – 10 – 22]. Available: <https://www.energie-portal.sk/Dokument/stlpcek-k-slovensko-ciel-pre-oze-do-roku-2020-nesplni-104959.aspx>
- [8] POTOČÁR, R., 2019b. Ako funguje podpora OZE inde v EÚ? Česko a Rakúsko poskytujú dva rozdielne príklady [online]. [cit. 2019 – 10 – 22]. Available: <https://www.energie-portal.sk/Dokument/ako-funguje-podpora-oze-inde-v-eu-cesko-a-rakusko-poskytuju-dva-rozdielne-priklady-105029.aspx>
- [9] SOUČEK, O., 2019. Česko na chvostu EU: zelená energie má do roku 2030 pokrýt jen pětinu spotřeby [online]. [cit. 2019 – 10 – 22]. Available: <https://www.e15.cz/byznys/prumysl-a-energetika/cesko-na-chvostu-eu-zelena-energie-ma-do-roku-2030-pokryt-jen-petinu-spotreby-1355060>
- [10] SZALAI, P., 2019. Podiel obnoviteľných zdrojov na Slovensku padá, spotreba energie stúpa [online]. [cit. 2019 – 10 – 22]. Available: <https://euractiv.sk/section/energetika/news/podiel-obnovitelnych-zdrojov-na-slovensku-pada-spotreba-energie-stupa/>
- [11] ÚŘAD VLÁDY ČESKÉ REPUBLIKY, 2019. Národní program reforem České republiky [online]. [cit. 2019 – 10 – 22]. Available: <https://www.vlada.cz/asset/evropske-zalezitosti/aktualne/Narodni-program-reforem-2019---web.pdf>
- [12] Zelenšie Slovensko (Stratégia environmentálnej politiky Slovenskej republiky do roku 2030) [online]. [cit. 2019 – 10 – 22]. Available: [https://www.minzp.sk/files/iep/03\\_vlastny\\_material](https://www.minzp.sk/files/iep/03_vlastny_material)

## ANALYSIS OF THE TELECOMMUNICATION SECTOR IN POLAND ON THE EXAMPLE OF TELECOMMUNICATION INDUSTRY COMPANIES QUOTED ON THE STOCK EXCHANGE

*Rafal Parvi*

### **WSB University in Wroclaw**

Fabryczna 29-31  
53-609 Wroclaw, Poland  
+48601536917  
Rafalp4@o2.pl

**Abstract:** *this paper examines share price of the companies listed on the WIG-TELEKOM and their fair value between 2009-2019. Data from 2009 to 2019 were collected from the Stooq.pl (Polish portal of shares). Two hypotheses are tested: (1) value of the shares based on the market price; (2) value of the shares as the fair value of shares.*

**Keywords:** *telecommunication, fair value of the shares, company, market value of the shares.*

### **1. Introduction**

The structure of the telecommunication market in Poland has been stabilised for several years. Access to the Internet, mobile and fixed telephony generate more than 75% of the entire market's value. In 2017, the total value of the telecommunication market amounted to PLN 42.25 billion (total amount of revenue generated by the telecommunication entrepreneur, in respect of conducting the telecommunication business in the year under report, in PLN, excluding VAT). The year of 2014 was the one of declining revenues from the telecommunication services which amounted to 0.6% compared to the previous year. The largest decrease (3.7%) was reported in the case of the fixed telephony, although, it was lower by 15% than in the previous year. Declines did not exclude also services of the fixed telephony. They were higher than the previous year and amounted to 1.2%. The reduction of MTR (*Mobile Termination Rate*) as well as the further development of the flat-rate offers on the mobile market certainly contributed to this phenomenon [5, 6, 12, 15, 16, 17].

The only segment, which reported the increase of value, was the Internet access services. The mobile access was one of the most popular services, exceeding the European average with its level of satisfaction. Despite many actions undertaken by the Regulator, the Government, local government units and the telecommunication entrepreneurs, the access to the landline Internet still represented one of the lowest levels among the European Union's countries. The positive trends within the market definitely include the increase in the number of lines with higher and higher transfers offered by operators [17].

The mobile telephony was still an attractive segment of the telecommunication market, despite the high penetration and strong competition. Subscribers of the mobile telephony have increasingly used the data transmission in the phones. The reason for this is undoubtedly the increasing popularity of the packages included in the subscription. The mobile operators have expanded their offer beyond the area of mobile telephony, they established cooperation with the banking and energy sectors by offering a wider package of services [5, 17].

Bundling of offers was an important trend. It enables to meet the demand for a few telecommunication services at a more attractive price than their individual purchase. The cable television operators were the main operators of the bundled services [6, 10, 18].

### **2. The development of the telecommunication market in Poland**

The telecommunication market in Poland is developing at the level above the average in relation to the European Union average. The competition and innovation on the Polish telecommunication market was supported by the disposal of frequencies of the 1800 MHz band.

One of the most important events of the past year was the Global Symposium of Regulators (GSR) and Global Industry Leaders Forum, which was held in Warsaw. It was the first event of its kind not only in Poland but also in the European Union. XIII edition of the GSR was devoted to the innovation and evolution of the telecommunication services and regulation of the ICT sector of the IV generation. The theme of the discussion and meeting was to seek the answer to the question "*How to ensure the high competitiveness, quality of services and steady growth of the ICT sector in the condition of the increasing advantage of the greatest players?*". In the view of such posed challenges and the professional approach to the subject by telecommunication service providers, in the coming years, the telecommunication market in Poland will develop dynamically because it should already be considered as developed and entering the high-tech telecommunication technologies [17].



Figure 1: WIG-TELEKOM in the period from 11.2009 to 10.2019 [18].

The WIG-TELEKOM index, presented in Figure 1, shows that from 2009 to the third quarter of 2013, the telecommunication sector's companies in Poland showed a downward trend in their values.

However, since the second quarter of 2018 it has been possible to notice a significant upward trend. The values reported on 21.10.2019 reflect the upward trend and confirm it. However, the market values do not reflect their fair value.

In such a market, the introduction of new technologies and the beginning of a new era in telecommunication, and good financial conditions, the fair value should be included in the market value, however, the market value differs from it due to some other external factors on the financial market and even speculative factors in the development of the share price of the telecommunication companies quoted on the Warsaw Stock Exchange in Poland [3, 4].

### 3. Analysis and valuation of the telecommunication sector's companies quoted on the Warsaw Stock Exchange (WSE) in Poland

In the telecommunication sector, it is possible to record one company, the value of which approached to its maximum price on 21.10.2019, and this is CYFRPLSAT. The remaining companies did not have its maximum or even fair value, though they can show the net profit and good financial condition, and it is ORANGEPL. Some companies were overvalued by even 99,96%. These companies are NETIA and ORANGEPL. However, the flagship companies, such as NETIA, stay ahead (Table 1-2).

Table 1 The Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the data of the Warsaw Stock Exchange)

Name	Average rating	rating
CYFRPLSAT	3.5/5.0	BBB-
NETIA	4.0/5.0	BB-
ORANGEPL	4.0/5.0	BB
PLAY	3.5/5.0	CCC+

Table 2 The Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the data of the Warsaw Stock Exchange)

Name	Current price PLN	Maximum price PLN from the beginning of the stock exchange quotation
CYFRPLSAT	27.20	30.00
NETIA	4.71	110.00
ORANGEPL	5.90	19.00
PLAY	29.72	34.50

Table 3-4 presents the key ratios that show the financial condition of the telecommunication sector's companies. Within the six examined companies, the generated profit per share was reported in 4 companies. It shows that the telecommunication companies prosper properly on the financial market and are able to record higher or lower profits.

The price to the operating earnings shows the profits of the company, and they were CYFRPLSAT and PLAY. ORANGEPL and NETIA generated a positive double-digit ratio, and the other companies, but it is a satisfactory result.

In contrast, analysing P/BV and P/P, it should be noted that both the price to the book value and the price to profit demonstrate that three companies operate exemplary on the market and have a value of about 1.0, and these are: CYFRPLSAT, NETIA and PLAY.

Other companies do not significantly differ from the average values, and these are ORANGEPL.

Table 3 Technical evaluation of the Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the financial data of the of the Warsaw Stock Exchange)

Name	P/OE (price/operating earnings)	P/BV (price/book value)
CYFRPLSAT	9.51	1.25
NETIA	23.03	0.84
ORANGEPL	17.28	0.73
PLAY	5.17	-81.74

Table 4 Technical evaluation of the Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 30.06.2019 (own development based on the financial data of the Warsaw Stock Exchange)

Name	P/P (price/profit)	Profit per share
CYFRPLSAT	1.52	0.412
NETIA	1.18	0.046
ORANGEPL	0.69	0.042
PLAY	1.09	(EUR) 1.000

Table 4-6 presents the studies concerning, among others, the net profit, depreciation, EBITDA and assets of the telecommunication sector's companies.

According to the obtained values, it is clear that only ORANGEPL, PLAY and NETA showed a low EBITDA, which was confirmed by the previous ratios included in Table 2. Other companies have shown a substantial profit which was generated in 2019.

*Table 5 Technical evaluation of the Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the financial data of the Warsaw Stock Exchange)*

Name	Net profit (net loss) in thousands PLN	Depreciation in thousands PLN
CYFRPLSAT	263600	692700
NETIA	15534	91815
ORANGEPL	55000	642000
PLAY	(EUR) 253800	(EUR) 221300

*Table 6 Technical evaluation of the Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the financial data of the companies quoted on the Warsaw Stock Exchange in Poland)*

Name	EBITDA in thousands PLN	Assets in thousands PLN
CYFRPLSAT	1215200	31359200
NETIA	112559	2726886
ORANGEPL	780000	24475000
PLAY	(EUR) 639900	(EUR) 8469800

According to the book value per share, it is possible to deduce that some companies are overvalued, and these are CYFRPLSAT and NETIA, and in the case of the ORANGEPL company, undervalued (Table 7).

*Table 7 The Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the data of the Warsaw Stock Exchange)*

Name	Book value per share in PLN
CYFRPLSAT	20.746
NETIA	5.637
ORANGEPL	0.042
PLAY	(EUR) -0.364

However, it is important not to follow this opinion because the values are only the book values, and the calculation of them is purely mathematical and financial. In the case of using the economic attitude and interpretation, it would occur that the companies do not have the fair value [2, 11, 13, 14].

The profitability of the equity as well as the profitability of assets is shown only by CYFRPLSAT and NETIA however, PLAY do not have it. Only ORANGEPL is trying to show the minimum profitability. Therefore, according to the presented study, it is possible to observe

that the flagship telecommunication concerns have the profitability and they are not threatened by any disturbance of the financial liquidity (Table 8).

*Table 8 The Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the data of the Warsaw Stock Exchange)*

Name	ROE	ROA
CYFRPLSAT	6.38	2.89
NETIA	3.08	2.36
ORANGEPL	1.23	0.56
PLAY	0.00	10.49

Currently, the value of companies significantly deviates from the maximum value achieved a few years ago. The only one exception are CYFRPLSAT and PLAY which achieved the maximum value in its history. Other companies have the value less than 50%, and even 90% of the maximum one (Table 9).

*Table 9 The Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the data of the Warsaw Stock Exchange)*

Name	Current value	Maximum value
CYFRPLSAT	27.20	30.00
NETIA	4.71	110.00
ORANGEPL	5.90	19.00
PLAY	29.72	34.50

However, the fair value which should be reflected by the share prices of the examined companies significantly differs from the calculated value, which was presented in Table 10. In some cases, it is even 30% of the current value. The fair value is considerable higher than the current value of the examined companies, and only similar in one company, CYFRPLSAT.

*Table 10 The Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the data of the Warsaw Stock Exchange)*

Name	Fair value	Deviation from the fair value in PLN
CYFRPLSAT	29.00	1.00
NETIA	22.00	17.29
ORANGEPL	12.00	6.10
PLAY	32.00	2.28

#### 4. Conclusion

The share price of the telecommunication sector's companies quoted on the Warsaw Stock Exchange in Poland is significantly underestimated by the current financial situation in the world [7, 8, 9]. Telecommunication companies should demonstrate the higher value, and at least the fair value because the telecommunication in Poland is developing very well, and is even a promising big development for the future years.

In some European Union countries the development of the mobile telephony is slower, and the users still remain at the landline telephony. One such country is Sweden, where even 95% of families still have landline phones.

Telecommunication companies earn money because they largely focus on the sale of modern services connected not only with the phones, the ICT transmission, but they also introduce packet services and combine together telephony, television and the Internet [1].

The flagship telecommunication companies achieve huge profits, which was confirmed in the studies of ratios in the last few years and the net profit studies in 2019.

The fair value of the telecommunication sector's companies quoted on the Warsaw Stock Exchange in Poland should be achieved within four years, until 2022, because for this period, the further rapid development of the telecommunication in Poland should be estimated.

## References

- [1] Ahmad Salehi S., Razzaque M.A., Naraei P., Farrokhtala A., "Security in wireless sensor networks; issues and challenges", IEEE International Conference on Space Science and Communication, 2013, Melaka, pp. 356-360.
- [2] Borowski K., „Wyznaczanie punktów zwrotnych indeksu Wig przy pomocy wybranych metod analizy czasowej”. *Bossa.pl*
- [3] Copeland T., Koller T., Murrin J. „Wycena: mierzenie i kształtowanie wartości firmy”, WIG - Press, Warszawa 1997, pp. 65-69.
- [4] Jajuga K., Jajuga T. „Inwestycje”, Wydawnictwo Naukowe PWN, Warszawa 1996, pp. 34-57.
- [5] Łazarski, J., “Leksykon Skrótów Telekomunikacja”. Polska. Wydawnictwo Komunikacji i Łączności, 2005, pp. 87-88.
- [6] Newton, A., Newton’s Telecom Dictionary Covering Telecommunications Netw. Computational Mechanics Publications, 2005, pp. 45-49.
- [7] Parvi R., “Share price of the companies listed on the WIG-UKRAINE and their fair value”, Share price of the companies listed on the WIG-UKRAINE and their fair value”, Itall Ltd., 2014, pp. 179-185.
- [8] Parvi R., “Investment funds and their financial effectiveness”, Goce Delchev University Macedonia & THOMSON Ltd. Slovakia, *EDIS - Publishing Institution of the University of Zilina*, 2014, pp. 262-267.
- [9] Parvi R., “Share price of companies listed on WIG20 and their fair value”. *EDIS - Publishing Institution of the University of Zilina EIIC – 3 rd Electronic International Interdisciplinary Conference 2014*, pp. 169-177.
- [10] Pierce R., “Stocks, Options & Spreads, Infinity Publishing” 2004, pp. 110-115.
- [11] Piątek, S., „Prawo telekomunikacyjne Wspólnoty Europejskiej”, Warszawa. C. H. Beck, 2003, pp. 101-102.
- [12] Richard, R., „Telekomunikacja. Polska, Wydawnictwo Komunikacji i Łączności”, 2004, pp. 90-92.
- [13] Thompson B., “Stock Market Superstar”, Insomniac Press 2008, pp. 52-54.
- [14] Veale S., “Stocks, Bonds, Options, Futures”, Prentice Hall Press 2001, pp. 88-125.
- [15] Zieliński T., Korohoda, P., Rumian, R., „Cyfrowe przetwarzanie sygnałów w telekomunikacji”. Warszawa, Państwowe Wydawnictwo Naukowe, 2014, pp. 54-55.
- [16] Akcje.net J.D.G. - Informacje z rynków finansowych - Stooq.pl.
- [17] Urząd Komunikacji Elektronicznej – „Raport o stanie rynku telekomunikacyjnego w 2013 roku”. Warszawa, 2014, Departament Strategii i Analiz Rynku Telekomunikacyjnego.
- [18] Stooq.pl - [https://stooq.pl/q/?s=wig\\_telkom](https://stooq.pl/q/?s=wig_telkom)

**VALUATION OF SHARES AND THEIR FAIR VALUE OF THE COMPANIES LISTED ON THE RAW MATERIALS WIG-GORNIC SECTOR QUOTED ON THE WARSAW STOCK EXCHANGE IN POLAND WITHIN 2011-2019 AND THEIR FAIR VALUE**

*Rafal Parvi*

**WSB University in Wroclaw**

Fabryczna 29-31

53-609 Wroclaw, Poland

+48601536917

Rafalp4@o2.pl

**Abstract:** *This paper examines share price of the companies listed on the WIG-GORNIC and their fair value between 2011-2019. Data from 2011 to 2019 were collected from the Stooq.pl (Polish portal of shares). Two hypotheses are tested: (1) value of the shares based on the market price; (2) value of the shares as the fair value of shares.*

**Keywords:** *raw materials, fair value of shares, company, market value of shares.*

### 1. Introduction

The intensive development of the raw materials extraction in Poland has occurred especially since the mid '50s of the last century and has been continuing for the '60s and '70s. Since the '80s, in the case of many raw materials, the limitation of their exploitation, and in some other cases, the abandonment of extraction, have been reported, whether for economic reasons or due to the depletion of resources, and finally because of the environmental or spatial conflict. The economic transformation towards the market system, started in 1989, significantly contributed to these phenomena. Currently, since 2000, the large growth of the raw materials market has taken place [2, 3].

### 2. Fair value of listed companies

Share price of the companies listed on the Stock Exchange should reflect also their fair value. The fair value can be defined in several ways. In view of the foregoing, the fair value is a value used repeatedly in accounting, and thus in Article 28 (6) of the Accounting Act of 29.09.1994 as "the amount for which a given asset component could be exchanged, and the liability could be paid on market transaction terms between interested and well-informed, unrelated parties.

In view of whether the price of shares that are quoted on the stock exchange corresponds to their fair value, should be found in the value alone, since, after all, the values may be diverse, like the value of a similar company, producing similar goods and operating in the same industry, will also be diverse for various reasons.

The subject of trade covers minority shares, and the main market participants are retail investors or minority institutional investors, thus the price of shares should reflect the fair value characterizing the liquid minority interest.

The value presented in this way seems righteous, which is confirmed by the premium paid by the investors who announce calls for subscription for shares and plan in this way the purchase of the controlling interest. Then the

premium reflects the difference between the level of liquid minority interest and the level of controlling interest. Sometimes the level takes into account benefits resulting from synergy. An investor purchasing the controlling interest in this way receives premiums that appear after taking over control of a company, in the form of funds, business management and making a number of strategic decisions.

The fair value of the share price should be determined in accordance with the idea of capital market, namely the market participants should have equal access to data, information and all messages concerning a given company [10, 11]. However, the investors are divided into three groups:

- a) People with access to the most closely guarded information that affects the price and the business value, namely those can the company's management board or shareholders,
- b) Institutional investors with blocks of shares with simultaneous access to the company's management board,
- c) Individual investors who have access to public information.

There is one premise more to determine the fair value of share price. The investors are fond of investing in shares, namely they buy them as in the past they managed to earn on them and they feel that presently the share price is ideal and reflects their fair value and will enable them to obtain fair dividend in the future [1, 3].

Such a purchase or sale of shares can largely overestimate or underestimate the share value of a quoted company. Here the chemical industry may serve as an example, namely shares in chemical companies at the beginning of the new millennium, when shares in these companies were being purchased without any analysis in technical terms, but looking at their name and value, which was increasing overnight. In view of the foregoing, this led to excessively high business value above its fair value.

The share price should thus reflect the fair value of a company listed on the Warsaw Stock Exchange. For the value of these companies to be fair, the market must make available to all investors information regarding companies listed on the Warsaw Stock Exchange. The shareholders should be treated equally; therefore we cannot distinguish majority shareholders as those who should have information unavailable for minority shareholders. First of all, shares should be liquid securities, therefore they should be in free float and have real-time transferability, namely at any moment and at any time during the office hours of the Warsaw Stock Exchange on a business day.

### 3. The development of the raw materials market in Poland

The WIG-GORNIC index, presented in Figure 1, shows that from 2011 to 10.2019, the raw materials sector companies in Poland showed a downward trend in their values.



Figure 1: WIG-GORNIC in the period from 01.2011 to 10.2019 [16].

However, from the second quarter of 2016, a significant upward trend as well as the achievement of the highest levels, up to the level of 4900 points in the index. The values reported on 21.10.2019 reflect a downward trend. However, the market values do not reflect the fair value of the raw materials sector companies.

### 4. Analysis and valuation of the raw materials sector's companies quoted on the Warsaw Stock Exchange (WSE) in Poland

In the raw materials sector, it is possible to record one company, the value of which approached to its next to the maximum price on 21.10.2019, and this is KGHM. The remaining companies did not have its maximum or even fair value, though they can show the net profit and good financial condition, and it is PRAIRIE. Some companies were overvalued by even 25%. These companies are BOGDANKA and JSW. However, the flagship companies, such as KGHM, stay ahead (Table 1-2).

Table 1 The Raw materials sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the data of the Warsaw Stock Exchange)

Name	Average rating	rating
KGHM	4.5/5.0	A
BOGDANKA	4.0/5.0	AA+
JSW	4.0/5.0	AA-
PRAIRIE	No data	No data

Table 2 The Raw materials sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the data of the Warsaw Stock Exchange)

Name	Current price PLN	Maximum price PLN from the beginning of the stock exchange quotation
KGHM	81.74	159.00
BOGDANKA	36.35	120.00
JSW	22.10	119.00
PRAIRIE	0.67	3.10

Table 3-4 presents the key ratios that show the financial condition of the raw materials sector's companies. Within the four examined companies, the generated profit per share was reported in 3 companies (KGHM, BOGDANKA, JSW). It shows that the raw materials companies prosper properly on the financial market and are able to record higher or lower profits. However, the profit was not reported in one companies, and he was PRAIRIE.

The price to the operating earnings shows the losses of the company at the negative, and this state of affairs was not reported in stock exchange quoted company [6, 10].

Table 3 Technical evaluation of the Raw materials sector's companies quoted on the Warsaw Stock Exchange in Poland as of 18.03.2016 (own development based on the financial data of the of the Warsaw Stock Exchange)

Name	P/OE (price/operating earnings)	P/BV (price/book value)
KGHM	4.71	0.81
BOGDANKA	5.49	0.40
JSW	1.67	0.29
PRAIRIE	No data	No data

In contrast, analysing P/BV and P/P, it should be noted that both the price to the book value and the price to profit demonstrate that three companies operate exemplary on the market and have a value under 1.0, and these are: BOGDANKA, JSW and KGHM [4, 5, 7, 14].

Other companies do not significantly differ from the average values, and it is PRAIRIE (No data)

*Table 4 Technical evaluation of the Raw materials sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the financial data of the Warsaw Stock Exchange)*

Name	P/P (price/profit)	Profit per share
KGHM	0.73	2.085
BOGDANKA	0.62	2.586
JSW	0.27	1.135
PRAIRIE	No data	No data

Table 5-6 presents the studies concerning, among others, the net profit, depreciation, EBITDA and assets of the raw materials sector's companies [8, 9, 12, 13].

According to the obtained values, it is clear that only JSW BOGDANKA and KGHM showed a profit, which was confirmed by the previous ratios included in Table 2.

*Table 5 Technical evaluation of the Raw materials sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the financial data of the Warsaw Stock Exchange)*

Name	Net profit (net loss) in thousands PLN	Depreciation in thousands PLN
KGHM	417000	468000
BOGDANKA	87949	97718
JSW	133300	254100
PRAIRIE	No data	No data

Other companies have shown a substantial profit which was generated in 2019.

*Table 6 Technical evaluation of the Raw materials sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the financial data of the companies quoted on the Warsaw Stock Exchange in Poland)*

Name	EBITDA in thousands PLN	Assets in thousands PLN
KGHM	988000	39045000
BOGDANKA	211559	4119940
JSW	442300	14345300
PRAIRIE	No data	9827

*Table 7 The Raw materials sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the data of the Warsaw Stock Exchange)*

Name	Book value per share in PLN
KGHM	99.355
BOGDANKA	91.479
JSW	73.448
PRAIRIE	0.034

According to the book value per share, it is possible to deduce that some companies are overvalued, and these are BOGDANKA, JSW and KGHM, and in the case of the PRAIRIE company, undervalued (Table 7).

However, it is important not to follow this opinion because the values are only the book values, and the calculation of them is purely mathematical and financial.

In the case of using the economic attitude and interpretation, it would occur that the companies do not have the fair value [2, 10, 15].

The profitability of the equity as well as the profitability of assets is shown only by BOGDANKA, JSW and KGHM however, PRAIRIE do not have it.

Therefore, according to the presented study, it is possible to observe that the flagship raw materials concerns have the profitability and they are not threatened by any disturbance of the financial liquidity (Table 8).

*Table 8 The Raw materials sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the data of the Warsaw Stock Exchange)*

Name	ROE	ROA
KGHM	11.16	5.59
BOGDANKA	6.26	4.46
JSW	15.65	9.00
PRAIRIE	No data	No data

Currently, the value of companies significantly deviates from the maximum value achieved a few years ago. The only one exception is KGHM, which achieved the maximum value in its history. Other companies have the value less than 30%, and even 75% of the maximum one (Table 9).

*Table 9 The Raw materials sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the data of the Warsaw Stock Exchange)*

Name	Current value	Maximum value
KGHM	81.74	159.00
BOGDANKA	36.35	120.00
JSW	22.10	119.00
PRAIRIE	0.67	3.10

However, the fair value which should be reflected by the share prices of the examined companies significantly differs from the calculated value, which was presented in Table 10.

In some cases, it is even 20% of the current value. The fair value is considerable higher than the current value of the examined companies, and only similar in one company, KGHM [6, 7, 9, 11].



*Table 10 The Raw materials sector's companies quoted on the Warsaw Stock Exchange in Poland as of 21.10.2019 (own development based on the data of the Warsaw Stock Exchange)*

Name	Fair value	Deviation from the fair value in PLN
KGHM	120.00	38.26
BOGDANKA	85.00	48.65
JSW	68.00	45.90
PRAIRE	1.00	0.33

## 5. Conclusion

The share price of the raw materials sector's companies (WIG-GORNIC) quoted on the Warsaw Stock Exchange in Poland is significantly underestimated by the current financial situation in the world, especially at such unstable values of the resources [5, 6, 7, 12]. Raw materials companies should demonstrate the higher value, and at least the fair value because the raw materials market in Poland is developing very well, and even promising bigger development for the future years. In some European Union countries, the development of the raw materials market is slower or completely inactive because the countries do not have access to raw materials and do not extract them or their value is low [2, 4, 13].

Raw materials companies earn money because they largely focus on the sale of raw materials resources which are necessary to feed power plants with hard coal and lignite. The flagship raw materials companies achieve huge profits which was confirmed in the studies of ratios in the last few years and the net profit studies in 2019, and such an example can be KGHM, which achieved a net profit of PLN 417,000 thousand.

The fair value of the raw materials sector's companies quoted on the Warsaw Stock Exchange in Poland should be achieved within five years, until 2022, because for this period, the further rapid development of the raw materials sector in Poland should be estimated.

## References

- [1] Borowski K., „Wyznaczanie punktów zwrotnych indeksu Wig przy pomocy wybranych metod analizy czasowej”. *Bossa.pl*, pp. 1-5.
- [2] Jajuga K., Jajuga T. „Inwestycje”. Wydawnictwo Naukowe PWN, Warszawa 1996, pp. 34-57.
- [3] Jędrzejczak M., „Estymacja wartości godziwej. Podejście symulacyjne”, Powszechne Wydawnictwo Ekonomiczne, Warszawa 2011, pp. 133-138.
- [4] Parvi R., “Share price of the companies listed on the WIG-UKRAINE and their fair value”, Share price of the companies listed on the WIG-UKRAINE and their fair value”, Itall Ltd., 2014, pp. 179-185.
- [5] Parvi R., “Investment funds and their financial effectiveness”, Goce Delchev University Macedonia & THOMSON Ltd. Slovakia, *EDIS - Publishing Institution of the University of Zilina, 2014*, pp. 262-267.
- [6] Parvi R., “Share price of companies listed on WIG20 and their fair value”. *EDIS - Publishing Institution of the University of Zilina EIIC – 3 rd Electronic International Interdisciplinary Conference 2014*, pp. 169-177.
- [7] Parvi R., “Valuation of shares and their fair value of the companies listed on the WIG30 quoted on the Warsaw Stock Exchange in Poland within 2005-2015”, Czech Technical University in Prague. Czech Institute of Academic Education z.s. 2015. pp. 177-184.
- [8] Parvi R., “Valuation of shares and their fair value of the companies listed on the WIG20 quoted on the Warsaw Stock Exchange in Poland within 2005-2015”, December 2015, *EDIS Publishing Institution of the University of Zilina, Volume 3, Issue 1, December 2015, ISSN 2453-7144, CD ROM ISSN 1339-5572, ISBN 978-80-554-1170-5*, pages 51-67.
- [9] Parvi R., “Analysis of the Chemical sector in Poland on the example of chemical industry companies quoted on the stock exchange”, Science Publishing London. ISBN 978-0-9928772-8-6. London, November 2015. Volume II, Issue II. pp. 82-85.
- [10] Parvi R., “Fair value of the banking sector companies quoted on the Warsaw Stock Exchange in Poland within 2006-015 and their financial analysis”, ISSN 2453-6962, CD-ROM ISSN 1338-9831, ISBN 978-80-554-1126-2, Volume 4 Issue 1, November 2015, *EDIS Publishing Institution of the University of Zilina*, pp. 83-88.
- [11] Parvi R., “The analysis of companies of the fuel sector based on the example of companies quoted on the Warsaw Stock Exchange in Poland and their fair value”, ISSN 1339-9071, CD-ROM ISSN 1339-3561, ISBN 978-80-554-0891-0, Volume 3 Issue 1, May 2015, *EDIS Publishing Institution of the University of Zilina*, pp. 109-114.
- [12] Pastusiak R., “Przedsiębiorstwo na rynku kapitałowym”. Wydawnictwo CeDeWu, Warszawa 2010, pp. 34-46.
- [13] Pierce R., “Stocks, Options & Spreads, Infinity Publishing” 2004, pp. 110-115.
- [14] Thompson B., “Stock Market Superstar”, Insomniac Press 2008, pp. 52-54.
- [15] Veale S., “Stocks, Bonds, Options, Futures”, Prentice Hall Press 2001, pp. 88-125.
- [16] Stooq.pl, “WIG-GORNIC”, [stooq.pl/q/?s=wig\\_gornic](http://stooq.pl/q/?s=wig_gornic), accessed: October 21<sup>st</sup>, 2019.

## Session: Industrial Engineering, Innovations

### Index of Author(s)

Brożek, Katarzyna  
Tuzimek, Weronika

## INDIRECT INSTRUMENTS SUPPORTING THE DEVELOPMENT OF ENTERPRISES INNOVATION

Katarzyna Brożek<sup>1</sup> – Weronika Tuzimek<sup>2</sup>

<sup>1</sup>Kazimierz Pulaski University of Technology and Humanities in Radom

Address: Chrobrego 42/10 Street, Radom, 26-600, Poland

Author's email: k.brozek@uthrad.pl

<sup>2</sup>University of Lodz

Address: Doktora Stefana Kopcińskiego 8/12 Street, Lodz, 90-033 Poland

Author's email: werat@opoczta.pl

**Abstract:** Innovation is the key to the success of enterprises and entire economies in the modern world. Undoubtedly, creating conditions for the development of innovation becomes the most important issue both from the perspective of the success of the individual economic entity and the entire country. With this in mind, issues related to activities supporting the innovation of enterprises are extremely important. The purpose of these considerations is to attempt to identify and evaluate indirect instruments supporting the development of business entities. The work structure was divided into three main components. The introduction briefly discusses the role and importance of innovation in the development of enterprises and economies. The main part of the study was devoted to the identification and evaluation of selected activities supporting the innovation of enterprises. At that time, export and import, the labor market and other markets supporting innovation were discussed. The whole is crowned with a summary. The article is addressed to both theoreticians and business practitioners, while its theoretical character is aimed at systematizing and enriching the possessed knowledge.

**Keywords:** innovation, enterprises, development

### 1. Introduction

Innovation, seen as an immanent feature of the modern economy, is one of the most important factors determining economic growth. It is also of key importance in creating the competitiveness of enterprises as well as countries and regions. It is believed that achieving lasting competitive advantage would not be possible without investments supporting implementation of innovative solutions. On the contrary - the innovativeness of enterprises and economies is a guarantee of economic development and improvement of the quality of life, counteracting social exclusion.

Innovation is a way to differentiate from competitors. It is important from the point of view of the economic entity, but also has an impact on the economy. By introducing innovations, an enterprise can improve and modernize its manufacturing processes as well as increase productivity and quality of work. In addition, innovations increase the value of business entities, which in turn leads to their faster development. They also contribute to building market demand.

### 2. Selected activities supporting the innovativeness of enterprises

#### 2.1 Export and Import

The basic condition for the innovativeness of the economy is a continuous increase in the competitiveness of services and goods, and thus the development of exports improving the level and quality of society life. In the case of Poland, innovation largely determines its integration with the world economy, mainly with the European economy [7].

The theory of trade and growth predicts the interrelationship between exports and innovation. As expected by the product cycle models of innovation in international trade, innovation is the engine of exports for

industrialized countries. S. Lachenmaier and L. Wößmann stated that innovation activities caused by specific obstacles or impulses that affect an enterprise, in turn, affect the share of exports. The share of exports in the study was increased to around seven percentage points [16]. The survey was conducted among German entrepreneurs from the manufacturing industry. R. Basile stated that the ability to innovate is an important factor of competitiveness when analyzing Italian companies, which explains the heterogeneity of export behavior [5]. He discovered that innovative companies have systematically higher export intensities than non-innovative companies. Exchange rate devaluation reduces the importance of technological competitiveness because companies that are not innovative can enter the foreign market. After companies settle on the market and export, they will continue to do so after the exchange rate returns to the previous level.

Innovation has a positive impact on exports because it improves the quality of products as well as product variety, which increases demand. Disturbances, such as strikes, in the production process result in a loss of sales. Successful innovation usually improves both the volume of trade and the turnover balance.

There are three main channels from which an exporting company can increase its productivity growth:

- learning by exporting,
- exposure to international competition,
- increase in product specialization, which allows the economies of scale to be used.

Companies that start exporting are more likely to invest more in R&D and training to be able to absorb foreign technologies and best practices. Entering the export market is also associated with an increase in the number of advanced technologies that are used in foreign sources of supplies for advanced technologies and in information on technological improvements. Finally, entering the export market partly explains the improvements in the innovations being introduced [3]. Although this study was conducted in Canada, similar patterns should be sought in Europe. In perspective at enterprise level, M. Andersson and B. Johansson find a strong link between regional export networks and the frequency of product innovation [1].

Imports of foreign technologies and domestic technical development show an interdependent relationship. Countries should adopt technologies from other countries and then increase their value through their own research and development efforts. This introduction of new technologies may result, as mentioned earlier, from the import of foreign technologies or from foreign entrepreneurs such as immigrants [15]. Importing countries must be able to adapt new technologies and thus have sufficient human capital and institutions that are able to change the current situation [9].

Import competition can stimulate economic growth as it reduces the market power of domestic monopolist innovators. They are forced by import competition to choose between accelerating the pace of innovation or being replaced by foreign innovators. The disadvantage is that this situation reduces the return of domestic innovations, and thus may displace some innovators from the market. Import competition makes domestic enterprises operate more efficiently to maintain their market position. Import share and foreign direct investment (FDI) revenues have a positive impact on product and process innovations. FDI is one way of operating on a foreign market [6]. The discussed investments shape development potential, increase the country's competitive ability, and increase access to foreign technologies or innovations [10]. Therefore, it is extremely justified for the state to create conditions suitable for investors [19].

Competition in goods and services has indeed increased in the EU because a single market has been established; competition from abroad is also growing. J. Jacobs popularized the concept of import substitution. Import substitution arises when less-developed regions import technologically newer products. As manufacturers expand their knowledge of new products, they find ways to replace imports with locally produced goods. Along with this process, new knowledge and products are imported that will further stimulate the process [13]. The Jacobs concept has been tested and confirms the assumptions behind it - the growing range of knowledge and skills is a necessary condition for dynamic urban development [15].

Importing companies have adequate knowledge of the local market as well as a wide distribution network. Importing new technology also generates new knowledge that stimulates product and market renewal. Importers are located in a region with a large market because many of them follow the same strategy. The cumulative relationship resulting from internal economies of scale, market potential and import stimulation is then obtained. Thus, such entities bring external effects from which the whole region benefits.

## 2.2 Labor market

Labor market policies are usually not designed to influence innovation, but they can nevertheless have significant consequences for innovative strategies of enterprises. Labor market policies affect the ability of business entities to equalize profits from innovation activities, as this policy affects the costs of implementing innovation. The relationship between labor protection and innovation is not simple. The impact of labor regulation depends on the system of industrial relations and the unique features of each industry.

Labor market flexibility contributes to innovation because it facilitates the introduction and implementation of new production methods. In addition, it increases if employees can be quickly (re) assigned to various tasks, as well as when they can easily change jobs. Investing in human capital through general on-the-job training allows employees to adapt to changing conditions more easily.

Measures to combat income inequalities that distort the functioning of the labor market can be a big problem for innovation, as employees are less likely to adapt to its dynamics. Elements such as long unemployment, disability and sickness benefits encourage employees who lose their jobs to remain permanently outside the labor market and, as a result, create hysteresis. However, labor market flexibility is important for innovation. Though, flexibility is accompanied by greater inequality and uncertainty. Currently, in particular in the EU, income inequality is rather limited and risks are mainly insured under public arrangements.

Government intervention to reduce or compensate for inequalities and uncertainties may be to some extent motivated by general prosperity arguments, but this can easily turn into a government failure, because labor markets are disrupted and incentives to accumulate human capital are reduced. Only by increasing the effectiveness of government intervention, i.e. by avoiding institutional failure, we can increase the flexibility of the labor market without sacrificing employee income protection. Labor market flexibility covers aspects such as job security and variability of working hours. The first aspect reduces flexibility in the labor market, and therefore may harm the innovation capacity of the company. On the other hand, when employees feel safe, they are ready to take greater risks in their work, which can result in more innovation. The labor market for insiders is strongly protected in many

Member States, which means that bystanders face greater economic risk because they work part-time, work flexibly, have fewer social security rights, etc. Restructuring the labor market usually causes older workers to leave the labor market permanently. Because many pension systems are being built, it makes no sense for older workers to accept lower wages in order to save jobs. Retirement risks in many countries are passed on to younger generations through collective agreements that are legally binding on all employees. With excessive protection of the initiated, the labor market will be characterized by hardening rather than flexibility. If possible, policy should aim to empower external people to make labor markets more flexible.

Work can be mobile in geographical, educational and professional aspects. If it is such in one aspect, the flexibility of the labor market increases. Occupational mobility increases the penetration of knowledge through various national and transnational networks. This phenomenon may be particularly important in spatial clusters. Trade unions can be both positive and negative when it comes to technological changes and improvements that affect the mentality of companies, and thus the ability to innovate. Trade unions can influence innovation through other channels, such as their impact on relative prices and profitability of production. A survey conducted in North America found that relationships have a negative impact on R&D efforts. However, the same patterns cannot be found in European countries. Clear links between trade unions and innovations are difficult to find [18]. Studies have shown that contrasting strategies adopted by unions in different countries explain how jobs have been reorganized [12].

### 2.3 Other markets supporting innovation

The issue of the importance of the financial market has been widely discussed and no general consensus has been found. A lot of research has been done in this area for a very long time. A. Smith argued that financial intermediation, such as banks, increased trade. In the general theory of equilibrium constructed by K. J. Arrow and G. Debreu in the 1960s, optimal allocation is achieved without any help from financial markets. The conflict can also be seen in more recent studies, in which T. Barnebeck and F. Trap [4] find no consistent relationship between financial markets and economic growth. R. C. Levine, on the other hand, states that countries with a well-functioning financial market are growing faster than those with dysfunctions [17].

Capital markets seem to be failing innovation in the EU. One of the reasons companies do not invest in innovation is because of information problems between them and financial institutions. Financial institutions cannot reliably predict whether or not a business entity applying for financial capital is a fair participant in this market. Information asymmetry problems increase capital costs of enterprises. Capital market failures lower the level of innovation in the EU and break investment in innovation. Strengthening market power in the banking sector, as

a result of recent trends to concentrate in the financial sector, causes problems in the capital markets. This reduces accessibility for smaller enterprises and thus damages innovation. Market concentration can have worse consequences in the EU than, for example, in the US, because there are many Member States that have almost no new credit providers for small businesses. It can be assumed that greater financial integration within the EU will stimulate growth through innovation and greater financial efficiency [20].

How competition in the various goods and services markets affect the level of innovation in the EU and its various Member States is an important aspect of the issue. Incentives for innovation increase if there are more agents on the market, because it can be assumed that the social return on innovation will increase with competition. The monopolist has a limited incentive to innovate, especially in the area of new products, because it will compete only with itself and risk additional costs of research and development, which will not translate into gaining new markets. The intensity of competition has an ambiguous effect on the desire to innovate. In competitive markets, there are no losses for innovative entities because they do not have a monopoly on loss of profit. The difference in profits from innovation in competitive and monopolistic markets is known as the Arrow's effect [2].

However, innovations have a spillover effect because competitors can draw on other R&D efforts [8]. Therefore, the following relationship occurs: the higher the spread risk, the lower the incentives for innovation. With fewer competitors, there are fewer potential leaders, and therefore incentives for innovation are stronger because enterprises can increase return on their own R&D efforts accordingly. The structure of the actual industry will determine which of the effects will dominate. The "even" industry consists mainly of economic entities with a comparable level of productivity. Increased competition in such an industry will stimulate innovation, because Arrow's positive effect dominates in the limited spread from R&D. Companies in even industries will focus on gradual innovation. In industries with large differences between leading and emerging enterprises, greater competition will lead to fewer innovations. The Arrow's effect is too small in such markets to compensate for the reduced spillover effects.

New enterprises play a disproportionate role when it comes to innovation. So entrepreneurship carries out important tasks for increasing productivity and renewing economies. However, there are many examples of imperfections in the business markets in the EU. The public sector is the main producer of many types of services in EU countries, limiting the possibilities of potential entrepreneurs. In other cases, public regulations still protect incumbent operators, which hinders or prevents potential entrepreneurs from entering the market. The importance of ownership structure has been thoroughly investigated and various results found. Some

report important implications for a company's performance, while others find it irrelevant.

Ch. W. L. Hill and S. A. Snell [1] found that diversification, investment in R&D, capital intensity and ownership structure are factors influencing the productivity of enterprises. The ownership structure can affect them directly and indirectly through the strategy diversification, capital intensity and R&D expenditure. R&D expenditure affects productivity through product and process innovations. Commitment to R&D brings high profits from successful innovation, but also high risk if attempts to implement it fail. Shareholders benefit from a high return and can diversify their portfolios; the option is less attractive to risk avoidance management because it must assume a potential failure, so opposing interests arise. There is a positive relationship between the concentration of inventories and the company's productivity, because it encourages R&D efforts [14].

### 3. Conclusions

Innovations are particularly important in the process of creating the competitiveness of states. Nowadays they are a necessary condition, though not sufficient, of high dynamics of economic development. Areas where a large number of innovative enterprises are located are becoming the poles of growth. At the same time, innovative entities influence the development of enterprises both in their sector and other industries in the region.

That is why it is extremely important to have well-established knowledge in the field of broadly understood measures supporting the innovativeness of enterprises and entire economies. There are a number of support instruments in business practice. However, the work is limited to discussing and assessing only a certain selected part. Therefore, considerations form the basis for further in-depth analyzes.

### References

- [1] Andersson M., Johansson B., *Product Innovation, Export Entrepreneurship and Regional Characteristics – an analysis of innovation ideas in regions*, [w:] „Growth and Change. A Journal of Urban and Regional Policy” No. 39, pp. 193–224, 2008
- [2] Arrow K.J., *Eseje z teorii ryzyka*, Warszawa, PWN, 1979, pp. 15–97
- [3] Baldwin J. R., Gu W., *Trade liberalization: Export-market participation, productivity growth, and innovation*, [w:] „Oxford Review of Economic Policy” No. 3, pp. 372–392, 2004
- [4] Barnebeck T., Trap F., *Financial liberalization, financial development and economic growth in LDCs*, [w:] „Journal of International Development” No. 15, pp. 189–209, 2003
- [5] Basile R., *Export behaviour of Italian manufacturing firms over the nineties: the role of innovation*, [w:] „Research Policy” No. 30, pp. 1185–1201, 2001
- [6] Bertschek I., *Product and Process Innovation as a Response to increasing Import and Foreign Direct Investment*, [w:] „Journal of Industrial Economics” No. 43, pp. 341–357, 1995
- [7] Bogdanienko J. (eds.), *Zarządzanie innowacjami. Wybrane problemy*, Warszawa, Oficyna Wydawnicza Szkoły Głównej Handlowej, 1998, pp. 62
- [8] Frączek P., Mazurkiewicz A., *Efekt spillover a modernizacja krajowego sektora energii*, [w:] „Przedsiębiorstwo i Region” No. 5, pp. 120–122, 2013
- [9] Freeman Ch., *The National System Innovation in historical perspective*, [w:] „Cambridge Journal of Economics” No. 19, pp. 5–24, 1995
- [10] Głabiszewski W., *Potencjał absorpcyjny przedsiębiorstw finansowych w Polsce w procesie transferu innowacyjnych technologii*, Toruń, Wydawnictwo Naukowe Uniwersytetu Mikołaja Kopernika, 2016, pp. 19
- [11] Hill Ch. W. L., Snell S. A., *Effects of Ownership Structure and Control on Corporate Productivity*, [w:] „The Academy of Management Journal” No. 1, pp. 25–46, 1989
- [12] Hyman J., *How Knowledge Works*, [w:] „The Philosophical Quarterly” No. 49, pp. 433–451, 1999
- [13] Jacobs J., *Cities and the Wealth of Nations*, New York, Random House, 1984
- [14] Johansson B., Löf H., *The Impact of Firm's R&D Strategy on Profit and Productivity*, [w:] „CESIS Electronic Working Paper Series” No. 156, 2008
- [15] Johansson B., Westin L., *Technical Change, Location and Trade*, [w:] „Papers of the Regional Science Association” No. 62, pp. 13–25, 1987
- [16] Lachenmaier S., Wößmann L., *Does innovation cause exports? Evidence from exogenous innovation impulses and obstacles using German micro data*, [w:] „Oxford Economic Papers” No. 58, pp. 317–350, 2006
- [17] Levine R. C. za: A. Bielig, *Rola własności intelektualnej w gospodarce. Teoria i praktyka*, Warszawa, Oficyna Wydawnicza SGH, 2014
- [18] Menezes-Filho N., Reenen J., *Unions and Innovation: a Survey of the Theory and Empirical Evidence*, „CEPR Discussion Paper” No. 3792, pp. 26–49, 2003
- [19] Oniszczyk-Jastrząbek A., *Innowacyjność organizacyjna i procesowa przedsiębiorstwa*, [w:] A. P. Balcerzak, M. Moszyński, *Budowanie konkurencyjności i innowacyjności przedsiębiorstwa w dobie globalnego kryzysu*, Toruń, Polskie Towarzystwo Ekonomiczne Oddział w Toruniu, 2012, pp. 138
- [20] Padoan P. C., Mariani F., *Growth and Finance, European Integration and the Lisbon Strategy*, [w:] „Journal of Common Market Studies” No. 1, pp. 77–112, 2006.

## Session: Applied Informatics

### Index of Author(s)

Semakhin, Andrey

## STOCHASTIC PROGRAMMING IN MODELLING OF INFORMATION SYSTEMS

Semakhin Andrey

**Kurgan State University**  
Kurgan, 640020, Russia  
8 (3522) 23-54-47  
semakhinandrew@yandex.ru

**Abstract:** The article considers the features of the design of information systems in a risk environment. Stochastic programming methods are used to determine the optimal solution to a problem with random parameters. A mathematical model of stochastic programming in the M-statement of the problem of determining the optimal design of the organization's information system is developed. To solve the problem, the deterministic equivalent of the mathematical model of stochastic programming is defined. The optimal solution is determined by the nonlinear programming method. The results of mathematical modeling can reduce financial costs in the design of information systems.

**Keywords:** information system, stochastic programming, deterministic equivalent method, nonlinear programming, optimal solution

### 1. Introduction

Improving the efficiency of designing information systems is an urgent task. To solve the problem, methods of the theory of operations research are used [1-17]. Most real tasks contain uncertainties. Stochastic programming methods are used to solve problems with random parameters. The main approach to solving stochastic programming problems is to transform the original probabilistic problem into an equivalent deterministic one [18-22]. The article considers the problem of stochastic programming in the M-statement.

### 2. Statement of the problem

The stochastic programming problem is formulated as follows. Determine the optimal design of the organization's information system in risk conditions.

### 3. The mathematical model of stochastic programming

We develop a mathematical model of stochastic programming in the M-statement of the problem. Let be  $x_i$  – the share of financing projects of the information system of the organization,  $i = \overline{1, n}$ . The mathematical model with random coefficients in the objective function and probability constraints has the form.

$$\begin{aligned} \max \leftarrow Z &= \sum_{i=1}^n M[c_i] * X_i \\ &\text{under restrictions} \\ &\left\{ \begin{array}{l} P(\sum_{i=1}^n a_{ij} * x_i \leq b_j) \geq \beta_j \\ \sum_{i=1}^n x_i = 1, i = \overline{1, n} \quad j = \overline{1, m} \end{array} \right. \end{aligned}$$

where,  $c_i$  = profit of the  $i$  project and  $a_{ij}$  = financial costs of the  $i$  project in the  $j$  time period and  $b_j$  = financial resources in the time period and,  $P$ ,  $\beta_j$  = probability symbols and  $i = \overline{1, n}$  the project number and

$j = \overline{1, m}$  = number of the time period. Parameters  $c_i$ ,  $a_{ij}$ ,  $b_j$  are random variables. Let the random variables  $c_i$ ,  $a_{ij}$ ,  $b_j$  obey the normal distribution.

The mathematical expectation of a random variable is determined by the formula

$$M[x] = \frac{1}{n} \sum_{i=1}^n x_i$$

where,  $x_i$  = random variable and  $n$  = number of random variables.

The standard deviation of a random variable is determined by the formula

$$\sigma[x] = \sqrt{\frac{\sum_{i=1}^n (x_i - M[x])^2}{n}}$$

where,  $M[x_i]$  = mathematical expectation of a random variable.

The coefficient of variation is determined by the formula

$$V[x] = \frac{\sigma[x]}{M[x]}$$

where,  $\sigma[x_i]$  = standard deviation of a random variable.

The probability density function for the normal distribution law has the form

$$f[x] = \frac{1}{\sigma[x]\sqrt{2\pi}} e^{-\frac{(x-M[x])^2}{2\sigma^2[x]}}$$

The integral distribution function has the form

$$F[x] = \int_{-\infty}^{+\infty} f[x] dx$$

Values of a normally distributed random variable lie in the range  $(M[x] - 3\sigma[x]; M[x] + 3\sigma[x])$ .

The algorithm for solving the problem includes steps.



1. Transformation of the mathematical model of stochastic programming into a deterministic equivalent.
2. Determination of the optimal solution by non-linear programming.

The deterministic equivalent of a mathematical model has the form

$$\begin{aligned} \max \leftarrow Z &= \sum_{i=1}^n M[c_i] * X_i \\ &\text{under restrictions} \\ \begin{cases} \sum_{i=1}^n M[a_{ij}] * x_i \leq M[b_j] - t(\beta_j)W_j \\ W_j = \sqrt{\sum_{i=1}^n \sigma^2[a_{ij}]x_i^2 + \sigma^2[b_j]} \\ \sum_{i=1}^n x_i = 1, i = \overline{1, n} \quad j = \overline{1, m} \end{cases} \end{aligned}$$

where,  $\beta_j$  = a given level of probability of fulfilling the  $j$  constraint and  $t(\beta_j)$  = the value of the parameter  $t$  in the normal distribution, corresponding to a given level of probability  $\beta_j$  and  $W_j$  = a value, depending on the spread of  $a_{ij}$ ,  $\beta_j$  and  $t(\beta_j)W_j$  = the value of the additional resource, required to fulfill a given level  $j$  of probability constraint.

**4. The solution of the problem**

Let the number of projects of the organization's information system be 5. The mathematical expectations of the parameters  $M[c_i]$ ,  $M[a_{ij}]$ ,  $M[b_j]$  are presented in table 1.

Table 1 Mathematical expectations of parameters

Project	Variables	Mathematical expectations of financial costs $M[a_{ij}]$ , million rubles				Mathematical expectations of profits $M[c_i]$ , million rubles
		$j=1$	$j=2$	$j=3$	$j=4$	
1	$x_1$	5,00	2,98	0,58	0,48	3,71
2	$x_2$	3,2	1,5	2,5	0,83	2,69
3	$x_3$	2,93	3,00	2,12	0,24	4,21
4	$x_4$	4,29	3,65	0,27	0,36	3,61
5	$x_5$	3,46	2,65	1,24	0,73	3,11
Mathematical expectations of funds $M[b_j]$ , million rubles		6,50	3,00	3,00	1,50	$Z \rightarrow \max$

The mathematical model of stochastic programming has the form

$$\begin{aligned} \max \leftarrow Z &= 3.71x_1 + 2.69x_2 + 4.21x_3 + 3.61x_4 + 3.11x_5 \\ &\text{under restrictions} \end{aligned}$$

$$\begin{cases} P(5x_1 + 3.2x_2 + 2.93x_3 + 4.29x_4 + 3.46x_5 \leq 6.5) \geq 0.8 \\ P(2.98x_1 + 1.5x_2 + 3x_3 + 3.65x_4 + 2.65x_5 \leq 3) \geq 0.8 \\ P(0.58x_1 + 2.5x_2 + 2.12x_3 + 0.27x_4 + 1.24x_5 \leq 3) \geq 0.8 \\ P(0.48x_1 + 0.83x_2 + 0.24x_3 + 0.36x_4 + 0.73x_5 \leq 1.5) \geq 0.8 \\ \sum_{i=1}^n x_i = 1, x_1 \geq 0, x_2 \geq 0, x_3 \geq 0, x_4 \geq 0, x_5 \geq 0 \\ x_1 \leq 1, x_2 \leq 1, x_3 \leq 1, x_4 \leq 1, x_5 \leq 1 \end{cases}$$

The deterministic equivalent of the mathematical model of stochastic programming has the form

$$\begin{aligned} \max \leftarrow Z &= 3.71x_1 + 2.69x_2 + 4.21x_3 + 3.61x_4 + 3.11x_5 \\ &\text{under restrictions} \end{aligned}$$

$$\begin{cases} 5x_1 + 3.2x_2 + 2.93x_3 + 4.29x_4 + 3.46x_5 \leq 6.5 - 0.84 * \\ \sqrt{0.69x_1^2 + 0.28x_2^2 + 0.24x_3^2 + 0.51x_4^2 + 0.33x_5^2} + 1.16 \\ 2.98x_1 + 1.5x_2 + 3x_3 + 3.65x_4 + 2.65x_5 \leq 3 - 0.84 * \\ \sqrt{0.25x_1^2 + 0.06x_2^2 + 0.25x_3^2 + 0.37x_4^2 + 0.19x_5^2} + 0.25 \\ 0.58x_1 + 2.5x_2 + 2.12x_3 + 0.27x_4 + 1.24x_5 \leq 3 - 0.84 * \\ \sqrt{0.01x_1^2 + 0.17x_2^2 + 0.12x_3^2 + 0.002x_4^2 + 0.04x_5^2} + 0.25 \\ 0.48x_1 + 0.83x_2 + 0.24x_3 + 0.36x_4 + 0.73x_5 \leq 1.5 - 0.84 * \\ \sqrt{0.007x_1^2 + 0.02x_2^2 + 0.002x_3^2 + 0.004x_4^2 + 0.015x_5^2} + 0.06 \\ \sum_{i=1}^n x_i = 1, x_1 \geq 0, x_2 \geq 0, x_3 \geq 0, x_4 \geq 0, x_5 \geq 0 \\ x_1 \leq 1, x_2 \leq 1, x_3 \leq 1, x_4 \leq 1, x_5 \leq 1 \end{cases}$$

The optimal solution is determined by non-linear programming:  $X^* = \{0; 0.37; 0.63; 0; 0\}$  и  $Z^* = 3.65$  million rubles. Of the five projects of the organization's information system, the project with number 3 is selected, which has the largest share of funding of 0.63. The maximum profit will be 3.65 million rubles.

Let us determine the effect of stochastic conditions on the indicators of solving the problem. With the coefficient of variation  $V = 0.17$ , we determine the solution to the problem for probability  $0.5 \leq \beta_j \leq 0.95$  in increments of 0.05. The calculated data are given in table 2.

Table 2 The calculated data for  $V = 0.17$  and  $0.5 \leq \beta_j \leq 0.95$

Probability $\beta_j$	Function $Z$ , million rubles.	Project financing shares					Coefficient $k$
		$x_1$	$x_2$	$x_3$	$x_4$	$x_5$	
0.50	4.21	0	0	1	0	0	1
0.55	4.12	0	0.06	0.94	0	0	0.98
0.60	4.03.	0	0.12	0.88	0	0	0.96
0.65	3.94	0	0.18	0.82	0	0	0.94

0.70	3.85	0	0.24	0.76	0	0	0.92
0.75	3.76	0	0.30	0.70	0	0	0.89
0.80	3.65	0	0.37	0.63	0	0	0.87
0.85	3.53	0	0.45	0.55	0	0	0.84
0.90	3.37	0.08	0.52	0.4	0	0	0.80
0.95	3.13	0.24	0.63	0.13	0	0	0.74

Increasing the probability  $\beta_j$  decreases the value of the objective function Z.

Let us determine the influence of the coefficient of variation on the result of solving the problem. With probability  $\beta_j = 0.8$ , we determine the solution to the problem for the coefficient of variation  $0 \leq V \leq 0.35$ . The calculated data are given in table 3.

Table 3 Calculated data for  $\beta = 0.8$  and  $0 \leq V \leq 0.35$

Coefficient of variation V	Objective function Z, million rubles	Project financing shares					Coefficient k
		x1	x2	x3	x4	x5	
0	4.21	0	0	1	0	0	1
0.05	4.03	0	0.12	0.88	0	0	0.96
0.10	3.86	0	0.23	0.77	0	0	0.92
0.15	3.70	0	0.33	0.67	0	0	0.88
0.20	3.55	0	0.44	0.56	0	0	0.84
0.25	3.38	0.07	0.52	0.41	0	0	0.80
0.30	3.21	0.18	0.60	0.22	0	0	0.76
0.35	3.05	0.29	0.67	0.04	0	0	0.73

With an increase in the coefficient of variation, the value of the objective function decreases.

**5. Results of the study**

The results of the study allow us to draw the following conclusions.

1. A mathematical model of stochastic programming for solving a problem in the M-statement has been developed.
2. The deterministic equivalent of the mathematical model of stochastic programming is determined.
3. The optimal solution is determined by the nonlinear programming method.
4. The influence of stochastic conditions on the indicators of solving the problem is determined.
5. The obtained simulation results can reduce financial costs and increase the validity of decisions in the design of information systems of the organization and can be used in further research on this topic.

**6. References**

[1] Semakhin A. M. *Integer model of satellite Internet project selection*. Proceedings "Modern problems of informatization in systems of modeling, programming and telecommunications", Issue 9. Voronezh, Scientific book, p. 338-339, 2004.  
 [2] Semakhin A. M. *Mathematical model of satellite Internet distribution*. Proceedings "Modern problems of informatization in engineering and technology" Issue 10. Voronezh, Scientific book, p. 261, 2005.

[3] Semakhin A.M. *A mathematical model for choosing the optimal satellite Internet provider*. Scientific technical journal "Information Technologies of Modeling and Control". Issue 3 (21). Voronezh, Scientific book, p. 435-438, 2005.  
 [4] Semakhin A. M. *Mathematical model of information system optimization*. Scientific technical journal "Bulletin of the Kurgan State University" No. 1 (17). Series "Engineering". Issue 5. Kurgan, Kurgan State University, p. 164-168, 2010.  
 [5] Semakhin A. M. *Method Gomory in the Decision of the Integer Problem of Optimization of Information System*, Proceedings of International Scientific Conference "Achievement of high school", Vol. 10, Sofia pp. 46-51, November, 2012.  
 [6] Semakhin A. M. *The Gauss-Jordan's Method in Modelling of Information System*, *Young Scientist USA*, Vol. 1, Auburn, pp. 133-142, 2014.  
 [7] Semakhin A. M. *The Method of Modified Jordan Elimination in Modelling Information Systems*, Proceedings of International Masaryk Conference for Ph. D. Students and Young Researchers MMK 2015, Vol VI, pp. 2284-2292, Sciemcee, December, 2015.  
 [8] Semakhin A. M. *Nonlinear Programming in Modelling Information Systems*, *Vestnik of Kuzbas State Technical University*, No. 1(113). pp. 187 – 191, 2016.  
 [9] Semakhin A. M. *The Method of Lagrange Multipliers in Modelling of Information Systems*, Proceedings of International Masaryk Conference for Ph. D. Students and Young Researchers MMK 2016, Vol VII, pp. 2284-2292, Sciemcee, December, 2016.  
 [10] Semakhin A. M. *The Choice of Optimum Project of Information System of Organization in Conditions of Partial Uncertainty*, *Vestnik of Kurgan State University*, No. 2(45). pp. 107 – 109, 2017.  
 [11] Semakhin A. M. *Program Complex of an Optimum Choice of Information System in Conditions of Uncertainty*. Proceedings of 1-st International Scientific Conference, Kurgan State University, pp. 435 – 445, September, 2017.  
 [12] Semakhin A. M. *The Quadratic Programming in Modelling of Information Systems*. Proceedings of International Masaryk Conference for Ph. D. Students and Young Researchers MMK 2017, Vol VIII, pp. 1157 – 1166, Sciemcee, December, 2017.  
 [13] Semakhin A. M. *Cutting-Plane Method in Modelling of Information Systems*. Proceedings of 9<sup>th</sup> International Scientific Conference CER, pp. 108 – 110, March 2018.  
 [14] Semakhin A. M. *Network Modelling of Information System in Conditions of Certainty*. Proceedings of International Scientific Conference QUAERE 2018, Vol. VIII, pp. 1369 – 1376, June, 2018.  
 [15] Taha H. A. *Operations Research: an Introduction*, Prentice Hall, Upper Saddle River, New Jersey, 2007.  
 [16] Semakhin A. M. *Cost optimization of activity network of information system*. Proceedings of the 11<sup>th</sup> International Scientific Conference CER, Vol. VI, Issue I, Sciemcee Publishing. London, March 2019, pp. 49 – 53.  
 [17] Semakhin A. M., Kurochkin A. A. *The program of optimal planning of installation and adjustment works of*

*the information system.* Proceedings of the Interdisciplinary Scientific International Conference QUAERE 2019, Vol. IX. pp. 890 – 899, June 2019.

[18] John Birge, Francois Louveaux. *Introduction to stochastic programming.* New York, Springer, 2013, 421 p.

[19] Peter Kall, Janos Mayer. *Stochastic Linear Programming algorithms a comparison based on a model management system.* Springer Science & Business Media, 2005, 397 p.

[20] Helmut Duddeck, Wolfgang Dietrich, Gabor Toth. *Stochastic programming Numerical techniques and engineering applications.* Springer, 1995, 345 p.

[21] Kan Yu. S, Kibzun A. I. *Problems of stochastic programming with probabilistic criteria,* Fizmatlit, 2009, 347 p.

[22] Andras Prekopa. *Stochastic programming.* Springer Science & Business Media, 2013, 600 p.

## Session: Natural Sciences

### Index of Author(s)

Legerská, Barbora  
Chmelová, Daniela  
Ondrejovič, Miroslav  
Lipničanová, Sabina

## PLANT SECONDARY METABOLITES AS POTENTIAL SERINE PROTEASE INHIBITORS

Barbora Legerská – Daniela Chmelová – Miroslav Ondrejovič

University of Ss. Cyril and Methodius in Trnava

Nám. J. Herdu 2

Trnava, 917 01, Slovak Republic

+421 33 5565 321

legerskab@gmail.com – daniela.chmelova@ucm.sk – miroslav.ondrejovic@ucm.sk

**Abstract:** Serine proteases are important and well-characterized enzymes in the human body. Their increased enzyme activities can cause various diseases such as pancreatitis, inflammatory bowel diseases or cancer. Plants represent a rich source of inhibitory active compounds that are often divided into two groups according to their chemical structures, namely protein and non-protein inhibitors including plant primary and secondary metabolites, respectively. Plant secondary metabolites, specifically sulphur-containing compounds, terpenes, nitrogen-containing compounds and phenols, form four main groups of non-protein inhibitors. The significant inhibitory activity towards serine proteases has been described in the group of terpenes, alkaloids and polyphenols such as phenolic acids or flavonoids. Chemical structure of these compounds affects inhibitory activity. Moreover, these compounds can be divided into the non-competitive or competitive inhibitors based on the inhibitory mechanism.

**Keywords:** serine protease, inhibitors, plants, plant metabolites

### 1. Introduction

Serine proteases represent the group of enzymes localized in the human gastrointestinal tract and play an important role in many physiological processes. The increase of protease activity leads to a breakdown of homeostasis associated with serious diseases and may result in life-threatening illnesses, such as pancreatitis, inflammatory bowel diseases or cancer. The inhibition of protease activity by protein or non-protein compounds is a possible way of treating diseases.

The plant material is a rich source of non-protein compounds representing the plant secondary metabolites that exhibit antioxidant, antimicrobial [1], antifungal [2], as well as antiprotease activities [3]. These plant secondary metabolites can be divided into four basic groups according to the type of synthesis, namely sulphur-containing substances (phytoalexins, thiones, defensins, lectins), terpenes (carotenoids, sterols, cardiac glycosides), nitrogen-containing substances (non-protein amino acids, cyanogenic glucosides and alkaloids) and the phenols (lignans, phenolic acids, stilbenes, flavonoids) [4].

The aim of this mini-review is to describe the current state of knowledge on plant secondary metabolites as potential inhibitors of serine proteases.

#### 1.1 Sulphur-containing substances

The group of sulphur-containing compounds includes amino acids (methionine and cysteine), vitamins (thiamine and biotin), and other compounds as aliine (allicin precursor), glucosinolates, glutathione and methylsulphonylmethane. These compounds have been used in the prevention of various cardiovascular diseases [5], in the treatment of cancer [6] or arthritis [7]. Allicin and its derivatives exhibit also inhibitory activity towards cysteine proteases (falcipain 2, rhodesain and cathepsin B) [8] or urease [9]. However, the inhibitory effect of these

compounds towards serine proteases has not yet been reported.

#### 1.2 Terpenes

Terpenes represent one of the largest and most diverse group of the plant secondary metabolites. The basic structure of terpene consists of isoprene units ( $C_5H_8$ ) and the molecule of acetyl-CoA or its intermediates represent their biosynthetic origin [10]. Terpenes can be divided to hemiterpenes (one isoprene unit), monoterpenes (with two isoprene units), sesquiterpenes (three isoprene units), diterpenes (with 4 isoprene units), sesterterpenes (5 isoprene units) triterpenes (6 isoprene units), sesquaterpenes (7 isoprene units), tetraterpenes (with 8 isoprene units) and polyterpenes (with more isoprene units) based on the number of isoprene units [11]. This class of secondary metabolites exhibits a wide range of properties including antioxidant activity [12], anti-inflammatory effects [13] or anticancer effects [11].

The terpenes isolated from *Alstonia boonei* cortex showed the inhibitory effect on chymotrypsin and trypsin activities, but not on pancreatic elastase activity (Table 1) [10]. The mechanism of terpene action on selected serine proteases was described in the work of by Rajic et al. [10]. Fatty acid ester derivatives of triterpenoids (lupeol palmitate,  $\alpha$ -amyrin linoleate, and lupeol linoleate) were found to exhibit a non-competitive inhibition mechanism against to trypsin via the interaction of domain outside of the trypsin active site, while parent triterpenoids ( $\alpha$ -amyrin and lupeol) competitively inhibited enzyme activity via binding of the triterpene nucleus to the active trypsin site. It can be assumed that the active site of trypsin interacts with the hydrophobic parts of model parent triterpenoid nucleus resulting in the reaction of the 3-hydroxy group with water followed by the elimination of this hydrophobic part from the aqueous solution [10]. Other triterpenoids (araxastane, oleanane, ursane, lupane, taraxane,

cycloartane, dammarane, and tirucallane) show the inhibitory effect on serine proteases, namely trypsin and chymotrypsin. This can be related to the position and number of hydroxy groups in the triterpenoid structure, although, fatty acid esterification of 3-hydroxy group shows a significant effect on the inhibitory potential of these derivatives of terpenoids [14].

Table 1 Kinetic analysis of plant secondary metabolite inhibition of serine proteases.

Plant source	Inhibitor	Serine protease	$K_i$ [ $\mu$ M]	Ref.
<b>Terpenes</b>				
<i>Astonia boonei</i>	$\alpha$ -amyrin	T	29.0 (C)	[10]
		Ch	18.0 (N)	
	lupeol linoleate	T	7.0 (N)	
	lupeol palmitate	T	10.0 (N)	
	$\alpha$ -amyrin linoleate	Ch	28.0 (N)	
	lupeol	Ch	8.0 (C)	
<i>Chrysanthemum morifolium</i>	faradiol	T	113±20(C)	[14]
		Ch	68±6.9(C)	
	faradiol 3- <i>O</i> -myristate	Ch	30±8.7(N)	
	faradiol 3- <i>O</i> -palmitate	T	86±6.7(N)	
	faradiol 3- <i>O</i> -palmitate	Ch	58±2.5(N)	
	heliantriol C3- <i>O</i> -myristate	T	40±8.1(C)	
	amidiol	T	143±13(C)	
		Ch	63±15(N)	
	maniladiol 3- <i>O</i> -myristate	T	267±29(N)	
		Ch	26±3.8(C)	
	maniladiol 3- <i>O</i> -palmitate	T	190±22(N)	
		Ch	120±4.1(N)	
	brein (urs-12-en-3 $\beta$ ,16 $\beta$ -diol)	Ch	110±10(N)	
	brein 3- <i>O</i> -myristate	Ch	114±12(N)	
brein 3- <i>O</i> -palmitate	Ch	110±31(N)		
calenduladiol	Ch	57±3.7(C)		
	T	25±3.1(C)		
cycloartenol	Ch	420±60(C)		
	T	152±8.5(C)		
<i>Helianthus annuus</i>	dammaradienol	T	152±8.5(C)	
		Ch	72±7.8(N)	
<b>Nitrogen-containing compounds - alkaloids</b>				
<i>Isatis tinctoria</i>	3'-hydroxy epiglucoisatisin	Ch	*	[18]
		Ch	*	
<b>Phenolic compounds</b>				
<i>Cinnamomum zeylanicum</i>	caffeic acid	T	102±6(N)	[25]
<i>Citrus sinensis</i>	hesperetin		90.2±1.1 (N)	[36]
			17.5±0.6 (N)	
	rutin	T	84.2±1.5 (N)	
<i>Camelia sinensis</i>	hesperidine		65.1±1.5 (N)	
			65.1±1.5 (N)	
<i>Vitex negundo</i>	lignan 3	Ch	31.75±0.85 (N)	[37]

lignan 4	47.11±0.72 (C)
Ch- chymotrypsin, T- trypsin, C- competitive inhibition, N- non-competitive inhibition, $K_i$ - inhibition constant, * not determined	

Ferheen et al. [15] tested the inhibitory effect of triterpenes from *Hypericum oblongifolium* (hyperinol A and hyperinol B) on serine proteases and their results were similar to other authors [10, 14]. Hyperinol A exhibits the higher inhibitory activity towards serine proteases due to the presence of the hydroxyl group at C<sub>22</sub>.

### 1.3 Nitrogen-containing compounds

Nitrogen-containing compounds are involved in plant defence mechanisms against pests. These compounds represent alkaloids and glycosides that can be divided into three groups, namely nitrogen-derived heterocyclic ring-containing alkaloids, biological non-heterocyclic amines and steroidal alkaloids with the nitrogen-containing heterocyclic ring not derived from amino acids. Alkaloids divide into fourteen groups – purine and steroid, pyrrole and pyrrolidine, indole, pyrrolidine, pyridine and piperidine, tropane, imidazole, quinoline, isoquinoline, indolizidine, aporphine, norlupinan and terpenoid. They form water-soluble salts and can be used as drugs or pharmaceutical preparations due to their strong physiological effects in humans. Alkaloids belong to anticancer agents [16] but are also used in the treatment of diseases such as Alzheimer's disease or HIV [17].

Anti-protease effect of alkaloids was observed by Ahmad et al. [18]. They detected the presence of two alkaloids isolated from *Isatis tinctoria* with anti-chymotrypsin activity (Table 1). Increasing the number of hydroxyl/carbonyl groups in the structure of alkaloids increased their inhibitory activity probably due to the chelation of these groups with the active site of the enzyme. Zsilla et al. [19] confirmed the non-covalent binding of the alkaloids (sanguinarine, ellipticine, desmethyl-isocryptolepine, isoneocryptolepine, berberine, coptisine and chelerythrine) into the S1 binding cavity of chymotrypsin where are stabilized by hydrophobic and hydrogen-bonding interaction. Tanaka et al. [20] observed berberine-type alkaloids and some structurally related alkaloids on porcine pancreatic elastase activity. The chlorides of berberine, coptisine and sanguinarine significantly inhibited protease activity, but tetrahydroberberine had the neutral effect. Authors observed that the quaternary nitrogen of the alkaloids increased the inhibitory effect on serine proteases.

### 1.4 Phenolic compounds

Phenols represent a significant group of plant secondary metabolites characterized by the presence of one or more aromatic rings. These compounds are the products of pentose-phosphate, shikimate or phenylpropanoid pathways [21]. The present knowledge suggests that polyphenol compounds inhibit a wide range of enzymes [22, 23]. The interaction of phenolic compounds with proteases results in the inhibition of their activity [24-26], the protease activation [27, 28] or the neutral effect of the

phenolic compounds on protease activity [29]. Phenols may act as non-competitive or competitive inhibitors [30].

The structures of phenolic compounds play an important role in how effectively they inhibit serine proteases. Phenolic acid containing hydroxyl groups (caffeic acid) was the more effective inhibitor against trypsin than phenolic acid without benzene-linked hydroxyl groups (cinnamic acid). Moreover, phenolic acids with  $\alpha,\beta$ -unsaturated carboxyl group (caffeic, cinnamic, and ferulic acids) had the ability to inhibit trypsin activity, and no inhibition without its presence in the phenolic acid structure (gallic acid, vanillin, catechol) was observed [24].

The effect of inhibitor structure has also been described for flavonoids. The number and position of hydroxyl and aromatic groups, stereoisomer structure, and catechin orientation in the S1 cavity of trypsin affect the binding affinity. From all catechin stereoisomers, the 2R-3R epigallocatechin gallate was identified as the most effective inhibitor. The ability of trypsin inhibition decreases in the following order: 2R-3R epigallocatechin gallate > epigallocatechin > epicatechin > epicatechin gallate > epigallocatechin gallate [31]. The number of hydroxyl groups in the flavonoid structure affects the effectiveness of inhibition towards serine proteases. The inhibitory activity increased in order: quercetin > luteolin > kaempferol > apigenin [32]. Moreover, the position of the hydroxyl group is also associated with inhibitory activity. The presence of hydroxyl groups at the C<sub>5</sub> and C<sub>7</sub> positions on aromatic ring A of flavonoid shows significant impact on the inhibition of trypsin activity and simultaneously, the presence of free hydroxyl groups at the C<sub>3'</sub> and C<sub>4'</sub> positions increases the inhibitory activity [33].

Feng et al. [34] studied the structural changes of trypsin that occur in it during the enzyme-inhibitor interaction and found that the bond of model phenylpropanoid glycosides induces the change of trypsin conformation. These compounds inhibited trypsin activity in the following order: acteoside > syringalide A3'- $\alpha$ -L-rhamnopyranoside > lipidoside A-I > osmanthuside B, suggesting that more hydroxyl groups result in the effective inhibition of trypsin activity. Moreover, the hydroxyl groups attached to the ring A has a greater inhibitory effect on trypsin activity than those to ring B [34]. The anti-chymotrypsin activity exhibits salireposide probably due to benzoyl esterifying group at the 3-position of the glucose moiety [35].

### Conclusion

The inhibition of serine protease activity by plant secondary metabolites may be a way of treating diseases caused by increased activity of these enzymes. Terpenes, nitrogen-containing compounds and phenolic compounds belong to the group of suitable serine protease inhibitors. Fatty acid ester derivatives of triterpenoids are more effective non-competitive inhibitors than parent triterpenoids. In other groups of plant secondary

metabolites, the number and position of hydroxyl groups had the significant effect on serine protease inhibition.

### Acknowledgements

This work was supported by grant of APVV-05-2019.

### References

- [1] Papuc, C., Goran, G. V., Predescu, C. N., Nicorescu, V., Stefan, G., *Comprehensive Reviews in Food Science and Food Safety*, Vol. 16, No. 6, pp. 1243-1268, 2017.
- [2] Zacchino, S. A., Butassi, E., Liberto, M. D., Raimondi, M., Postigo, A., Sortino, M., *Phytomedicine*, Vol. 37, pp. 27-48, 2017.
- [3] Paun, G., Litescu, S. C., Neagu, E., Tache, A., Radu, L. G., *Journal of Enzyme Inhibition and Medicinal Chemistry*, Vol. 29, No. 1, pp. 28-34, 2014.
- [4] Ahmad, E., Arshad, M., Khan, M. Z., Ahmad, S., *Journal of Pharmacognosy and Phytochemistry*, Vol. 6, No. 2, pp. 205-214, 2017.
- [5] Garcia-Trejo, E. M., Arellano-Buendia, A. S., Arguello-Garcia, R., Loredó-Mendoza, M. L., Garcia-Arroyo, F. E., Arellano-Mendoza, M. G., Castillo-Hernandez, M. C., Guevara-Balcazar, G., Tapia, E., Sanchez-Lozada, L. G., Osorio-Alonso, H., *Oxidative Medicine and Cellular Longevity*, Vol. 2016, pp. 25-29, 2016.
- [6] Traverso, N., Ricciarelli, R., Nitti, M., Marengo, B., Fufaro, A. L., Pronzato, M. A., Marinari, U. M., Domenicotti, C., *Oxidative Medicine and Cellular Longevity*, Vol. 2013, p. 1-10, 2016.
- [7] Prasad, R., *Proceedings of the National Science Academy*, Vol. 80, No. 5, pp. 1045-1054, 2014.
- [8] Waag, T., Gelhaus, C., Rath, J., Stich, A., Leippe, M., Schirmeister, T., *Bioorganic & Medical Chemistry Letters*, Vol. 20, No. 18, pp. 5541-5543, 2010.
- [9] Mathialagan, R., Mansor, N., Al-Khateeb, B., Mohaman, M. H., Shamsuddin, M. R., *Procedia Engineering*, Vol. 184, pp. 449-459, 2017.
- [10] Rajic, A., Kweifio-Okai, G., Macrides, T., Sandeman, R. M., Chandler, D. S., Polya, G.M., *Planta Medica*, Vol. 66, No. 3, pp. 206-210, 2000.
- [11] Yang, H., Dou, Q. P., *Current Drug Targets*, Vol. 11, No. 6, pp. 733-744, 2010.
- [12] Ngo, T. C., Dao, D. Q., Thong, N. M., Nam, P. C., *RSC Advances*, Vol. 37, pp. 1-10, 2016.
- [13] Akihisa, T., Yasukawa, K., Tokuda, H., *Studies in Natural Products Chemistry*, Vol. 29, pp. 73-126, 2003.
- [14] Rajic, A., Akihisa, T., Ukiya, M., Yasukawa, K., Sanderman, R. M., Chandler, D. S., Polya, G. M., *Planta Medica*, Vol. 67, No. 7, pp. 599-604, 2001.
- [15] Ferheen, S., Ahmed, E., Malik, A., Afza, N., Lodhi, M. A., Choudhary, M. I., *Chemical & Pharmaceutical Bulletin*, Vol. 54, No. 8, pp. 1088-1090, 2006.
- [16] Hashmi, M. A., Khan, A., Farooq, U., Khan, S., *Current Protein & Peptide Science*, Vol. 90, No. 3, pp. 292-301, 2018.
- [17] Singh, R., Geetanja, L., Singh, V., *Asian Journal of Chemistry*, Vol. 23, No. 2, pp. 483-490, 2011.

- [18] Ahmad, I., Fatima, I., Afza, N., Malik, A., Lodhi, M. A., Choudhary, M. I., *Journal of Enzyme Inhibition and Medicinal Chemistry*, Vol. 23, No. 6, pp. 918-921, 2008.
- [19] Zsila, F., Kámán, J., Bogányi, B., Józsvai, D., *Organic & Biomolecular Chemistry*, Vol. 11, pp. 1-11, 2011.
- [20] Tanaka, T., Metori, K., Mineo, S., Hirofani, M., Furuya, T., Kobayashi, S., *Planta Medica*, Vol. 59, No. 3, pp. 200-202, 1993.
- [21] Polyá, G. M., *Studies in Natural Products Chemistry*, Vol. 29, pp. 567-641, 2003.
- [22] He, Q., Yuanping, L. V., Yao, K., *Food Chemistry*, Vol. 101, No. 3, pp. 1178-1182, 2007.
- [23] Park, J. Y., Yuk, H. J., Ryu, H. W., Lim, S. H., Kim, K. S., Park, K. H., Ryu, Y. B., Lee, W. S., *Journal of Enzyme Inhibition and Medical Chemistry*, Vol. 32, No. 1, pp. 504-515, 2017.
- [24] Shahwar, D., Raza, M. A., Rehman, S. U., Abbasi, M. A., Rahman, A. U., *Natural Product Research*, Vol. 26, No. 12, pp. 1087-1093, 2012.
- [25] Park, J. Y., Ko, J. A., Kim, D. W., Kim, Y. M., Kwon, H. J., Jeong, H. J., Kim, C. Y., Park, K. H., Lee, W. S., Ryu, Y. B., *Journal of Enzyme Inhibition and Medical Chemistry*, Vol. 31, No. 1, pp. 23-30, 2016.
- [26] Ghaffari, M. A., Chaudhary, B. A., Uzair, M., Ashfaq, K., *African Journal of Traditional, Complementary and Alternative Medicines*, Vol. 13, No. 6, p. 194-198, 2016.
- [27] Warangkar, S. C., Khobragade, C. N., *Enzyme Research*, Vol. 2010, pp. 1-10, 2010.
- [28] Kurmina, V. V., Tarleva, A. F., Gracheva, E. L., *Island Water Biology*, Vol. 10, No. 2, pp. 228-234, 2017.
- [29] Martín-González, A. I., Díaz-Sánchez, A. G., Rosa, L. A., Vargas-Requena, C. L., Bustos-Jaimes, I., Álvarez-Parrilla, A. E., *Molecules*, Vol. 22, No. 4, pp. 1-12, 2017.
- [30] Kuhnert, N., Dairpoosh, F., Jaiswal, R., Matei, M., Deshpande, S., Golon, A., Nour, H., Karakose, H., Hourani, N., *Journal of Chemical Biology*, Vol. 4, No. 3, pp. 109-116, 2011.
- [31] Cui, F., Yang, K., Li, Y., *Plos One*, Vol. 10, No. 5, pp. 1-16, 2015.
- [32] Li, Q., Wei, Q. Y., Yuan, E., Yang, J., Ning, Z., *International Journal of Food Science & Technology*, Vol. 49, No. 4, pp. 1-11, 2014.
- [33] Parellada, J., Guinea, M., *Journal of Natural Products*, Vol. 58, No. 6, pp. 823-829, 1995.
- [34] Feng, Y., Lv, M., Lu, Y., Liu, K., Liu, L., Hr, Z., Wu, K., Wang, X., Zhang, B., Wu, X., *Food Chemistry*, Vol. 243, pp. 118-124, 2018.
- [35] Abbasi, M. A., Ahmad, V. U., Zubair, M., Rashid, M. A., Farooq, U., Nawaz, S. A., Lodhi, M. A., Makhmoor, T., Choudhary, M. I., Rahman, A., *Proceedings of the Pakistan Academy of Science*, Vol. 42, No. 2, pp. 121-124, 2005.
- [36] Shahwar, D., Raza, M. A., Rahman, A. U., *Journal of the Science of Food and Agriculture*, Vol. 93, pp. 12-24, 2013.
- [37] Lodhi, A. M., Choudhary, I. M., Malik, A., Ahmad, S., *Journal of Enzyme Inhibition and Medicinal Chemistry*, Vol. 23, pp. 400-405, 2008.



## COMPARISON OF THREE *ESCHERICHIA COLI* STRAINS IN RECOMBINANT PRODUCTION OF NEURAMINIDASE FROM INFLUENZA A VIRUS TYPE

Sabina Lipničanová –Daniela Chmelová –Miroslav Ondrejovič

Department of Biotechnology, Faculty of Natural Sciences  
University of Ss. Cyril and Methodius in Trnava

Nám. J. Herdu 2

Trnava, 917 01, Slovak Republic

+421 33 5565 321

sabina.lip@gmail.com - daniela.chmelova@ucm.sk - miroslav.ondrejovic@ucm.sk

**Abstract:** Neuraminidase, as a surface glycoprotein of influenza virus, represents the perspective target for the design of new antiviral compounds useful for the treatment. Desired neuraminidase in a large quantity allows the development of antiviral therapy following the control of influenza. The biosynthesis of this enzyme in the recombinant system is suitable alternative method to neuraminidase isolation from virus surface under controlled conditions. In this study, the synthetic coding sequence was designed considering the optimal codon sequence for *Escherichia coli* using vector under T7 promoter inducible by IPTG. The vector was successfully transformed into *E. coli* cells BL21 (DE3)pLys, ArcticExpress (DE3), and C43 (DE3). The aim of this study was to determine the potential of all *E. coli* strains tested to produce recombinant neuraminidase from influenza A virus type. The recombinant proteins were deposited in the insoluble fraction and the change of expression conditions did not cause soluble protein production. Neuraminidase production in inclusion bodies was confirmed with the light microscopy. However, the production of recombinant protein in inclusion bodies can be an advantage, if the protein is refolded easily.

**Keywords:** neuraminidase, BL21 (DE3)pLys, ArcticExpress(DE3), C43 (DE3), induction

### 1. Introduction

Influenza virus causes disease, known as the flu, with up to 1 billion cases of flu, 3–5 million cases of severe illnesses, and 300,000 to 500,000 deaths per year worldwide according to the World Health Organization.

Influenza viruses belong to the *Orthomyxoviridae* family. The core of viral particle forms ribonucleoprotein complex, consisting of negative-sense, single stranded, segmented RNA genome. Each segment codes viral protein. Centre of viral particle is surrounded by lipid layer and possess three proteins: the matrix protein 2, hemagglutinin and neuraminidase [1]. The subtypes of influenza viruses are determined by the combination of hemagglutinin and neuraminidase that are also detected by host's immunity system. Hemagglutinin and neuraminidase are highly variable proteins and their genetic variations are responsible for the appearance of epidemic or pandemic influenza viruses. Currently, hemagglutinin and neuraminidase can be classified into 18 and 11 different subtypes, respectively [2]. The changes of hemagglutinin and neuraminidase occur independently in nature; however, it can be said that neuraminidase gene evolves at a slower rate than hemagglutinin gene [3]. Influenza viruses can infect a broad spectrum of host species, including pigs, birds and humans.

The antiviral substances can stop the infection as well as can help with the treatment of infection outbreaks in hosts. From the point of genetic and proteomic stability, the research of antiviral compounds is focused on neuraminidase inhibitors such as sialic acid synthetic analogues or natural compounds, such as polyphenols [4]. Screening of new neuraminidase inhibitors requires enzymatically active neuraminidases which can be

obtained by the extraction directly from the surface of influenza virus or by the synthesis using recombinantly modified organisms. Neuraminidase extraction from influenza virus requires their production in eukaryotic host cells in special laboratory equipment and the precautions to prevent the spread of viruses [5]. The production of recombinant neuraminidase is a fast process and allows the production of specific mutants that could occur during the replication of virions in host cells. For this purpose, several expression systems such as bacteria [6], yeasts [7], insect cells [8], plants [9] or mammalian cells [10] were used, but the expression of recombinant protein in *E. coli* is easier and faster than its production in other above-mentioned expression systems.

In the literature, some possible candidates of *E. coli* strain were described [11]. Therefore, the aim of this study was to determine the most suitable strain of *E. coli* for recombinant production of neuraminidase from influenza A virus type.

### 2. Material and methods

#### 2.1. Chemicals

Potassium dihydrogen phosphate, p.a., Dipotassium hydrogen phosphate, p.a., Ethanol, p.a., Methanol, p.a. and Acetic acid, p.a. were purchased from Mikrochem (Slovakia). Ethylenediaminetetraacetic acid, anhydrous, ≥99% (EDTA), Bromophenol blue, Albumin from bovine serum, Acrylamide, ≥99%, Ammonium persulfate, ≥98%, 2-mercaptoethanol, ≥99%, Brilliant Blue G, pure, Brilliant Blue R, pure, Sodium dodecyl sulfate, ≥98.5%, N,N,N',N'-Tetramethylethylenediamine (TEMED), ≥99%, and 1 kb DNA ladder were obtained from Sigma-Aldrich (Germany). Bacto-tryptone, Yeast extract, Ampicillin-Na-salt, molecular biology grade, Agar, Guanidine

hydrochloride and Glycine, p.a. were obtained from Biomark (India), Difco Laboratories (USA), Serva (Germany), Biolife (Italy), Qiagen (Germany) and CentralChem (Slovakia), respectively. Isopropyl  $\beta$ -D-1-thiogalactopyranoside (IPTG), dioxane-free, was purchased from ThermoFisher Scientific (USA). Tris base, ultrapure and Protein marker VI (10-245), were obtained from Applichem (Germany).

## 2.2. Cultivation media

Luria-Bertani medium (LB; 1 % (w/v) bacto-tryptone, 0.5 % (w/v) yeast extract and 1 % (w/v) NaCl in distilled water) was used for all experiments. LB media were sterilized at a pressure of 120 kPa and temperature of 120 °C for 20 min. After cooling, ampicillin was added in culture media in the final concentration of 100  $\mu$ g/L.

## 2.3. Gene, plasmid and bacterial strains

The gene coding for neuraminidase was developed through the design using the sequence deposited in GenBank under the accession number KM244086.1. and synthesized (ATG: biosynthetics, Germany) in the plasmid pET-15b into *Xho*I and *Nde*I restriction sites. Three different *E. coli* expression strains BL21 (DE3)pLys, ArcticExpress (DE3), and C43 (DE3) were prepared and transformed using the standard protocols.

## 2.4. Restriction analysis

Single colonies from the transformed cells were used to inoculate a culture of 5 mL of LB medium containing ampicillin and after 12 h of the incubation at 37 °C were the suspension used to the screening for pET-15b by plasmid isolation. The presence of gene for neuraminidase was verified by restriction analysis with *Xho*I and *Nde*I restriction enzymes. The result of plasmid isolation was visualized by the agarose electrophoresis with 0.9 % agarose gel enriched with ethidium bromide in 1X Tris-acetic acid- EDTA buffer (TAE; pH 8.0). The gel was run at 80 V for 1.5 h.

## 2.5. Expression of neuraminidase

Single colonies of the transformed cells were used to inoculate a pre-culture of 25 mL of LB medium containing ampicillin. The cultures were incubated for over-night (12 h) at 37 °C and 180 rpm. 1 % of the pre-cultures were used to inoculate 25 mL of LB medium until they reached an OD<sub>600</sub> of 0.7. The expression of gene was initiated by IPTG in the final concentration of 1 mM. The expression continued for another 20 h at 37 and 25 °C for BL21(DE3)pLys and C43(DE3) strains and 10 and 15 °C for ArcticExpress(DE3) strain. Expression level was checked after 20 h of the expression by SDS-PAGE analysis.

## 2.6. SDS-PAGE analysis

From each experiments, *E. coli* cells were separated from the supernatant by centrifugation (30,000 rpm for a 20 min) and disintegrated by sonication (Sonopuls HD 2200 equipped with MS72 probe, Bandelin, Germany), with the amplitude of 50 % power in 10 steps for 30 s

alternated with rest on ice for 30 s. Cell-free supernatants were tested for the presence of soluble neuraminidase and the pellets for insoluble neuraminidase. An equal amount of crude extracts was mixture with SDS-PAGE loading buffer analyzed on 12 % SDS-PAGE (Mini vertical protein electrophoresis unit, SE250, Hoefer, USA).

## 2.7. Light microscopy of cells

Cell samples were collected after 5 h of the induction, washed twice with 100 mM Phosphate-buffered saline (PBS; pH 7.0), fixed and observed with Visiscope TL384P microscope equipped with camera Visicam 1.3 (VWR, USA).

## 3. Results and discussion

The recombinant neuraminidase is a potential tool for the screening of new inhibitors of influenza virus. Current research on recombinant production of neuraminidase is carried out by higher expression systems such as insects and mammalian cells [10]. Although, recombinant protein production in *E. coli* as the host organism provides some advantages such as fast growth, high cell density, easy cultivation, undemanding cultivation conditions and transformation of exogenous DNA is fast and easy [11]. In this study, we focus on the expression of neuraminidase in three different *E. coli* strains and the comparison of their ability to produce desired recombinant protein.

### 3.1. Transformation of pET-15b to *E. coli* strains

The gene coding for influenza A virus type neuraminidase with the size of 1.4 kbp was *de novo* prepared with codon preference in the plasmid pET-15b and therefore, the expression of neuraminidase is controlled by the T7 inducible promoter. The resulting recombinant molecule with the size of 7.1 kbp was successfully transformed into chemically competent competent cells.

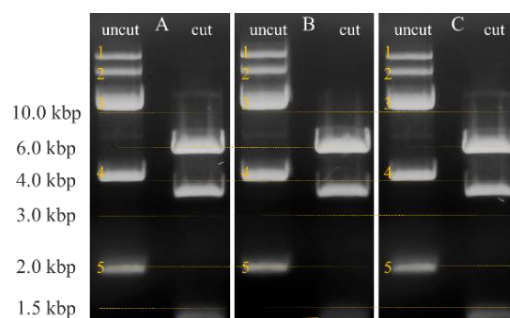


Figure 1: Restriction analysis of purified pET-15b harboring gen for neuraminidase of influenza virus from transformed cells of *E. coli* A) BL21 (DE3)pLys, B) C43 (DE3), and C) ArcticExpress (DE3). Yellow arrow represents cleaved fragment of DNA corresponding to neuraminidase gene.

As showed Figure 1, five forms of plasmid DNA were observed. The presence of gene coding for influenza neuraminidase was confirmed by double restriction digestion with *Xho*I and *Nde*I resulting in the cleaved

DNA fragment correspond to the size of cloned gene (yellow arrows in Figure 1).

### 3.2. Expression of *E. coli* BL21 (DE3)pLys

*E. coli* BL21 (DE3) is the most used prokaryotic host for recombinant protein expression. This strain is deficient in the proteases, namely Lon and OmpT [12]. *E. coli* BL21 (DE3)pLys host strain is the derivative of BL21(DE3). It contains a plasmid, pLysS, which carries the gene encoding T7 lysozyme. This T7 lysozyme provides the reduction of basal expression level of the gene. Therefore, this host strain was used at first (Figure 2).

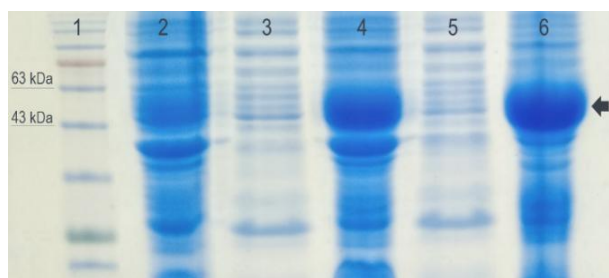


Figure 2: Analysis of *E. coli* BL21 (DE3)pLys lysates separated on 12 % SDS-PAGE: molecular weight marker (lane 1), total cell lysate of uninduced cells (lane 2), soluble (lane 3) and insoluble (lane 4) fractions of cells induced at 25 °C, and soluble (lane 5) and insoluble (lane 6) fractions of cells induced at 37 °C.

As shown in Figure 2, the obvious band of over-expressed protein was observed with molecular mass about 53 kDa as was predicted (black arrow, Figure 2). Expressed neuraminidase deposited in the insoluble fraction (line 6, Figure 2) and even the change of induction conditions from 37 to 25 °C did not cause them to accumulate in the soluble fraction (lane 3, Figure 2). In the following experiment, the host strain BL21 (DE3)pLys was replaced with another *E. coli* cells, namely C43 (DE3).

### 3.3. Expression of *E. coli* C43 (DE3)

The mutant *E. coli* strain C43 (DE3) can the over-expression of some globular and membrane proteins, unlike the parent strain BL21 (DE3) without the ability of over-production [13]. The use of this strain in the protein expression has been shown to be a suitable way for protein expression in the soluble fraction as opposed to other *E. coli* host strains [14]. Neuraminidase expression in C43 (CE3) was initiated as in previous case.

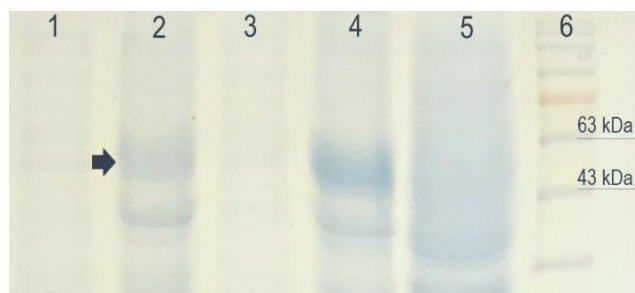


Figure 3: Analysis of *E. coli* C43 (DE3) lysates separated on 12 % SDS-PAGE: soluble (lane 1) and insoluble (lane 2,) fractions of cells induced at 25 °C, soluble (lane 3) and insoluble (lane 4) fractions of cells induced at 37 °C, total cell lysate of uninduced cells (lane 5) and molecular weight marker (lane 6).

This result match with that in the previous experiment (Figure 2). Neuraminidase was accumulated in the insoluble fraction and the change of induction temperature did not affect that (Figure 3).

### 3.4. Expression of *E. coli* ArcticExpress (DE3)

The last tested host strain was the cells of *E. coli* ArcticExpress (DE3). This strain characterizes the presence of cold-adaptive chaperones of Cpn10 and Cpn60 with the highest activity in the temperature range from 4 to 10 °C. These chaperones help to *E. coli* cell to grow at lower temperatures resulting in appropriate folding of the recombinant protein [15]. Expression was induced by 1 mM IPTG after cell density reached an OD<sub>600</sub> of 0.7 followed by the expression at 10 and 15 °C for another 20 h with regular monitoring.

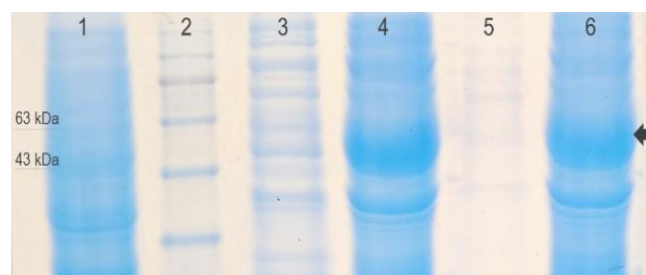


Figure 4: Analysis of *E. coli* ArcticExpress (DE3) lysates separated on 12 % SDS-PAGE: total cell lysate of uninduced cells (line 1), molecular weight marker (lane 2), soluble (lane 3) and insoluble (lane 4) fractions of cells induced at 10 °C, soluble (lane 5) and insoluble (lane 6) fractions of cell induced at 15 °C.

As shown in Figure 4, the change of host strain did not affect the solubility of the protein since neuraminidases were found in the insoluble fractions (line 4, Figure 4). Even the change in the induction temperature did not affect this finding (lane 6, Figure 4). Therefore, it can be assumed that the expressed protein is found in inclusion bodies that was degraded due to the SDS used resulting in the release of neuraminidases into the solution.

### 3.5. Detection of inclusion bodies inside cells

Neuraminidase of influenza virus has relatively complicated structure with at least eight conservative disulfide bonds [16]. This leads to protein instability and recombinant neuraminidase aggregation in the form of inclusion body [7]. The formation of inclusion bodies poses a major challenge for the production of these kinds of recombinant proteins with biological activity. Many strategies including genetic, physical and physiological approaches have been proposed to solve this problem [17–

19]. However, the success of these procedures is variable and unpredictable. On the other hand, inclusion bodies represent mechanically stable, pure and rich source of recombinant proteins. In the first step, the isolation of inclusion bodies by the cell disruption is required and this is followed by the protein refolding strategy with the result of active form of protein with biological activity [20–22]. Therefore, the formation of inclusion bodies in our experiments was verified using a light microscope (Figure 5).

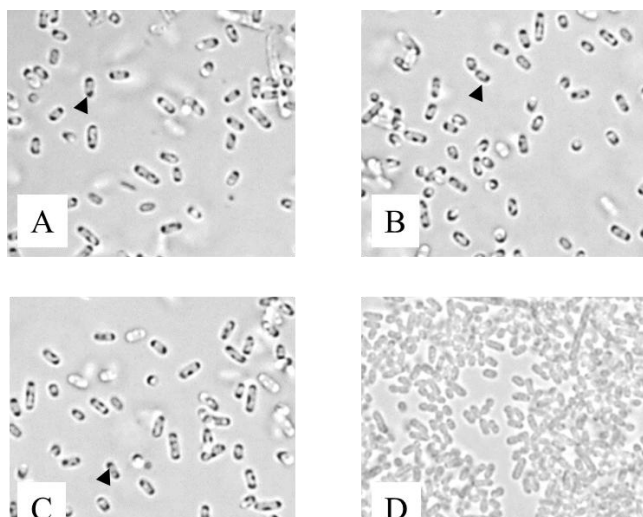


Figure 5: Microscopic images of *E. coli* strains (1000x magnification). The strains of A) BL21(DE3)pLys, B) C43(DE3) and C) ArcticExpress(DE3) was exposed to the induction by IPTG. The cells of D) BL21(DE3)pLys was used as the control (without the induction of IPTG). Black arrows mark the inclusion bodies.

Unlike to cells without induction (Figure 5-D), the cells exposed to the IPTG inducer were characterized by the presence of inclusion body-like structures after the induction (Figure 5). Suitable strategy for the isolation and solubilization of inclusion bodies with expressed neuraminidases is an issue that should be resolved soon. However, the production of recombinant neuraminidase in inclusion body may be advantageous if the protein is easily refolded because the inclusion bodies represent a relatively pure source of the recombinant protein.

#### 4. Conclusion

It is concluded that the use of selected *E. coli* hosts to produce recombinant neuraminidase results in the formation of inclusion bodies. Therefore, it is necessary to find a suitable strategy for its renaturation into the active protein form. However, it is also contemplated to alter some factors affecting the production of recombinant neuraminidase as soluble form, such as the manipulation with the promoter strength, the expression level reduction or the use of other *E. coli* host strains.

#### Acknowledgements

This work was supported by research grants of the Slovak Research and Development Agency APVV-17-0239 and the Fund for Research Support of the University of Ss. Cyril and Methodius in Trnava FPPV-06-2019.

#### References

- [1] Palese P, Schulman JL, *Proceedings of the National Academy of Sciences of the United States of America*, Vol. 93, No. 6, pp. 2142-2146, 1976.
- [2] Tong S, Zhu X, Li Y, Shi M, Zhang J, Bourgeois M, Yang H, Chen X, Recuenco S, Gomez J, Chen LM, Johnson A, Tao Y, Dreyfus C, Yu W, McBride R, Carney PJ, Gilbert AT, Chang J, Guo Z, Davis CT, Paulson JC, Stevens J, Rupprecht CE, Holmes EC, Wilson IA, Donis RO, *PLoS Pathogens*, Vol. 9, No. 10, e1003657, 2013.
- [3] Kilbourne ED, Pokorny BA, Johansson B, Brett I, Milev Y, Matthews JT, *The Journal of Infectious Diseases*, Vol. 189, No. 3, pp. 459-461, 2004.
- [4] Liu F, Cao W, Deng C, Wu Z, Zeng G, Zhou Y, *Chemistry Central Journal*, Vol., 10, No. 51, pp. 1-11, 2016.
- [5] Benton DJ, Wharton SA, Martin SR, McCauley JW, *Journal of Virology*, Vol. 91, No. 11, e02293-16, 2017.
- [6] Dukhovlinov I, Al-Shekhadat R, Fedorova E, Stepanova L, Potapchuk M, Repko I, Rusova O, Orlov A, Tsybalova L, Kiselev O, *Medical Science Monitor Basic Research*, Vol. 19, No., pp. 221-227, 2013.
- [7] Yang YL, Chang SH, Gong X, Wu J, Liu B, *Molecular Biology Reports*, Vol. 39, No. 2, pp. 857-864, 2012.
- [8] Dalakouras T, Smith BJ, Platis D, Cox MM, Labrou NE, *Journal of Chromatography A*, Vol. 1136, No. 1, pp. 48-56, 2006.
- [9] Pua, TL, Loh HS, Massawe F, Tan CS, Omar AR, *Journal of Tropical Life Science*, Vol. 2, No. 3, pp. 62-71, 2012.
- [10] Dai M, Guo H, Dortmans JC, Dekkers J, Nordholm J, Daniels R, van Kuppeveld FJ, de Vries E, de Haan CA, *Journal of Virology*, Vol. 90, No. 20, pp. 9457-9470, 2016.
- [11] Rosano GL, Ceccarelli EA, *Frontiers in Microbiology*, Vol. 5, No. e172, 2014.
- [12] Sørensen HP, Mortensen KK, *Journal of Biotechnology*, Vol. 115, No. 2, pp. 113-128, 2005.
- [13] Miroux B, Walker JE, *Journal of Molecular Biology*, Vol 260, No. 3, pp. 289-298, 1996.
- [14] Arecaga I, Miroux B, Karrasch S, Huijbregts R, de Kruijff B, Runswick MJ, Walker JE, *FEBS Letters*, Vol. 482, No. 3, pp. 215-219, 2000.
- [15] Hartinger D, Heidl S, Schwartz HE, Grabherr R, Schatzmayr G, Haltrich D, Moll WD, *Microbial Cell Factories*, Vol. 9, No. 62, pp. 1-14, 2010.
- [16] Colman PM, *The Influenza Viruses*, New York, Plenum Publishing Corporation, 1989, 175-218.
- [17] Chhetri G, Kalita P, Tripathi T, *MethodsX*, Vol. 2, No. 8, pp. 385-391, 2015.
- [18] Bao RM, Yang HM, Yu CM, Zhang WF, Tang JB, *Protein Expression and Purification*, Vol. 126, No. 5, pp. 9-15, 2016.

- [19] Fathi-Roudsari M, Maghsoudi N, Maghsoudi A, Niazi S, Soleiman M, *Protein Expression and Purification*, Vol. 151, No. 7, pp. 18-22, 2018.
- [20] Singh SM, Sharma A, Upadhyay AK, Singh A, Garg LC, Panda AK, *Protein Expression and Purification*, Vol. 81, No. 1, pp. 75-82, 2012.
- [21] Upadhyay AK, Murmu A, Singh A, Panda AK, *PloS One*, Vol. 7, No. 3, e33951, 2012.
- [22] Mohammadian A, Kaghazian H, Kavianpour A, Jalalirad R, *Chemical Technology and Biotechnology*, Vol. 93, No. 6, pp.1579-1587, 2018.

## Session: Pedagogy, Psychology

### Index of Author(s)

Bajnarová, Marie  
Brozmanová Gregorová, Alžbeta  
Doktorová, Dominika  
Faktorová, Danuša  
Greškovičová, Katarína  
Grešš Halasz, Beáta  
Hudáková, Anna  
Kalivodová, Veronika  
Kaščáková, Mária  
Koch, Helge  
Majerníková, Ludmila  
Mašát, Milan  
Mirdalíková, Ivana  
Mydlová, Kristína  
Obročníková, Andrea  
Sakačová, Zuzana  
Schlosserová, Zuzana  
Siekelová, Marika  
Štrbák Pandiová, Iveta  
Tkáčová, Lubomíra  
Vancu, Eva  
Vojteková, Marta

## Q METHODOLOGY

Zuzana Schlossoerová

### Constantine the Philosopher University in Nitra

Dražovská 4  
949 74, Nitra, Slovakia  
+421904 517 337  
zuzkaschlossoerova@gmail.com

**Abstract :** *The contribution we are involved in the conference deals with the research method called Q methodology. In the article we will define it as such and specify its progress of research in individual phases of research step by step. We chose the topic because we wanted to use this kind of method for our research, but we had a hard time working on the overall simplified summary. Therefore, we hope that this contribution will enrich this issue, precisely because it is a general understanding Q methods but at shorter range.*

**Keywords :** *Q methodology, Q method, Q sample*

### 1. Introduction

In our paper, we decided to describe a method of investigation that is not so often used in our conditions. These are called. Q method.

Q methodology is a type of research method that identifies the subjective perceptions and attitudes of individuals in relation to a particular stimulus / subject. Using this approach, the researcher can objectively describe an individual's subjective views from his or her perspective [1].

Q The methodology was developed by the psychologist and physicist William Stephenson in the 1930s to provide a basis for a scientific approach to human subjectivity. Brown was more similar to this method in the 1980s and 1990s. Methodology Q will ensure that the respondent submits his / her own opinion to his / her own views through a self-reference procedure [2].

Typically, the Q methodological study provides respondents with model statements on some topics called Q-set (sample). Respondents, called P-set, are asked to determine the order of the statement from their individual point of view, according to some preferences, such as: judgment or feeling. Based on this division, we can determine their subjective opinion or personal profile. These individual assessments or opinions are then subject to an analysis of factors [3].

Performing a Q methodological study involves the following steps: gathering data on a specific topic, developing a Q sample, selecting a P set, sorting Q, and then analyzing and interpreting the results, followed by a comprehensive discussion of each step.

### 2. Examination procedure using Q methodology

#### 1. *The accumulation of materials for the topic*

The first point of this method is the accumulation of the communication flow on any topic / stimulus we intend to explore. It is a technical concept that must not be confused with the concept of discourse. It is assumed that the

collected data will contain all relevant aspects of the issue. These materials can be of a wide variety from opinions of individuals, pictures, objects, press releases, verbal elements and others. The material collected represents existing opinions and arguments on the subject under consideration [4].

#### 2. *Development of Q samples*

At this stage, the researcher takes a subset of statements from all the accumulated statements that he then plans to submit to the respondents of the research. As a rule, there are 20-50 declarations of decisive importance. The decisive factor is that the declarations are largely different from each other, but they must generally represent the issue. Whatever the structure of Q sample selection is used by the researcher, it is important that the Q sample is representative of a wide range of existing opinions and statements on the issue and must also be meaningful. Each statement shall then be assigned a random number. The sample can contain both positive and negative statements, but it is essential that they cannot be polar statements that point to the same opinion [5].

#### 3. *Selecting P*

In this step of the construction of the Q method, it is the selection of the research set itself. In this method, it is especially important that the number of respondents is sufficient to find out what the focus of the rule is on a sample larger than 60 - 70 respondents. This set P is usually not random. It is a structured sample of respondents who are relevant to the problem under investigation.

#### 4. *Sorting Q*

At this point in the research, it is the actual testing of respondents. The Q sample is given to respondents in the form of a pack of randomly numbered cards, each card containing one claim from the Q sample. The respondent is instructed to classify the claims according to a rule (usually from the point of view of the issue) and is provided with a result table. This table is a continuum labeled usually from most agree to most disagree. As the



respondent divides the Q sample also depends on the nature of the topic, it is important that the researcher selects such claims that will try to avoid the respondent's indecision and thus avoid a mistake in distributing the distribution.

Currently, most Q kits contain 40 to 50 statements and use a relatively flat distribution ranging from -5 to +5. The respondent is required to carefully read all statements. The respondent is instructed to begin with a rough reading classification, splitting statements into three sets: statements that he generally agrees (or likes, considers important, etc.); with those he disagrees with, and those with a neutral opinion. It then distributes the given sets into a prepared table, which is provided to it for sorting the Q sample.

Fig. 2a A sample table used for Q sorting (29 items). The configuration of the table and the number of columns and rows can be varied depending on the complexity of the issues and the strength of the statements in differentiating the factors.

Most UNLIKE my feeling					Most LIKE my feeling				

Fig. 2b A completed Q sort from a single respondent.

Most UNLIKE my feeling					Most LIKE my feeling				
3	14	23	8	17	15	16	21	1	
13	19	9	2	27	11	18	25	6	
	4	29	12	26	10	7	5		
			24	20	22				
				28					

Figure 1: Example of a sort table Q samples of 29 claims  
Source: [5]

5. Analysis and interpretation of results

The last part of the Q method, as with other forms of research, analyzes and interprets the results. In this day and age, we have available a number of packaged software programs that allow us to this part of the help and make of this process purely technical and objective process. Type Q analysis is based on the relative importance of one statement over the others, as the respondent is to make polar choices, and we compare these extremely polar categorized claims to those near the center. The pattern of responses is based on statistical similarity and difference between respondents, which creates phenomena known as *factors* that help us identify patterns among individuals. Factor analysis is ideally performed with using the above mentioned programs such

as PQ Method (PQ Method Peter Schmolock, University of Federal Armed Forces Munich, Germany ). It can also be implemented by the Statistical Program in Social Science (SPSS ). PQ Method is a package for interrogating data, identifying areas of consensus between factors , as well as defining areas of disagreement / agreement between factors.

The interpretation process in Q methodology is therefore based on a series of analysis of factors that are an example of a particular group view, as the input of subjective data leads to the production of objective conclusions. It is important to bear in mind that each factor field represents a "shared" aspect [6] [7] [8].

Until recently, the Q methodology among the methodologies had a " fugitive " status that can be traced back to the origin of this method in psychometry and its quantitative-qualitative hybrid, which makes it both a quantitative methodology and a qualitative methodology. Today, the Q method is considered by a growing number of researchers to be a fundamentally discursive, constructive approach that combines a strong qualitative dimension with a powerful quantitative factor analysis tool. For these reasons, the Q methodology attracts attention in a wide range of disciplines and research fields of social and human sciences [9] .

3. Conclusion

We believe that in our paper we managed to approach and define the Q methodology as such and to specify its procedure in the individual steps of the investigation.

We believe that this type of research is very beneficial in the humanities and through the use of the Q method we are able to obtain better and, in particular, deeper / more detailed data regarding recipient attitudes and its perception of a particular issue.

Surely the method of research using this method is more challenging as opposed to examining attitudes using scaling methods or using a questionnaire. However, we consider this method better.

We hope that this contribution will make the Q methodology more known and used among researchers.

Acknowledgements

UGA Schlosserová 2019

References

[1] BROWN, S. R., SELDEN S. C., DURNING, D.. 2008. *Q Methodology*. in Gerald J . Miller and Kaifeng Yang (eds.), *Handbook of Research Methods in Public Administration*, Second Edition. Boca Raton: CRC Press, 2008. ISBN 978-0-8493-5384-0. Available: <http://www.blancopeck.net/Handbook.pdf>  
 [2] DAVIS, CH. H., MICHELLE, C.. 2011. *Q methodology in audience research: Bridging the*



- qualitative/quantitative 'divide'*. Journal of Audience and Reception Studies. 2011, 8.2: 559-593. ISSN 1749-8716
- [3] SMITH. 2001. *NW Current systems in psychology: history, theory, research, and applications*. Wadsworth. 2001
- [4] BROWN, S. R.. 1993. *A primer on Q methodology*. Operant subjectivity. 1993, 16.3/4: 91-138. ISSN 0193-2713
- [5] AMIN, Z.. 2000. *Q methodology--a journey into the subjectivity of human mind*. Singapore medical journal. 2000. 41.8: 410-414s. ISSN 0037-5675
- [6] PREVITE, J., PINI, B., HASLAM-MCKENZIE, F.. 2007. *Q methodology and rural research*. Sociologia ruralis. 2007. 47.2: 135-147s. ISSN 1467-9523
- [7] WATTS, S., STENNER, P.. 2005. *Doing Q methodology: theory, method and interpretation*. Qualitative research in psychology. 2005. 2.1: 67-91s. ISSN 1478-0895
- [8] VAN EXEL, J., DE GRAAF, G.. 2005. *Q methodology: A sneak preview*. Retrieved January. 2005. 24: 2009s. Available: [https://www.researchgate.net/profile/Gjalt\\_Graaf/publication/228574836\\_Q\\_Methodology\\_A\\_Sneak\\_Preview/links/02bfe50f946fc9978b000000.pdf](https://www.researchgate.net/profile/Gjalt_Graaf/publication/228574836_Q_Methodology_A_Sneak_Preview/links/02bfe50f946fc9978b000000.pdf)
- [9] STENNER, P., WATTS, S., WORRELL, M.. 2008. *Q METHODOLOGY* in Carla Willig a Wendy Stainton-Rogers et. al., The Sage Handbook of Qualitative Research in Psychology . Los Angels, CA: Sage. 2008. 215-239s. ISBN 9781446206478

## IMPLEMENTATION OF THE HOLOCAUST THEME IN THE CZECH EDUCATION SYSTEM: AN OUTLINE OF THE POSSIBLE APPLICATION OF SELECTED ISRAELI EDUCATION APPROACHES TO THE CZECH EDUCATION SYSTEM

Milan Mašát

Palacký University Olomouc  
Žižkovo náměstí 5  
Olomouc, 771 40, Czech Republic  
milan.masat01@upol.cz

**Abstract:** *The contribution was based on the inspiration of Kaminka's article Teaching about the Holocaust in Israel: A Teaching Approach by the Israeli Ministry of Education (2016). After introducing the system of the Czech education system, we focus on selected holocaust teaching practices, which Kaminka mentions in the context of Holocaust education in Israel and attempts to bring them into the context of the Czech educational system. It is not our goal to lead a controversy against Kaminka's contribution, but we are only trying to suggest that the procedures mentioned in the Kaminka's study cannot be applied automatically in the Czech Republic for various reasons. We carry out the transfer of selected procedures to Czech primary education because of the professional focus of the author of the paper and because basic education (i.e. primary and lower secondary schools) is compulsory in the Czech Republic, so it must be completed by all citizens of the Czech Republic.*

**Keywords:** *holocaust, Eyal Kaminka, methods, approaches, teaching*

### 1. Introduction

The inspiration for this article was Eyal Kaminka's contribution *Teaching about the Holocaust in Israel: The Educational Approach Adopted by the Israeli Ministry of Education* (2016) which presents events that can be summed up by the term Holocaust<sup>1</sup> in the context of Israeli education. We believe that Israeli education can be a model<sup>2</sup> for all education systems in the global implementation of the Holocaust theme. Kaminka points out: "In Israel, the subject matter of the Holocaust remains central within the education system (...)" (Kaminka, 2016, p. 237). Our goal is not to lead a controversy with Kaminka's text, we just want to demonstrate that the approaches presented in Kaminka's contribution cannot be fully applied in every educational environment, in our case within the education system in the Czech Republic.

### 2. Czech Education System

The curriculum to be introduced to pupils in the individual educational fields<sup>3</sup> in the field of basic institutional education is prescribed by *Framework Educational Programs*, which are prescribed for all levels of education from pre-school to high school. *Framework educational programs* are compiled based on the *National Education Program*, in which the basic strategies of the Czech

education system are postulated. At school level, the *School Educational Programs* are implemented by individual schools based on *Framework Educational Programs*. School education programs must respect the defined curriculum, its timing and time-based subsidies to individual fields of study (with certain available lessons available to schools). Such an educational system based on the hierarchy of curriculum documents<sup>4</sup> provides considerable positives and negatives. On the theoretical level, a positive assumption is to ensure that all pupils who have completed basic education will have similar knowledge. The negative factor of this system is its certain rigidity and non-flexibility. The change in curricular documents is a very lengthy process<sup>5</sup> in which the Ministry of Education, Youth and Sports of the Czech Republic, professional public and, to a limited extent, teachers participate. Interventions affect "only" *Framework Educational Programs* (curriculum documents at the state level<sup>6</sup>), then changes are reflected in individual *School Educational Programs*.

<sup>1</sup> "The term Holocaust has two related roots. The first derives from the Septuagint (ancient Greek version of the Old Testament) term holokaustoma, which can be translated as, 'totally consumed by fire' from holos meaning whole and caustos meaning burnt. The second arises from the Greek translation of the Hebrew word olah, which refers to the type of ritual sacrifice that was totally burned" (Kokkola, 2003, p. 4).

<sup>2</sup> For example, Mašát and Sladová, 2019; Cohen, 2016 or Carrier et al., 2015.

<sup>3</sup> Educational fields are postulated in the *Framework Educational Program for Basic Education* within nine educational areas: Language and language communication; Mathematics and its applications; Information and communication technologies; Man and his world; Man and society; Man and nature; Art and culture; Man and health; Man and the world of work and four complementary educational fields. See Jerábek et al., 2017, p. 2.

<sup>4</sup> See Figure 1.

<sup>5</sup> There will be some changes in the *Framework Educational Program for Basic Education* in the coming years.

<sup>6</sup> See Rýdl and Šmelová, 2014, pp. 9 – 22.

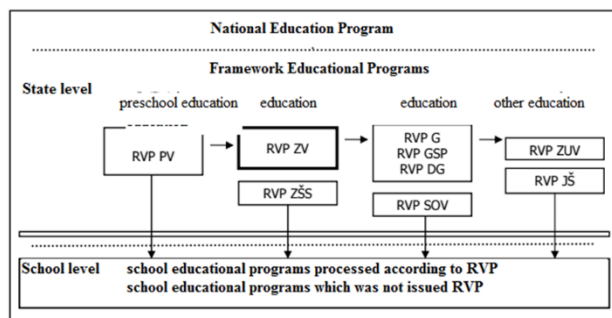


Figure 1: Schematic representation of curriculum documents of the Czech Republic

(<http://www.pedagogicke.info/2017/01/ramcovy-vzdelavaci-program-pro.html>).

### 3. Procedures Applied within the Israeli Educational System in the Context of the Czech Education System

It is very important to realize that every country considers (more important) other historical epochs that have shaped in history. Therefore, it is quite logical that Israel places the highest emphasis on one line of events of World War II. Although the Czech Republic was a part of the Third Reich (Protectorate of Bohemia and Moravia<sup>7</sup>) during the Second World War, various tragic events ensued in the Protectorate. The history textbooks include aspects that led to the rise of World War II, as well as the basal presentation of the Nazi regime's manifestations with an emphasis on Czechoslovakia, certain expressions of the Czechoslovak<sup>8</sup> resistance and aspects associated with the Nazi extermination machinery (for example the Terezín Concentration Camp<sup>9</sup>).

Kaminka (2016, p. 238) mentions in his contribution the fact that International School for Holocaust Studies at Yad Vashem<sup>10</sup> participated in certain adjustments of the Israeli curriculum. As part of the discussion, there was a merger in the collaboration between the Israeli Ministry of Education (represented by Rabbi Shai Piron in 2013) and the International School for Holocaust Studies to postulate three basic questions related to Holocaust education: *What to teach? How can it be taught? and At what age must one begin dealing with the Holocaust?* (Kaminka, 2016, p. 238). It can be stated that these questions are valid for almost all topics within the classroom; in the field of the Holocaust, the questions are more important because the phenomenon is very complicated and can cause different traumas for pupils<sup>11</sup>. If we apply these questions to the

reality of the Czech educational system, we will see that the issue of the Holocaust (and World War II) is in the *Framework Education Program for Basic Education*, which prescribes what and when to present itself within the framework of basic institutional education. ninth grade, under the Modern Times section<sup>12</sup>. The answers to the above-mentioned questions are not further specified, this area is fully within the competence of individual institutions. It follows from this fact that certain recommendations in the area of age and specification of a more specific subject matter can be set within the Czech professional public, but it is up to individual schools to integrate the recommendations into their *School Educational Program*, which is binding for the school that established it.

Kaminka, in his contribution, suggests that the Holocaust cannot be perceived as just one historical epoch, but that the life of Jews should be introduced not only during World War II, but also before it, with emphasis on bystanders and perpetrators. We totally agree that the fate of the Jewish people cannot be ripped from historical roots, but only as a nation suffering from Nazi rule. Kaminka postulates appropriate methods for presenting the Jewish nation to students in the context of its historical development, the fate of World War II and within a post-war development. The method is based on presenting a "person with a face and identity" (Kaminka, 2016, p. 239). Within the framework of the Czech educational system, this method can be applied, for example, through the fate of Petr Ginz<sup>13</sup>. A considerable amount of secondary literature has been created about Petr Ginz, focusing mainly on his internment in the Terezín Concentration

because of the unfortunate attitude of teachers in lower levels of education (interview with dr. Karen Goldfrad).

<sup>12</sup> Expected outcomes of the section: "Demonstrates the abuse of technology in the world wars and its implications on examples; recognize the pros and cons of democratic systems; characterizes individual totalitarian systems, the causes of their establishment in the broader economic and political context and the consequences of their existence for the world; recognizes the destructive power of totalitarianism and tense nationalism; exemplify anti-Semitism, racism and their unacceptability from a human rights perspective; assess the position of Czechoslovakia in the European context and its internal social, political, economic and cultural environment" (Jeřábek et al., 2017, p. 56; marked by the author of the paper).

<sup>13</sup> "Petr Ginz was born in 1928 in Prague. His mother did not come from a Jewish environment and moved to Prague to join her husband's Jewish family. Petr attended a Jewish primary school in Jáchymova Street. At that time, he fell in love with books, especially in the novels of Julius Verne. Later he began writing his own short stories and a novel that he himself illustrated. On October 24, 1942, he was included in the Ca transport and since he was 14, he left for Terezín. Along with other boys, he was placed on block L 417 (former Terezín school) and shortly after his arrival he started publishing the *Vedem* magazine with others, where he could use his extraordinary talent and imagination. Into a magazine that edited, wrote articles, poems, editorial and painted illustrations. He often paid for articles from other contributors by the food his family sent him in packages. He also wrote a personal diary every day. Before his departure to Auschwitz, he handed it over to his sister Eva (Chava Pressburger), who was two years younger and came to Terezín in 1944 and was liberated. A large part of the magazines from 1942 to 1944, as well as some of Peter's drawings, were also preserved. On September 28, 1944 he was transported to Auschwitz, where he died" (<https://www.holocaust.cz/dejiny/osobnosti/petr-ginz/>, marked by the author of the paper).

<sup>7</sup> See, for example, Pivarčeková, 2019 or Mackenzie, 2012.

<sup>8</sup> Compare history curriculum postulated in the *Framework Educational Program for Basic Education*: Jeřábek et al., 2017, pp. 52-57.

<sup>9</sup> More about the Terezín Concentration Camp at <https://www.pama.tnikterezin.cz/concentration-tabor-for-zid-s-hetto-teresin>.

<sup>10</sup> See <https://www.yadvashem.org/>.

<sup>11</sup> Here we can give an example that dr. Karen Goldfrad as part of our monthly research and internship at Bar-Ilan University in Ramat Gan (Israel). Dr. Goldfrad is a world leader in Holocaust education and related issues (see Shawn and Goldfrad and Younglove, 2008a; 2008b). As part of her teaching activities, she implements the phenomenon into teaching English. Every time he plans to touch the Holocaust in some way, she must inform the student in advance, after which the student is excused from the seminar. The student suffers from a trauma she has developed

Camp. The publication of Peter's journal<sup>14</sup> is also very valuable which is mainly due to Peter's sister Eva (Chava Pressburger). Peter's sister also completed and released Peter's unfinished sci-fi novel inspired by Jules Verne's works *Návštěva z pravěku*<sup>15</sup> (*A visit from prehistoric times*). The Terežín Initiative contributed to the digitization of the *Vedem* magazine<sup>16</sup>, of which Petr was the most important person. In recent years, František Tichý has published two literary works on the interface between non-fiction and artistic literature. *Transport za věčnost*<sup>17</sup> (*The Transport for Eternity*) and the *Princ se žlutou hvězdou: život a podivuhodná putování Petra Ginze*<sup>18</sup> (*Prince with Yellow Star: Life and Wonderful Wanderings of Peter Ginz*) interconnect the real Petr's diary entries that the author contextualized into a contemporary situation with an emphasis on the explanation of records. It is by compiling real writings with their explanation and contextualization that makes Tichý's works a suitable literary work to present one line of war events.

Kaminka's proposed approach, namely to introduce selected events to pupils through one particular person, has a substantial (especially material) basis within the Czech educational reality. On the other hand, *Framework Educational Programs* are considerably oversized in prescribed (i.e. compulsory) curriculum. On the basis of this fact, there is a certain time shift to the teacher and therefore we believe that Kaminka's proposed methodological procedure is not feasible within the framework of the Czech Republic's educational system within the framework of regular education.

Project teaching has a certain potential in this area, which is still in the development phase in the Czech Republic and is not an integral part of the curriculum<sup>19</sup>. On the other hand, it is necessary to state that the Jewish nation was not the primary factor influencing events in the history of the Czech Republic (although it left a significant mark on its formation<sup>20</sup>). It is for this reason that other topics are explored especially in the History.

It is necessary to emphasize that the Czech educational system prefers chronological ordering of the curriculum. This means that pupils learn about prehistoric and antiquity in their sixth year, with more recent years in

newer history. Based on this fact, modern history is taught only in the ninth year, when the rest of the previous year is being caught up, while the secondary school entrance exams focusing on basic education in the fields (e.g. Czech Language and Literature). In view of the circumstances of the Czech Republic's education system, other factors are therefore already adding to the curriculum, leading to the fact that many pupils are not familiar with the history of the second half of the twentieth century.

#### 4. Conclusions

In implementing one line of war events into the education system, Israeli education can be a model. The country's education system operates with the Holocaust phenomenon within all levels of institutional education. The integration of the defined issue is understandable, given events form one of the cornerstones of Israeli identity and in some way justify the creation of an independent Jewish state.

Eyal Kaminka in his contribution *Teaching about the Holocaust in Israel: A Teaching Approach Adopted by the Israeli Ministry of Education* (2016) introduces the teaching methods applied in Israeli education. All these methods answer the three basic Holocaust questions: *what to teach, how to teach and when to teach*.

In the paper we tried to outline certain limits of postulated methods about the Czech educational system. We tried to demonstrate that these methods cannot be fully transferred to the Czech education system. The education system of the Czech Republic builds on the chronological presentation of the curriculum to pupils, which means that pupils learn about the events of World War II only in the last year of basic institutional education.

#### References

- [1] Carrier, P. et al., *The international status of education about the holocaust*, Braunschweig, UNESCO, 2015, 238 pp.
- [2] Cohen, E. H., *Teacher Autonomy within a Flexible National Curriculum: Development of Shoah (Holocaust) Education in Israeli Schools*, Journal of Curriculum Studies, Vol. 48, No. 2, pp. 1 – 25, 2016.
- [3] Ginz, P., *Návštěva z pravěku: román s ilustracemi Petra Ginze (A Visit from Prehistoric Times)*, Praha, Nakladatelství Franze Kafky, 2007, 155 pp.
- [4] *Interview with dr. Keren Goldfrad*. Tel Aviv, Bar Ilan university, Department of English as a Foreign Language, 2019, May.
- [5] Jeřábek, J. et al., *Rámcový vzdělávací program pro základní vzdělávání (Framework Education Program for Basic Education)*, Praha, MŠMT, 2017, 166 pp.
- [6] Kaminka, E., *Teaching about the Holocaust in Israel: A Pedagogical Approach Adopted by the Israeli Ministry of Education*, Contemporary Review of the Middle East, Vol. 3, No. 3, pp. 237–249, 2016.
- [7] Kokkola, L., *Representing the Holocaust in Children's Literature*, New York, Routledge, 2003, 220 pp.
- [8] Mackenzie, S. P., *2. světová válka v Evropě*, Brno, CPress, 2012, 134 pp.

<sup>14</sup> Pressburger and Zadrobílková, ed., 2004.

<sup>15</sup> Ginz, 2007.

<sup>16</sup> See <https://www.vedem-terezin.cz/>.

<sup>17</sup> Tichý, 2017.

<sup>18</sup> Tichý, 2014.

<sup>19</sup> Projects (project teaching) are realized during the school year mainly during periods when pupils are distracted (for example at the end of the school year, before Christmas, etc.). Another problem is a certain misunderstanding of the very principle of this teaching method; many teachers consider project teaching to be a longer time devoted to a particular issue, but there is no complete interconnection of different educational fields (cross-curricular teaching); From the above-mentioned time utilization of teachers at the level of the prescribed curriculum, the projects are not given a longer time subsidy (in the level of weeks or, for example, at the level of a year-long project).

<sup>20</sup> See, for example, Zahradník, 2006 or Vyoralová, 1995. Sedlák (2005) summarizes the issue of the Jewish population in Czechoslovakia.

- [9] Mašát, M. and Sladová, J., *Representations of Shoah and Holocaust Terms in Selected Curriculum Documents: A Teacher's Perspective*, *Universal Journal of Educational Research*, Vol. 7, No. 2, pp. 457 – 462, 2019.
- [10] Pivarčeková, Z., *Protektorát Čechy a Morava: právo nástroj nacistické expanse*, rigorous thesis, 2019, 289 pp.
- [11] Pressburger, Ch. and Zadrobílková, Z., ed, *Deník mého bratra: zápisky Petra Ginze z let 1941-1942*, Praha, Trigon, 2004, 128 pp.
- [12] Rýdl, K. and Šmelová, E., *Reforma s atributem nekonekventnosti*, Praha, Česká pedagogická společnost, pp. 9-22, 2014.
- [13] Sedlák, P., *Židé a židovská otázka v českých zemích v letech 1945 – 1948*, *STUDIA MINORA FACULTATIS PHILOSOPHICAE UNIVERSITATIS BRUNENSIS*, Vol. 52, pp. 133 – 148, 2005.
- [14] Shawn, K. and Goldfrad, K. and Younglove, W. A., *The Call of Memory: A Teacher's Guide*, New Jersey, Ben Yehuda Press, 2008a, 524 pp.
- [15] Shawn, K. and Goldfrad, K. and Younglove, W. A., *The Call of Memory: Learning about the Holocaust through Narrative: An Anthology*, New Jersey, Ben Yehuda Press, 2008b, 275 pp.
- [16] Tichý, F., *Princ se žlutou hvězdou: život a podivuhodná putování Petra Ginze* (Prince with Yellow Star: Life and Wonderful Wanderings of Peter Ginz), Semily, Geum, 2014, 378 pp.
- [17] Tichý, F., *Transport za věčnost* (The Transport for Eternity), Praha, Baobab, 2017, 240 pp.
- [18] Vyoralová, E., *Postupné omezování práv Židů v Protektorátu Čechy a Morava*, *Časopis pro právní vědu a praxi*, Vol. 3, No. 1, pp. 223 – 230, 1995.
- [19] Zahradníková, M., *Dějiny Židů v českých zemích*. Praha, Vzdělávací a kulturní centrum Židovského muzea v Praze, 2006, 15 pp.
- [20] <https://www.pamatnik-terezin.cz/koncentracni-tabor-pro-zidy-tzv-ghetto-terezin>.
- [21] <https://www.vedem-terezin.cz/>.
- [22] <https://www.yadvashem.org/>.
- [23] <http://www.pedagogicke.info/>.

## BREAKING THE VICIOUS CYCLE: CONSIDERING SLEEP AS A CO-FACTOR FOR INTEGRATED HEALTH PROMOTION AT GERMAN SCHOOLS

*Helge Koch*

**Pan European University**  
Tomášikova 150/20  
Bratislava, 82101, Slovakia  
+4922411695358  
mr.helge.koch@gmx.de

**Abstract:** *The paper conducts considerations about the necessity to implement sleep as a co-factor of integrated approaches to promote public health at German schools. The results of the international World Health Organisation study series "Health behaviour in school-aged children (HBSC)", as well as the national studies of the Robert Koch Institute (KiGGS) and the "Prevention Radar" studies by the Institute for Therapy and Health Research (IFO) show deficits in terms of nutrition, physical activity, sleep and stress coping of children and adolescents. On the basis of these studies, the Federal Centre for Health Education and the German statutory accident insurance developed an information and intervention program. Both programs treat nutrition and physical activity extensively, as well as stress-coping techniques to a certain degree, but there is little information or reference with regards to sleep as a health resource. Considering the high prevalence of sleep deficits and the impact on health among children and adolescents, the inclusion of sleep as an important factor of future health promotion programs seems indispensable.*

**Keywords:** *School Stress, Stress Coping, Physical Activity, Nutrition, Insomnia*

### 1. Introduction

The study series *Health Behavior in School-aged Children (HBSC)* conducted by the WHO has shown that a considerable part of children and adolescents have significant impairments in terms of nutrition, physical activity, stress regulation and sleep [18]. This raises particular concerns regarding the fact that deficits in the above-mentioned health resources in adolescent age pose a significantly increased risk of manifesting serious chronic diseases in adulthood [14,18]. The causes of the derogation of adolescent health can be tracked to changed living conditions and leisure habits in the (post-)industrialized societies of Europe. One key factor to explain this development could be found in the steady increase of time spend for screen-media [15]. In addition to school curricula and homework, the intensive use of computers, game consoles, cell phones and televisions sums up to a serious risk factor for physical inactivity and high-calorie food consumption [15].

Since 2003, data on children's health in Germany has been collected by the Robert Koch Institute in a comprehensive study called *German Health Interview and Survey for Children and Adolescents (KiGGS)*. The data from KiGGS provide an important basis for the development and quality control of programs for improving public health, especially of children and adolescents. In the first wave of the study (2003-2006) a representative sample (n = 17,641) from the group of children aged 0-17 years was examined and interviewed together with their parents. In the second wave of the study (2014-2017), participants (n = 10,853) from the first wave as well as participants (n = 15,023) from a new sample were examined [16]. Although the processing of the data pool faced several challenges in terms of providing comparable data over a period of 15 years, the KiGGS managed to adapt to new developments and

constitutes one of the most important data sources about the adolescent health status in Germany [13]. A further source of data about the health of students in German schools is provided by the *Prevention-radar* studies, which have been conducted annually since 2016 by the Institute for Therapy and Health Research (IFO). For the school year 2018/2019, students (n = 14,242) between the ages of 10 and 18 in 83 schools were asked about their physical and psychological well-being as well as their health behavior [9]. Both the international studies of WHO, as well as the national studies of KiGGS and IFO have identified physical activity, nutrition, stress regulation and sleep as essential health resources and investigated them accordingly [9,16,18]. The results and implications for these factors can be summarized as follows:

#### 1.1 Physical Activity

The term *Physical Activity* describes any form of skeletal muscle movement that increases energy expenditure above basal metabolic rate [1]. According to the WHO recommendation, children and adolescents should have at least 60 minutes of physical activity per day [17]. Although 62.2% of adolescents aged 3-17 exercise at least 2 hours a week, just 27.5% of them meet the WHO-recommended target of daily activity [18]. Given that sufficient physical activity has proven essential for the development of basic motor skills such as stamina, strength and coordination, the fact that 72,5 % of adolescents do not meet the basic requirements of WHO seems alerting, even more under the consideration that sport and activity habits of the early childhood years are the propensities for a physically active or inactive lifestyle, which regularly persists into adulthood [14].

The importance of sufficient physical activity for the mental and physical health of adolescents has been well researched: A sustained lack of exercise increases the risk of organic disorders such as obesity, cardiovascular problems, pre-hypertension, pre-diabetes or postural disorders and, on a psychological level, evidence could be found that motion poverty favors the development of fears, inhibitions and a negative self-image [9,14]. An adequate level of exercise in and outside of school curriculums is therefore considered to be one of the most important health resources for children and adolescents and lays the foundation for mental and physical health in adulthood [3,14].

### 1.2 Nutrition

The importance of a healthy and developmentally appropriate diet for children and adolescents is largely supported by medical, biochemical and psychological research [3,10,14]. The physiological effects of an inadequate diet have been studied with regard to the development of obesity, caries, allergies, pre-hypertension, certain cancers or precursors of diabetes mellitus [10,14]. In 2017, about 20% of 6 to 17 year-old children in Germany are considered to be overweight and, less often mentioned, 8% of children in this age group fall below their reference weight by more than 15%, which may indicate an eating disorder [12,16]. Besides of the above-mentioned physiological risks, correlations could be found between nutrition and the ability to concentrate, impulse control and memory performance of adolescents. Recent studies support the hypothesis that in addition to a generally balanced energy intake and consumption there is an individual factor for the proper composition of food in terms of protein, fat and carbohydrates, vitamins and trace elements [7,10]. A healthy, balanced and personalized diet is an essential resource for developmental goals of adolescents. Hence, the quality and composition of food offered at school and at home are deemed paramount factors for a proper nutrition and the development of healthy eating habits of adolescents [12, 18].

### 1.3 Stress-Coping

Learning functional behaviors and techniques to prevent and manage stress is one of the greatest challenges of our time, not just for adults but also for adolescents [4,11]. Excessive homework, test anxiety and (cyber-) mobbing cause a lot of stress for many students, even at an early age. Outside school, adolescents may be exposed to significant stress due to precarious living conditions, domestic violence or absence of caregivers [3,4]. Especially puberty and the accompanying changes of the body pose a major obstacle for adolescents. The tension between family closeness and the desire for autonomy, the awakening of the sexual interest and finally the development of own values provide a wealth of challenges for a growing human being [4,6]. According to the IFO study, 43% of students experience high or frequent stress, associated with somatoform side effects such as headache (40%), back pain (30%) and abdominal pain (25%) at least once a week [9]. Hence, stress prevention and stress-

coping form an integral part of promoting health for adolescents [11].

### 1.4 Sufficient and Healthy Sleep

Sufficient and healthy sleep is not only important for the mental and physical well-being of adolescents but is also a necessary condition for maintaining and improving the learning abilities and performance at school [2]. Although sleep requirements vary individually, the National Sleep Foundation recommends a sleep time of 9-11 hours for schoolchildren aged 6 to 13, and 8-10 hours per night for ages 14 to 17 [8]. While the recommended sleep duration for children in Germany is maintained at the age of 10-12 years on average, the sleep duration of the 15-17 year-old adolescents is already reduced on average to 7.5 hours and this considerably below the recommended sleep duration for children in this age group [9]. The actual sleep duration should still be even lower than the stated value, as the collection of data in the form of self-questioning of adolescents regularly leads to an overestimated sleep duration [2]. Children and adolescents therefore experience too little sleep on a large scale, with adverse effects on their health, development goals and daytime alertness. Recent studies have also shown a clear association between sleep deficits and obesity, increased risk for pre-hypertension and prediabetes, and a significantly worsened immune status with the resulting susceptibility to infections [2]. In addition to a sleep-debt due to a lack of sufficient sleeping time, 30% of children aged 6-17 suffer from problems to fall asleep and/ or sleep through [11], with 20% of the sleep disorders considered chronic, as they are at least three times a week over a period of time of three months occur [2]. Since neither the diagnosis nor the treatment options of the various forms of sleep disorders in adolescents are part of medical education, the increased incidence of insomnia in adolescents has long been ignored [11]. With regards to the main causes for adolescent insomnia, an increase of performance pressure at school, family problems like violence or divorce and disturbed sleep-wake cycles by the increased stimulation and light exposure by screen-media usage could be identified [2].

## 2. Interrelation and Dynamic of Health Resources

The health factors physical activity, nutrition, stress and sleep are in close, dynamic interaction with each other and can significantly influence the physical and mental health of an adolescent [3,18]. Each of the four factors can affect the other factors both directly and/or indirectly via another factor as a moderator / mediator variable. For example, school stress not only diminishes the quality of sleep but diminished sleep quality itself becomes the cause of stress [14,15]. In turn, an increased stress level and decreased sleep quality will most likely have a negative impact on a student's exercise and nutritional habits, as a sleep deficit or excessive stress will significantly increase the propensity to consume high calorie foods, but will mostly reduce the motivation to conduct physical exercise [12]. The resulting negative dynamics due to and as a result of stress, unhealthy diet, inadequate physical activity and

poor sleep can also be seen as vicious circle in adulthood [2,3].

The interrelation between the four factors can be illustrated by the following model of action:

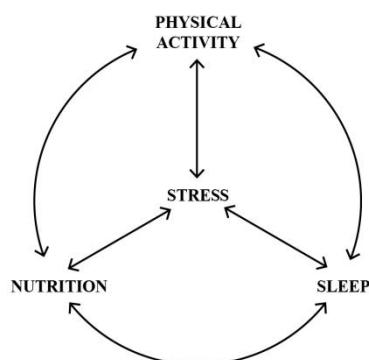


Figure 1: Interrelated Factors of Health Promotion, author

Conversely, a positive influence of a factor on its own, as well as in conjunction with the other three factors, can develop a positive dynamic in the form of an upward spiral [3,14]. Not only is sufficient physical activity directly related to maintaining and improving physical and mental health, but it also regularly leads to a reduction in stress and improves sleep-quality, which in turn fosters the ability to cope with future challenges [3,5]. According to the above-mentioned implications and the dynamics of the four health resources, programs to promote health of children and adolescents should take into account as many factors as possible, ideally all factors, in the form of an integrated holistic approach.

### 3. Health Promotion at German Schools

With regards to health promotion at schools the program of the German statutory accident insurance (DGUV) and of the Federal Center for Health Education (BZgA) intervention programs are applied nationwide [3,4].

Both programs consider the factors exercise, nutrition, stress and sleep on the basis of the results of the KiGGS and HSBC studies but differentiate in the level of integration of these factors and of their approach. The BZgA initiated program "Gut Drauf (In a good mood)" pursues the goal of covering the health-related topics of nutrition, exercise and stress in an integrated approach and transforming these into a low threshold offer for adolescents [3]. Further, the measures offered are based on an experience-oriented approach in order to circumvent the negative associations with the topic of health among adolescents [14].

Approaches for a healthy nutrition and sufficient physical activity are offered extensively and interrelated through a wide range of information, as well as practical recommendations inside and extracurricular school, adapting to the everyday life for students, teachers and

parents [3,14]. With regard to the factor stress, background information is provided as well as some easy-to-use stress management techniques [3,4]. However, the information and interventions about stress are only occasionally included in the theoretical context of the health resource diet and exercise [4]. The subject of sleep is treated only in a marginal sentence [3] and is not included in the theoretical construct nor in the intervention approaches.

### 4. Conclusion

The health of children of school age gives cause for concern in Germany, as well as in most other European countries [9,16,18]. Our children's natural movement behavior is hampered by narrow urban living spaces and changed leisure activities [14]. A healthy diet is often much more expensive to procure and needs time-intensive preparation in comparison to *convenient food* in terms of industrial processed, high-calorie but low-nutrient foods and is therefore less frequently offered in and outside of school [12]. Notwithstanding the fact that research about the effects of diet, exercise, stress and sleep on adolescents has become well established, the practical implementation of evidence-based intervention at school, as well as the integration into the extracurricular living realities of adolescents continues to be a great challenge.

The early imparting of knowledge about the importance and interrelated dynamics of health resources is just as essential as the continuous integration of acquired knowledge in the everyday habits and the development of a sound attitude to a healthy lifestyle. According to this, the health promotion approaches offered by the DGUV and the BZgA in Germany represent a successful step towards a holistic approach to the health factors of exercise and nutrition. The program also offers easy-to-use techniques for avoiding and reducing stress, albeit with little reference to other health resources. Regardless of the high prevalence of inadequate or disturbed sleep in children and adolescents, the health resource sleep is not yet included in the current program.

Due to the discussed interrelation of health resources and the essential part sleep takes in these dynamics, the integration of sleep as a co-factor for future approaches to improve school health seems reasonable and necessary. A later start of teaching has long been demanded by pediatricians and should be further examined in the light of the described scope and impact of sleep-debt of adolescents [2]. A later lesson could not only positively affect the sleep of pupils and teachers, but also to a relief of parents in the morning. From the perspective of school psychology, in addition to developing a holistic, integrative approach to promote all health resources, training multipliers can be understood as the key to successfully implementing a holistic approach. Even well-experienced teachers and youth workers will not be trained in all four health areas so that they can pass this knowledge on to young people. The provision of background information and methodological skills, in particular in the field of stress coping and sleep hygiene,



should therefore be central to the further development and application of integrative approaches to the health promotion of adolescents.

## References

- [1] Caspersen C., Powell, K., Christenson G. (1985). *Physical Activity, Exercise and Physical Fitness: Definitions and Distinctions for Health-related Research*. In: Public Health Report, Vol. 100 (2), pp. 126-131. Washington, D.C.: SAGE.
- [2] Donskoy, I., Loghmanee, D. (2018). *Insomnia in Adolescence*. In: Medical sciences, Vol. 6 (3), Art. 72. Basel, Switzerland. DOI 10.3390/medsci6030072
- [3] Federal Centre for Health Education (2016). *Gut drauf: Leitfaden für eine lebenswertorientierte Aktion zur Gesundheitsförderung von Jugendlichen (In a good Mood: Guide to a livable-oriented Action to promote Youth Health)* [https://www.gutdrauf.net/fileadmin/user\\_upload/Startseite/Materialien/GD-Publikationen/GD-Leitfaden/GD-Leitfaden-2016.pdf](https://www.gutdrauf.net/fileadmin/user_upload/Startseite/Materialien/GD-Publikationen/GD-Leitfaden/GD-Leitfaden-2016.pdf)
- [4] German Statutory Accident Insurance (2014). *Umgang mit Schulstress (Dealing with school stress)*. In: DGUV Lernen und Gesundheit, Bewegung und Gesundheit 2014. Wiesbaden, Germany: Universum.
- [5] HBSC-Study Association Germany (2015). *Study Health Behavior in School-aged Children-Factsheet: Physical Activity of Children and Adolescents*. [http://hbsc-germany.de/wp-content/uploads/2016/01/Faktenblatt\\_Körperliche-Aktivität\\_final-2015.pdf](http://hbsc-germany.de/wp-content/uploads/2016/01/Faktenblatt_Körperliche-Aktivität_final-2015.pdf)
- [6] HBSC-Study Association Germany (2015). *Study Health Behavior in School-aged Children-Factsheet: School Burden on Children and Adolescents*. [http://hbsc-germany.de/wp-content/uploads/2016/01/Faktenblatt\\_Schulische-Belastung\\_final-2015.pdf](http://hbsc-germany.de/wp-content/uploads/2016/01/Faktenblatt_Schulische-Belastung_final-2015.pdf)
- [7] HBSC-Team Germany (2012). *Study Health Behaviour in School-aged Children - Factsheet Dietary Habits*. Bielefeld, Germany: WHO Collaborating Centre for Child and Adolescent Health Promotion.
- [8] Hirshkowitz, M., Whiton, K., Albert, S., et al. (2015). *National Sleep Foundation's Sleep Time Duration Recommendations: Methodology and Results Summary*. In: Sleep Health 2015, Vol. 1 (1), pp. 40-43. DOI: 10.1016/j.sleh.2014.12.010
- [9] Institute for Therapy and Health Research (2019). *Präventionsradar*. [https://www.praeventionsradar.de/downloads/ergebnisbericht\\_SJ1819.pdf](https://www.praeventionsradar.de/downloads/ergebnisbericht_SJ1819.pdf)
- [10] Kast, B. (2018). *Der Ernährungskompass*. München, Germany: Bertelsmann
- [11] Kneifel, G. (2016). *Schlafstörungen: Häufig - und deutlich unterschätzt*. In: Deutsches Ärzteblatt, Vol. 3, p.124
- [12] Krug, S., Finger, J., Lange, C., Richter, A., Mensink, G. (2018). *Sports and Dietary Behaviour among Children and Adolescents in Germany*. In: Journal of Health Monitoring Vol. 3 (2), pp. 3-22. DOI 10.17886/RKI-GBE-2018-070
- [13] Kurth, B., Kamtsiuris, P., Hölling, H. (2008). *The Challenge of Comprehensively Mapping Children's Health in a Nation-wide Health Survey: design of the German KiGGS-Study*. In: BMC Public Health, Vol. 8, Art. 196. DOI 10.1186/1471-2458-8-196
- [14] Mann-Luoma, R., Goldapp, C., Khaschei M., Lamersm L., Milinski B. (2002). *Integrierte Ansätze zur Ernährung Bewegung und Stressbewältigung. (Integrated Approaches for Nutrition, Physical Activity and Stress-coping)*. In: Bundesgesundheitsblatt, Vol. 45, pp. 952-959 Heidelberg, Germany: Springer. DOI 10.1007/s00103-002-0514-0
- [15] Manz, K., Schlack, R., Poethko-Müller, C., Mensink, G., Finger, J., T. Lampert, T. (2014). *Physical Activity and Electronic Media use in Children and Adolescents*. In: Bundesgesundheitsblatt, Vol. 57, pp. 840-848 Heidelberg, Germany: Springer. DOI 10.1007/s00103-014-1986-4
- [16] Woll, A., Albrecht, C., Worth, A. (2017) *Motorik-Module (MoMo) – the KiGGS Wave 2 module to survey motor performance and physical activity*. In: Journal of Health Monitoring Vol. 2 (S3), pp. 63-70. DOI 10.17886/RKI-GBE-2017-110
- [17] World Health Organisation (WHO) (2010). *Global Recommendations on Physical Activity for Health*. Geneva, Switzerland: WHO Press
- [18] World Health Organisation (WHO) (2016). *Growing up Unequal: Gender and Socioeconomic Differences in Young People's Health and Well-being*. Geneva, Switzerland: WHO Press

## LOW-THRESHOLD TREATMENT PROGRAMS FOR CHILDREN AND YOUTH: THEIR CONTRIBUTION IN THE PREVENTION OF SOCIAL AND PATHOLOGICAL PHENOMENA IN THE MORAVIAN-SILESIA REGION

*Marie Bajnarová*

**University of Ostrava**

Address

Frani Sramka 3, Ostrava 709 00, Czech Republic

marie.bajnarova@seznam.cz

**Abstract:** *The study research proposal is focused on the current problems of Low-Threshold Treatment Programs and their contribution to the prevention of social and pathological phenomena in the Moravian-Silesian Region. The research goal of this project is to find out whether Low-Threshold Treatment Programs are beneficial in the given cities and how they help prevent risk factors. Furthermore, the research aims to bring knowledge of individual pathological phenomena in endangered urban areas.*

**Keywords:** *Low-Threshold Treatment Programs, social and pathological phenomena, prevent risk factors, Children, Adolescents.*

### 1. Introduction: Research Area

The research project is to point out that children and adolescents can be influenced by several undesirable aspects and risk factors that are present in urban areas and can cause pathological behaviour in individuals. The importance, necessity and benefits are seen in Low-Threshold Treatment Programs that are set up in endangered urban locations. These centres seek to help children and adolescents who encounter risk and pathological factors, or individuals who are at risk due to inadequate and inappropriate surroundings. Low-Threshold Treatment Programs aim to help children and young people overcome their difficult adolescence or difficult life situation.

#### 1.1 Low-Threshold Treatment Programs

The Low-Threshold Treatment Programs (LTTPs) are located throughout the Czech Republic. There are thirty-eight of them in the Moravian-Silesian Region. These treatment programs target children and young people and provide social services to help address adverse social situations. Prevention, both primary and secondary, is an important service, and the treatment programs also work with schools. Clients are divided into younger and older age groups, they act anonymously and the services are provided to them free of charge. As part of this prevention, some LTTPs also provide field services (see chapter 1.2 Streetwork). In this case, LTTPs address clients in their home environment.

An important milestone for LTTPs was the creation of the Social Prevention and Crime Prevention Program. Government Resolution No 341/9 came into force for this program in 1994. This resolution created the function of a social worker in the Social Prevention and Crime Prevention Program.

At present, LTTPs are characterized in the Social Services Act No 108/2006 Coll., Section 62, as amended, which defines LTTPs: Low-Threshold Treatment Programs for

children and youth provide outpatient or field services to children aged 6 to 26 years endangered by socially undesirable phenomena. The aim of the service is to improve the quality of their lives by preventing or reducing social and health risks related to their way of life, to enable them to be better informed about their social environment and to create conditions to address their unfavourable social situation. The service may be provided to persons anonymously. It also describes the basic activities of LTTPs:

- a) educational, instructional and activation activities,
- b) mediating contact with the social environment,
- c) social and therapeutic activities,
- d) assistance in the exercise of rights, legitimate interests and the provision of personal matters.[1]

#### 1.2 Streetwork

Streetwork is a method of social work in the street, park, railway station, or in the natural environment of the target group that needs social counselling and assistance. This social work is focused on finding risk groups. These risk groups are mainly homeless, children and adolescents who spend their free time on the street, youth groups that are unilaterally oriented (e.g., skinheads, young people creating graffiti, squat youth), drug addicts or prostitutes. An integral part of the search is also mapping the location and finding out the need for social services.

#### 1.3 Czech Streetwork Association

The Czech Streetwork Association was established in 1997 to support the development of these services. It is a specialized professional organization associating experts and Low-Threshold Treatment Programs interested in membership. It helps to improve quality, share experience and exchange expert information, supports education and training of workers by organizing educational events, conferences, further education courses, etc. [2]

## 2. Basis and Previous Studies

The research study partly follows in a dissertation which dealt with clients with ordered institutional or protective education in school facilities or artistic expression of individuals with behavioural disorders. The dissertation submitted information on problematic behaviour of children and adolescents, on behavioural disorders, social and pathological phenomena and school facilities for institutional and protective education. The dissertation presented the aspects of creative process in institutional education.

The current research study entitled Low-Threshold Treatment Program for Children and Youth and Their Contribution to the Prevention of Social and Pathological Phenomena in the Moravian-Silesian Region aims to point out individuals who are not in institutional care but who are at risk and grow up in high-risk urban areas; the project also explains the importance of Low-Threshold Treatment Programs, their goals, mission and importance of their existence.

## 3. Qualitative Research Plan Model

Subject of Interest: Current issues of LTTPs and their contribution to the prevention of social and pathological phenomena in the Moravian-Silesian Region.

Purpose/Objective: 1. Determine whether LTTPs are beneficial in the cities concerned and how they help prevent risk factors. 2. Bring knowledge of current pathological phenomena in vulnerable urban areas.

Research Questions: See 3.1 Research questions.

Research Sample: The sample for the proposed study will be obtained from the real environment (i.e., LTTPs) and professional social worker groups who are employed in LTTPs.

Place of Study: In this study, data will be collected in LTTPs in the Moravian-Silesian Region. See 3.2 Research strategy and 3.3 Ethical issues.

Research Strategy and Data Collection Based on a Qualitative Solution: Semi-structured interviews; observational studies; case studies; interpretation (of obtained data, documentation, etc.).

Analysis of Data Obtained: See 3.5 Data analysis.

### 3.1. Research Questions

Key research question of this research:

What is the contribution of LTTPs in the Moravian-Silesian Region in preventing social and pathological phenomena?

Studies, particularly data collection, will follow these questions:

- How do social workers perceive the activities of LTTPs in the Moravian-Silesian Region?
- How do clients perceive the activities of LTTPs in the Moravian-Silesian Region?
- What programs and services do LTTPs in the Moravian-Silesian Region offer?
- What impact does the target group have on the location of LTTPs?
- What are the types of clients of individual LTTPs in the Moravian-Silesian Region?

### 3.2. Research Questions

Qualitative research is a process of searching and understanding, based on various methodological traditions of exploring a selected social or human problem. The researcher chooses a topic at the beginning of the research and identifies basic research questions, thus creating a holistic picture, analysing different types of texts and communicating the views of the research participants. [3] The proposal of this research will depend on a qualitative study in which research observation and interviewing strategies will be used.

A semi-structured interview will be used to collect the data in which the researcher will base their questions during the interview. The semi-structured interview will focus on the following categories:

1. Current state of social and pathological phenomena in the city
2. Current problems of clients
3. Attendance of clients in LTTPs
4. Helping children and young people on the street – streetwork in the Moravian-Silesian Region

The data obtained with the consent of all participants will be rewritten in text form.

The aim of the qualitative study is to find out the role of LTTPs in the Moravian-Silesian Region in the prevention of risky behaviour and social and pathological phenomena and the perception of workers and clients attending the treatment programs.

### 3.3. Ethical Issues: Consent, Access and Protection of Participants

Informed consent will be obtained from selected LTTPs prior to the study.

All information will be managed in a way that keeps the participants safe and anonymous (i.e., anonymity of LTTPs directors and names, social workers, children and young people).

### 3.4. Data Analysis

The analysis will be based on publications by several authors and will include:

1. Material Collection – i.e., all available material (literature reviews, documentation, observation notes,

- interview transcripts) will be continuously collected to obtain information for the data.
2. Isolation of Topics and Research Questions – i.e., significant statements will be extracted from the researcher and informants, etc. Meanings of data obtained from interviews and observations will be formulated and organized into topics.
  3. Comparison of Different Meanings – i.e., there will be a continuous comparison of different communications and versions.
  4. Integration of All Results – i.e., an attempt will be made to propose alternative interpretations for negative cases and claims.

The results will be communicated:

- As a research report with the Faculty of Social Sciences of Charles University in Prague and the Czech Streetwork Association in Prague.
- By organization and to informants participating in the research as a research report in writing.
- The course of the research will be presented at domestic and international conferences.

### References

- [1] [https://www.mpsv.cz/files/clanky/13640/Zakon\\_o\\_sociálních\\_sluzbach-stav\\_do\\_30.9.\\_2017.pdf](https://www.mpsv.cz/files/clanky/13640/Zakon_o_sociálních_sluzbach-stav_do_30.9._2017.pdf)
- [2] BEDNAROVA, Z. and PELECH, L. *Primer of Social Work on the street: Supervision, Streetwork, Financing*. Brno: Doplněk, 2003. 99 pp.
- [3] HENDL, J. *Qualitative research: Basic Methods and Applications*. Prague: Portal, 2005. 407 pp.

## VOCAL EXERCISES AS A MOTIVATION IN TRAINING NON-ART SINGING

Iveta Štrbák Pandiová

### Constantine the Philosopher University in Nitra

Dražovská cesta 4  
Nitra, 949 74, Slovak Republic  
Tel.: +421 37 6408 303  
ispandiova@ukf.sk

**Abstract:** The aim of this paper is to highlight the differentiated approach in the context of Vocal Education in Non-art Music. It is also a creative Voice Exercises created by the hands of an experienced teacher may be motivational \ "tool \ " to develop specific skills and techniques of singing jazz, musical, respectively pop-rock song.

**Keywords:** Vocal education, Non-art music, Vocal exercises, Vocal education, Motivation.

### 1. Introduction

Voice teachers, trained and educated in classical singing, are now constantly confronted with different requirements for the teaching of singing and are forced to create their own "know-how" of training young jazz, musical and pop singers. I have even come across an opinion advocating a single, unchanged method and technique that is universally valid for classical as well as non-art singing. In reality, however, these different genres require a fundamentally different tone production, breathing, vocal ideal and rendition.

### 2. Motivating factors in the vocal exercises

Voice teachers should be aware of the primary need to support their pupils in maintaining the individual timbre of their voice (to find their own voice) more than in any earlier vocal methodology. Exercises and voice training should focus on:

- Stabilization of a "transparent" chest vocal performance
- Combining vocal performance and body movements
- Combining the "chest voice" with the "head voice"
- Conscious relaxation of the straight tones depending on the given vocal style (jazz, musical, chanson, pop music, rock music etc.)
- Cultivation of vocal improvisation depending on the given vocal style (jazz, musical, chanson, pop music, rock music etc.)
- Working with the microphone and with various sound technologies

According to *František Tugendlieb*, the aim of transparent vocal performance is rendition that is so convincing that nobody ever questions whether it is art. The path to these set goals often leads through unpragmatic, insipid and uninspirational vocal exercises which do not even solve a technical problem related to a certain style of vocal performance in the field of non-art music. Motivation, however, can be an undoubtedly pragmatic driving force to achieve the desired results in vocal techniques. Motivating factors in the vocal exercises can be:

- rhythmic motifs of well-known melodies with their original lyrics transformed into vocal exercises on a single tone
- lyrics of well-known songs transformed into classical melodic vocal exercises
- melodic motifs used from well-known songs with the original lyrics
- melodic motifs used from well-known songs by adding various syllables and vowels
- the use of *scat* syllables for typical swing or blues short melodic motifs

### 2.2. Rhythmic motifs of well-known melodies with their original lyrics transformed into vocal exercises on a single tone

In selecting the melodies, we pay attention primarily to the pragmatism of the rhythmic models. In the following models, we demonstrate the way of increasing the difficulty level of the various rhythmic exercises that help to practice various improvisational variations that are typical for example for vocal jazz compositions.

The image shows two musical staves. The top staff is a treble clef with a 4/4 time signature. It contains a melody with lyrics: "The fall-ing leaves drift by the win- dow". The melody consists of quarter notes and half notes. The bottom staff is also a treble clef with a 4/4 time signature. It contains a rhythmic exercise version of the same melody with lyrics: "The falling leaves drift by the win- dow". The melody is simplified to a single tone with various rhythmic patterns.

Example 1: "Autumn Leaves" – jazz standard (music: Joseph Kosma, lyrics: Johnny Mercer)

I love your lovin' arms

I love your lovin' arms

I love your lovin' arms

Example 2: “My Honey’s Lovin’ Arms” – jazz standard  
(music: Joseph Meyer, lyrics: Herman Ruby)

In the exercises, we progress to the upper and lower limit of the range where falsetto can be isolated from a full-bodied, transparently carried tone. By using vowel articulation, both examples follow the principle to influence the opening of the throat and the mutual tension of the tensors (internal and external tensors of the muscles of the larynx) as little as possible.

### 2.3. Lyrics of well-known songs transformed into classical melodic vocal exercises

Classical melodic motifs can guarantee vocal exercises that suitably target the specific technical problems of a given singer. These can be made more enjoyable by the lyrics of well-known songs that can be highly motivating. We can grasp the classical melodic exercises supplemented with the lyrics in this way not only technically but contentually, too, and this enables the singer to try various phrasings of a given motif (whether by a different distribution of the stresses, the stressed and the unstressed beats, by placing emphasis on certain syllables etc.). As an example, we have chosen a classical octave leap with a subsequent, gradually descending fifth to which the lyrics from the song *Over the Rainbow* have been added. This exercise also opens up possibilities to practice the technical problem of connecting full-bodied sound to an isolated falsetto upwards.

Some - where over the rainbow

Example 3: Refrain of the song “Over the Rainbow” from the musical “Wizard of Oz” (music: Harold Arlen, lyrics: E. J. Harburg)

The opposite trend can be seen in the following exercises with the lyrics of the song *Cabaret*. The falsetto vowel “a” in the beginning descends in a chordal movement into transparently carried full-bodied sound. Here, again, we can perceive the octave connection of the two peripheral tones (falsetto + transparent tone) with the same vowel, enabling the singer to have a better control over the equalization of the sound.

Life is a ca-ba - ret

Example 4: Part of the lyrics of the song “Cabaret” from the musical “Cabaret” (music: John Kander, lyrics: Fred Ebb)

### 2.4. Melodic motifs used from well-known songs with the original lyrics

These vocal exercises again open up possibilities to try various variations in rhythm and expression. The teacher can create them by selecting striking melodic motifs from well-known songs to tackle a specific technical problem of the singer. We have chosen the refrain of the song *I Wanna Be Loved By You* as an example. It focuses on the rhythmic and intonational issue of descending minor seconds with a subsequent leap of a fifth upwards. It again enables the singer to practice connecting a full-bodied sound with isolated falsetto.

I wanna be loved by you

Example 5: Refrain of the song “I Wanna Be Loved by You” from the musical “Some Like It Hot” (music: Harry Ruby, Herbert Stothart, lyrics: Bert Kalmar)

Look for the sil - ver lin - ing

Example 6: “Look for the Silver Lining” – jazz standard  
(music: Jerome Kern, lyrics: B. G. Desylva)

### 2.5. Melodic motifs used from well-known songs by adding various syllables and vowels

Here we mean vowels and syllables that are commonly used in vocal jazz improvisations. As an example, we are presenting a melodic motif from the song *The Lovenest* where we added the syllables *doo, bah, doo, yeah, dwe, bah, yah, doo*.

Du ba du je dwe ba ja du

Example 7: Melody from the jazz standard “The Love Nest” (music: Louis A. Hirsch, lyrics: Otto Harbach)

## 3. Conclusions

We perceive the aspect of a well-known melody one has experienced, in interaction with real melodic motifs and a specific technical issue, as a key motivating factor in vocal

education in the field of non-art singing. The categorization of the above-listed possibilities to motivate the singers do not present the technical exercises gradually according to their difficulty level. By selecting the examples, we wanted to point out the possibilities to make the vocal technical exercises in the warm-up phase more varied and livelier. Our further aim is to create a collection of similar vocal exercises that will enable young singers to select interesting motifs with a description of specific problems in technique and rendition.

### References

- [1] ROSNER, Robert: *Abeceda zpěváka pop music*. Praha: Panton, 1969
- [2] TUGENDLIEB, František: *Hlasová výchova popového zpěvu*. Hudební a vydavatelská agentura Pepa, 2002, ISBN 80-238-8292-
- [3] JEHNE, Leo: *Chcete zpívat pop?* Praha-Bratislava: Editio Supraphon, 1970
- [4] ŠTRBÁK PANDIOVÁ, Iveta: *Aktuálne otázky hlasovo-výchovných metód a techník vo vokálnej príprave budúcich učiteľov hudobno-dramatického odboru*. In: Aktuální otázky současné hudebně výchovné teorie a praxe VII : sborník příspěvků z mezinárodní konference. Ústí nad Labem : Univerzita J.E. Purkyně, 2012. - ISBN 978-80-7414-475-2, S. 353-361.
- [5] ŠTRBÁK PANDIOVÁ, Iveta: *Džez ako prostriedok zvyšovania hudobnej gramotnosti a kultivácie estetického čítania v hudobnej výchove*, In: Medacta 2008 : inovácie vo vede, technike a vzdelávaní. - Nitra : UKF, 2009. - ISBN 978-80-8094-482-7, S. 30-34.]

## EMOTIONAL INTELLIGENCE DEVELOPMENT OF PRIMARY SCHOOL STUDENTS

*Eva Vancu*

**Comenius University in Bratislava**

Račianska St. 59  
813 34 Bratislava  
Slovakia  
+421 2 9015 1500  
vancu@fedu.uniba.sk

**Abstract:** *The phenomenon of emotional intelligence (EI) is nowadays related to different theoretical backgrounds as well as to more conceptual ambiguities. Generally the research of EI includes 2 directions, which differentiate by emphasizing either the cognitive skills of person or individual's personality traits. Some authors view the EI as two separate constructs – EI as an ability and EI as a trait. Author is not only pointing out the importance to analyse the relationship of mentioned EI constructs. This intention is examined in the sample of early adolescents. For the mentioned purpose, we applied following questionnaires: The Tromsø Social Intelligence Scale (TSIS), Trait EI Questionnaire (TEIQ). The results confirmed the assumed distinctiveness of EI constructs and gender differences of emotional intelligence in sample of students.*

**Keywords:** *emotional intelligence, development, primary school students*

### 1. Introduction

#### 1.1 Theoretical background

- Only in the last few years has research started to examine constructs of intelligence in relation to children's development. Research outcomes regarding the relation of different forms of intelligence are even more rare.
- Research devoted to emotional intelligence (EI) presents more models of emotional intelligence (EI) and their measurement methods derived from these models. The various perspectives of EI differ regarding the non/separation of the cognitive abilities constructs from personality traits.
- Social and emotional intelligences are multidimensional constructs and they overlap with each other. This overlap is evident from the definition of both constructs, despite the fact that, there are not enough research studies that would be directly comparing those phenomena.

#### 1.2 Goal of the presented study

- concentrating on comparison of the constructs of emotional and social intelligence
- reveal the relationships between the measurement methods of EI (trait perspective) and SI, specifically in preadolescents.
- assume some positive similarities and associations of our examined, contextually closed constructs and differences according to gender of our participants as well.

#### 1.3 Research sample and methods

The healthy sample of preadolescents: 184 participants (98 girls and 86 boys, average age: 10.9), attending 5th grade of public primary schools in Bratislava.

The aim of this study was examined through 2 measurement methods:

- TEIQue, Trait Emotional Intelligence Questionnaire, Cronbach Alfa 0,85 (Petrides, Furnham, 2001, Pérez, Petrides, Furnham, 2007). The test is based on the model of trait emotional intelligence. Its long version consists of 153 items arranged on 7-point response scale (1- from strongly disagree to 7-strongly agree). Short adolescent version TEIQue-ASF offers 30 items, 4 factors (well-being, social control, emotionality, and sociability) and global score for trait EI. In the short form of TEIQue-ASF, authors recommend to use the global trait EI score rather than 4 factor structure, which is reliable and effective only in original version of TEIQue.
- TSIS scale, The Tromsø Social Intelligence Scale (Silvera, Martinussen, Dahl, 2001). Self-reported 21-item scale includes 3 subscales (social information processing, SP, social skills, SS, social awareness, SA) and 7-point likert scale for answers (1-it is not characteristic for me to 7-it is very well characteristic for me). Authors state the values of Cronbach Alfa for individual subscales: SP = 0,79; SS = 0,85; SA = 0,72 (Silvera, Martinussen, Dahl, 2001).

### 2. Results

*Statistical analyses in samples:*

descriptive and explorative processes, nonparametric tests, Spearman correlations

*Sample:* applying of nonparametric methods - resulting from Kolmogor's Smirnov's and Shapiro-Wilks's tests of normality (didn't show normal distribution of the values)

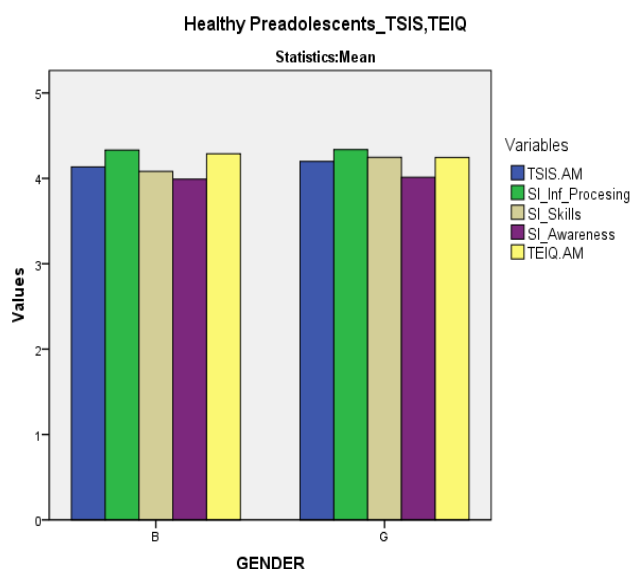
- Graphs 1: displaying arithmetical means (AM) of emotional and social intelligence and the scores of their subscales, according to the gender of both groups of our participants.
- Table 1: AM of SI and EI, Nonparametric independent samples U test – preadolescents.



In the group respondents, boys scored higher in social intelligence in total and also specifically in scales of social information processing and social awareness.

On the contrary girls were dominating in social skills abilities, what is not in line with other research (Silvera et. al, 2001).

The results of trait EI yielded similar scores for boys and girls, although boys reached higher values. None of the presented gender difference in SI and EI showed to be significant (Mavroveli et.al, 2007; Silvera et. al, 2001).



Graph 1: AM of SI and EI – preadolescents

Table 1 AM of SI and EI, Nonparametric independent samples U test - preadolescents

	Boys	Girls	Boys	Girls	Mann Whitney U test	
	Mean	Mean	Std. Dev.	Std. Dev.	Z	p-value
TSIS	4.20	4.18	0.77	0.80	0.19	0.84
Social Information Processing	4.48	4.32	1.06	1.01	-0.73	0.46
Social Skills	4.15	4.23	1.00	1.01	0.06	0.94
Social Awareness	4.05	3.97	0.97	1.01	-0.14	0.88
TEIQ-ASF	4.36	4.29	0.67	0.65	-0.72	0.46

In the sample of healthy adolescents, Mann Whitney U test didn't manifest the gender differences in EI and SI scores as statistically significant.

After these basic comparisons, our attention was to find out the coherences and associations of total items of EI and SI, their subscales with respect to gender of our research samples.

Spearman correlation in sample showed certain proximity of EI and SI constructs, proved by their statistically significant correlation, although 0.24 coefficient value doesn't indicate their strong relationship.

According to gender differences, the relationship of EI and SI was demonstrated only within the group of girls (table

2), specifically in the total items of EI and SI ( $\alpha=0.01$ ) and in the social awareness subscale and trait EI ( $\alpha=0.05$ ).

It means higher the ability of self perceptions of components of trait EI participants have, the better their performance in social functioning is, especially in skills of social awareness.

This gender discrepancy suggests that girls place more value on, and consequently are more attuned to the socioemotional facets of trait EI (Mavroveli et al, 2007).

Table 2 Spearman's intercorrelations of EI and SI - preadolescents-girls

	TSIS	SIP	SSk	SAW	TEIQ-ASF
TSIS	1.00	0.61**	0.78**	0.81**	0.41**
Social Information Processing	0.61**	1.00	0.19	0.18	0.13
Social Skills	0.78**	0.19	1.00	0.62**	0.26
Social Awareness	0.81**	0.18	0.62**	1.00	0.28*
TEIQ-ASF	0.41**	0.13	0.26	0.28*	1.00

correlations are significant at \*\*p <.01, \*p <.05, TSIS- social intelligence scale TEIQ-ASF-trait emotional intelligence questionnaire

### 3. Discussions and Conclusion

The purpose of this study was to reveal the relationship of social and emotional intelligence in preadolescents.

Gender differences in total items of EI and SI as well as their specific relations and differences in sample of respondents were proved.

The overlapping of some subscales of social intelligence with interpersonal factors of emotional intelligence and with trait EI as whole was partly confirmed in group of participants.

It is necessary to note: subdivision of trait EI (TEIQue method) into 4 factors is effective to offer relevant outcomes only in long version of the test. That's why the results are needed to be viewed with some limitations. For the complex study, it would be more suitable to use longer version of TEIQue or different measurement tool for trait EI.

The concepts of emotional and social intelligence are aimed at forming of the interpersonal relationships, and the ways that inadequate relations and negative emotions attack on our physical and psychological health.

Consequences of lacking the basic emotional and social skills can expose a person at several risks and negatively influence the development of complex coping strategies.

### Acknowledgements

The contribution was made through a grant VEGA 1/0955/17.

### References

[1] Mavroveli,S; Petrides,K.V; Rieffe,C; Bakker,F., (2007). Trait emotional intelligence, psychological well-being and peer-rated social competence in adolescence.

*British Journal of Developmental Psychology* ,25, 263–275.

[2] Pérez, J. C., Petrides, K.V., Furnham, A., (2007). Měření rysové emoční inteligence. In: Schulze, R., Roberts R. D. (Eds.), *Emoční inteligence*. Praha: Portál, 201-218.

[3] Petrides, K., V., Furnham, A. (2001). Trait emotional intelligence: Psychometric investigation with reference to established trait taxonomies. *European Journal of Personality*, 15, 425-448.

[4] Silvera, D. H., Martinussen, M., Dahl, T. I. (2001). The Tromsø Social Intelligence Scale, a self-report measure of social intelligence. *Scandinavian Journal of Psychology*, 42, 313-31.

## YOUNG PEOPLE'S MOTIVATION FOR VOLUNTEERING

*Alžbeta Brozmanová Gregorová - Marika Siekelová*

**Matej Bel University**

Ružová 13

Banská Bystrica, 974 11, Slovakia

+421 902 501 975

alzbeta.gregorova@umb.sk - marika.siekelova@umb.sk

**Abstract:** The main aim of this article is to expound the motivational factors which influence young people in engaging in volunteering. The question of motivation is a frequently discussed topic in the area of volunteering. Looking for answers as to why a person decides to voluntarily and selflessly dedicate their free time to another has become a point of interest of both theoretical and scientific research. In this article, we present selected results of quantitative research conducted in 2017 in Slovakia within the “Upbringing and educating children and youth towards volunteering” project. The research sample consisted of 806 young people in Slovakia aged 15 to 30. Overall, motives of volunteers can be split into three categories which include altruistic, normative, and egoistic motivation. The results show that there are no significant differences between the three categories of motivation, which confirms that the individual types of motivations overlap among young volunteers in Slovakia.

**Keywords:** *volunteering, volunteer, youth volunteering, motivation*

### 1. Introduction

Volunteering has been present in society since time immemorial. Its form has developed over time under the influence of various social changes. In today's society, we come across the phenomenon of volunteering more and more often. Volunteering could be described as a natural expression of civic participation and solidarity, which is represented and applied across a broad range of different areas. In line with their own preferences, volunteers can choose to engage in areas such as the environment, sport, health, social services, art, culture, education, and many others. For many, engagement in volunteering is not only something to fill their free time, but is an important value, which they often perceive as the meaning of their life. People of different ages, races, and sexes engage in volunteering. Thus, among volunteers, we often come across young people, people of working age, and also seniors. As was already stated, volunteering gradually changes and develops. Current changes in society such as the modernisation of society, globalisation, demographic changes, changes in relationships, technological advances, and so on influence the form and nature of volunteering and are also reflected in the change of people's attitudes towards volunteering. The result of this is the possibility to distinguish between traditional and modern volunteering patterns. The collective (traditional) volunteering pattern is defined by Hustinx and Lammertyn (2003) as a type of volunteering in which the volunteer “relates” to a particular organisation and works for it practically “automatically”, while not scrutinising the reasons behind their volunteering activities. On the other hand, the reflexive (modern) volunteering pattern is perceived as individualised, in which the volunteers are driven by their own desires.

By using the term “volunteering patterns”, the authors try to express the complexity of the volunteering phenomenon, which is not only a chaotic cluster of various

activities, but which contains a certain logic influencing the volunteering activities in a given country or region. Volunteering patterns should serve as a tool for identifying a particular model of volunteering in a given society. On one hand, they have the ability to uncover differences or, in other words, contrast the various demonstrations of the volunteering phenomenon, while on the other hand allowing for an expression of recurrence, similarity, and variability of the structure of this phenomenon in various environments and conditions (Frič, Pospíšilová, 2010). In order to completely understand the prevailing images of volunteering, it is necessary to take into account the current aspects of life, which are influenced by the wider social transformations of recent decades. It is important to note that it is the young generation of volunteers which has brought about the changes seen in volunteering.

#### 1.1 Motivation for volunteering

Motivation for volunteering has been a point of interest for many experts in the field (Frič, Pospíšilová, 2010, Brozmanová Gregorová, Matulayová and Coll., 2012, Matulayová, Jurníčková, Doležal, 2016, Brozmanová Gregorová and Coll., 2018, Klug, Toner, Fabisch, Priebe, 2018) at the level of both theoretical and practical research. The concept of motivation can thus be considered a scientific construct, which leads to explanations of various goals or reasons behind human activity (Brozmanová Gregorová, Siekelová, Šavrnichová, Šolcová, 2018). Understanding the volunteers' motivation to selflessly devote their free time to someone else could be one of the basic prerequisites for volunteering to benefit all parties involved. By researching this motivation, it is possible to better understand the values of individual volunteers. Motivation is an expression of the nature as well as the typical structure of values, which stand behind the decision of volunteers not only to take part in, but also to continue their volunteering activities. By exploring motivation, it is possible to ascertain what the driving

force of individual volunteers, which motivates them to take part in volunteering, is. The motives of individual volunteers can differ to a great degree, since every human is a unique being, driven on one side and satisfied on the other by different incentives and motivation. In many literary sources (e.g. Frič, Pospíšilová, 2010, Matulayová, Jurníčková, Doležal, 2016, and others), we come across the distinction between two basic approaches to exploring motivation for volunteering – a psychological approach and a sociological one. Within the psychological approach, it is presumed that people are motivated by their belief that engaging in volunteering may fulfil their psychological needs. The sociological perspective in the research of motivation for volunteering emphasizes the influence of both the social and cultural environments, i.e. the social context of reasons why people help others. It is important to note that both of these approaches need to be perceived as mutually complementary. When exploring and classifying individual motives, it is possible to build on the three-element model of motivational structure by Frič and Pospíšilová (2010), which comprises the following categories: altruistic motivation, egoistic motivation, and normative motivation. These types of motivation can be split into those which are mainly typical for the traditional volunteering pattern and those which mainly belong to the new volunteering pattern, as shown in Table 1.

Table 1 Motivation of volunteers

Dimension	Traditional volunteering pattern	New volunteering pattern
Motivation of volunteers	Normative, altruistic	Egoistic, hedonistic

Source: Frič, Pospíšilová, 2010

The authors include normative and altruistic motivation in the traditional volunteering pattern. The term altruistic motivation may represent the incentives of volunteers such as fellow feeling, solidarity with the poor or the less fortunate, etc. Normative motivation includes, among others, the sense of civic duty or religious beliefs. For the new volunteering pattern, an egoistic motivation is more common, which implies that altruism of volunteers is mixed with egoism. To give this phenomenon a name, Andreoni coined the term “impure altruism” (Andreoni in Frič, Pospíšilová, 2010). It is through this classification of the types of motivation within the volunteering patterns that the authors approach the exploration of the volunteers’ motivation.

**2. Methods**

The research, conducted in 2017 in Slovakia, as part of the “Upbringing and educating children and youth towards volunteering” project (Brozmanová Gregorová, Šolcová, Sikelová, 2018), was based on quantitative methodology. The subject of the presented part of the research was young people’s motivation for volunteering. The aim of this part was to ascertain what the motivation of young people for volunteering is or to better understand and clarify the motivational factors which are important for young volunteers engaging in volunteering.

The research utilised 13 statements whose importance for the decision to engage in volunteering activities was rated by the respondents on a 5-point scale from 1 (completely disagree) to 5 (completely agree). The statements covered the three main categories of motivation (altruistic, egoistic, and normative). To evaluate the scales for the statements, a system of factor analysis was used, which, for both formal and informal volunteers, arranged the statements into three factors which explained the 55% variance between all the collected answers (1st factor 30%, 2nd factor 14%, 3rd factor 11%). In Table 2, we present the inherent values of the factors in a three-factor solution and the percentages of dispersion for individual factors, as well as factor loadings of individual items.

Table 2 Factor structure of the questionnaire items after rotation

Statements	Factor 1	Factor 2	Factor 3
I engage in unpaid activities and helping others because I feel that it is important to help others.			.832
I engage in unpaid activities and helping others because I feel that people need my help.			.747
I engage in unpaid activities and helping others because I care about those who have not been as fortunate as me.			.641
I engage in unpaid activities and helping others because it allows me to acquire new experience and skills and to learn through direct experience.	.547		.430
I engage in unpaid activities and helping others because it allows me to build new friendships and connections which might be useful for me in the future.	.679		
I engage in unpaid activities and helping others because it allows me to put my skills into practice.	.703		
I engage in unpaid activities and helping others because it allows me to escape normal life and relax.	.726		
I engage in unpaid activities and helping others because it allows me to be involved in interesting activities in my free time.	.725		
I engage in unpaid activities and helping others because I simply enjoy it.	.530		.565
I engage in unpaid activities and helping others because my friends and people around me do it and expect it from me.	.625	.451	
I engage in unpaid activities and helping others because it is my civic duty.		.779	
I engage in unpaid activities and helping others because it is part of my religious beliefs.		.703	
I engage in unpaid activities and helping others because it is an opportunity to pay the debt to the society of people to which I belong.		.803	
<b>Eigenvalues</b>	3.863	1.797	1.399
<b>% variance</b>	29.713	13.822	10.763

Source: Brozmanová Gregorová and Coll., 2018

The subjects of the research were young people in Slovakia aged 15 to 30. The research sample consisted of 806 respondents. The respondents were selected on the basis of quota sampling according to sampling characteristics (sex, region, area size of residence, age, education).

We created our own questionnaire to be used in the collection of empirical data. A field data collection was conducted through the method of personal interviews with the respondents in Slovakia. The average length of an interview was 15 to 25 minutes. The collected data were subsequently uploaded into an SPSS system file, in which they were analysed.

### 3. Results

Based on the results we can say that there are no significant differences in motivation. The average values of individual motivational factors are stated in Table 3.

Table 3 Average values of motivational factors

Motivational factors	The average value divided by the number of statements within the motivational factor	Standard deviation
Altruistic motivation	3.96	0.67
Egoistic-hedonistic motivation	3.89	0.64
Normative motivation	2.84	0.88

Source: Brozmanová Gregorová and Coll., 2018

When we look at the individual types of motivation, we can see that altruistic and egoistic-hedonistic motivation are relatively well balanced. The lowest score was noted for normative motivation. When it comes to the individual statements, the following two were rated highest:

*“I engage in unpaid activities and helping others because I feel that it is important to help others.”* and *“I engage in unpaid activities and helping others because it allows me to acquire new experience and skills and to learn through direct experience.”* Almost 80% of young volunteers agreed with these two statements. It is interesting that the first statement falls under the category of altruistic motivation, while the other one is typical for egoistic motivation.

In the next part, we list the statements typical for the category of altruistic motivation which reached high percentages of agreement: *“I engage in unpaid activities and helping others because I feel that people need my help.”* (49.9% of volunteers agreed with this statement, while 23.4% stated that they “completely agree”). *“I engage in unpaid activities and helping others because I care about those who have not been as fortunate as me.”* (42.1% agreed, 27.3% completely agreed).

In the category of egoistic-hedonistic motivation, the following statements were given the highest scores: *“I*

*engage in unpaid activities and helping others because it allows me to be involved in interesting activities in my free time.”* (42.8% of volunteers agreed with this statement, while 28.5% stated that they “completely agree”). *“I engage in unpaid activities and helping others because it allows me to build new friendships and connections which might be useful for me in the future.”* (40.9% agreed, 32.6% completely agreed).

In the last part, we list the statements falling under the category of normative motivation which were given the highest scores: *“I engage in unpaid activities and helping others because it is part of my religious beliefs.”* (20.1% agreed, 10% completely agreed). *“I engage in unpaid activities and helping others because it is an opportunity to pay the debt to the society of people to which I belong.”* (20% agreed, 7.8% completely agreed). *“I engage in unpaid activities and helping others because it is my civic duty.”* (19.8% agreed, 9% absolutely agreed).

### 4. Conclusion

The results of this research show a significant representation of altruistic motivation (3.96), which means that nowadays’ volunteers are mainly driven to volunteering by their desire to help others. Despite the high score reached by altruistic motivation, we cannot say that within the dimension of motivation, the traditional volunteering pattern, for which altruistic motivation is typical, is dominant among young volunteers in Slovakia. The reason for that is the significant representation of egoistic motivation (3.89), which is mainly classified as belonging to the new volunteering pattern. Egoistic motivation presents the motives of volunteers such as acquiring new experience and skills, as well as building friendships and useful connections, etc. It is egoistic motivation in particular which reflects the new trends in volunteering. The lowest score was noted for normative motivation (2.84), which includes, among others, the sense of civic duty, religious beliefs, or a desire to pay one’s debt to society. Based on the results we can conclude that new trends within egoistic motivation are making their way into volunteering, although we do not consider them particularly significant due to the fact that altruistic motivation is still largely present among volunteers as well. Building on the research findings, we can say that within the dimension of motivation, it is possible to see an overlap of traditional and modern volunteering patterns among young volunteers in Slovakia. We recommend further research into young people’s motivation for volunteering. New research findings may lead to interesting results showing whether a clear change of volunteering patterns is in progress or whether what we can see is a relatively well balanced overlapping individual types of motivation.

### References

- [1] Brozmanová Gregorová, A., Matulayová, T., Mračková, A., Vavrinčíková, L., Vlašičová, J., Koróny, S. *Dobrovoľníctvo na Slovensku – výskumné reflexie*. Bratislava: Iuventa, 2012, 208pp.

- [2] Brozmanová Gregorová, A., Siekelová, M., Šavrnochová, M., Šolcová, J. *Motivácia mládeže k dobrovoľníctvu v kontexte nových trendov*. In Acta Universitatis Matthaei Belii, pp.73-88, 2018
- [3] Brozmanová Gregorová, A., Šolcová, J., Siekelová, M. *Dobrovoľníctvo mládeže na Slovensku – aktuálny stav a trendy*. Stupava: Platforma dobrovoľníckych centier a organizácií, 2018, 148pp.
- [4] Frič, P., & Pospíšilová, T. *Vzorce a hodnoty dobrovoľníctví v české společnosti na začátku 21. století*. Praha: Agnes, 2010, 263pp.
- [5] Hustinx, L., Lammertyn, F. *Collective and Reflexive Styles of Volunteering: A Sociological Modernization Perspective*. In Voluntas: International Journal of Voluntary and Nonprofit Organization, vol. 14, no. 2, pp. 167-187, 2003
- [6] Klug, G., Toner, S., Fabisch, K., Priebe, S. *Characteristics and motivations of volunteers providing one-to-one support for people with mental illness: a survey in Austria*. In Social Psychiatry and Psychiatric Epidemiology, pp. 841-847, August, 2018
- [7] Matulayová, T., Jurníčková, P., Doležal, J. *Motivace k dobrovoľníctví*. Olomouc: Univerzita Palackého, 2016, 109pp.

## CONTACT COLUMNS IN PUBLIC RELATIONS CONTEXT IN CHILDREN'S MAGAZINES IN EUROPE, ASIA AND THE USA

*Danuša Faktorová*

**Faculty of Media, Pan-European University**  
Tematínska 10, 851 05 Bratislava, Slovak Republic  
+421-905-254369  
daxe@daxe.sk

**Abstract:** *Preschool and junior school magazines publish contact columns as an important tool for public relations, even though the recipients of magazines of this age category are not able to or are just beginning to read, write and have no experience contacting editors as other entities. The sample analysed consisted of 113 magazines published or distributed in Europe, Asia and the USA. Of these, up to 44.25% publish a contact column, with a share of 1.00 to 12.5% of the total volume of magazines. The most common contents of the contact column are children's art works and information on school events. It can be assumed that an adult (parent, educator, etc.) as an intermediary is an inevitable facilitator in the contact of the child's addressee with the journal's editors.*

**Keywords:** *magazines for children, contact column, content analysis, public relations*

### 1. Introduction

Public relations theorists emphasize the aspect of their communication and information functions, two-way communication, and building sympathy for the brand. [1]

The issue of promotion of print media for children and public relations of the editors of these magazines is little devoted in professional literature. Print media for a child addressee is partly a product that is subject to the general marketing rules, and partly it is related to the specifics of public relations in culture. Their penetration or position of a subset creates certain peculiarities and specifics that are used by the editors of children's magazines.

One of the prominent tools of PR media are the contact columns. The direct contact of the editors with the addressee is made possible by electronic media in direct broadcasting time (so-called live broadcasting). The child is a specific recipient. Preschool children cannot contact the editors themselves because they cannot read, write, or orient themselves in relations (with the editors). Similarly, younger school children do not have enough experience to contact the editors. From the specifics of the child's addressee, it is possible to formulate the hypothesis that magazines for preschool and younger school children do not publish contact sections. The research used methods of quantitative and qualitative content analysis of 113 children's magazines, published and distributed in Europe, Asia and the USA.

### 2. Contact columns in children's magazines

The research is based on a qualitative and quantitative content analysis of a sample of 113 children's magazines that are published or distributed in Europe, Asia and the USA.

*Table 1 Occurrence of contact columns in children's magazines published or distributed in Europe, Asia and the USA*

MAGAZINE TITLE	COUNTRY OF ISSUE OR DISTRIBUTION	ISSN/ISBN/IDENTIFICATION NUMBER	CONTACT COLUMN
Barbapapa	Belgium	NA	5,55%
Nickjr.doeboek (Denksport)	Belgium	8710835815947	1,92%
Speelboek (Denksport)	Belgium	8710835813783	1,00%
Arti	Bulgaria	ISBN: 977-131-276-411-9	0,00%
Baraban	Bulgaria	NA	8,33%
Brborino	Bulgaria	ISSN: 1312-2851	7,50%
Maša i Mečoka	Bulgaria	ISSN: 2367-6604	0,00%
Pčelica	Bulgaria	ISSN: 1312-5303	10,71%
Zanimavko	Bulgaria	NA	0,00%
Xekoykoy	Cyprus	5282967004953	0,00%
Čtyřlístek	Czechia	ISSN: 1213-0141	0,00%
Materidouška	Czechia	ISSN: 0025-5440	2,08%
Matýsek	Czechia	ISBN: 121-358-100-9	0,00%
Pastelka	Czechia	ISSN: 1212-646003	2,00%
Sluníčko	Czechia	ISSN: 0231-7222	2,27%
Ribica	Montenegro	ISBN: 977-18-4582-300-0	0,00%
Anders and junior	Denmark	ISSN: 1904-6510	0,00%
Kvik kids	Denmark	ISBN: 570-892-100-230-5	0,00%
Winx	Denmark	ISSN: 1901-2128	2,94%
Filly	Finsko	ISSN: 2242-1963	0,00%
Moviestar planet	Finsko	ISBN: 488-501-908-6	0,00%
Pets	Finsko	ISSN: 1798-6060	8,33%
Astrapi	France	ISSN: 0220-1186	6,25%
P'tit Loup	France	ISSN: 0997-3745	1,32%
Titi	France	ISSN: 1964-9150	2,78%
Wapiti	France	ISSN: 0984-2314	0,00%
Filly	Greece	ISBN:977-179-286-500-9	0,00%
Bobo	Netherlands	ISBN: 871-084-152-003-3	4,17%
Plus Penny	Netherlands	ISBN: 871-086-510-103-4	4,55%
Sesamstraat	Netherlands	ISBN: 871-084-162-002-3	7,14%
Tina	Netherlands	ISBN: 871-084-122-004-	5,00%

		9	
Zapp Lente	Netherlands	ISBN: 90-77119-17-5	0,00%
Bojanka	Croatia	NA	0,00%
Dječji klub	Croatia	ISSN: 1330-1349	1,92%
Dječji zabavnik	Croatia	ISBN: 977-184-782-300-8	2,63%
Junior Extra	Croatia	ISSN: 1332-3881	0,00%
Škrinjica	Croatia	ISSN: 1334-8080	0,00%
Zagonetke	Croatia	ISBN: 977-133-470-200-7	0,00%
Paw Patrol	Ireland	ISSN: 2396-9555	0,00%
Bing	Ireland	ISSN: 2056-3590	2,77%
Mebae	Japan	NA	1,00%
Bitute	Lithuania	ISSN: 1648-0880	0,00%
Dambo	Latvia	ISSN: 1407-0464	0,00%
Kipars	Latvia	ISSN: 2029-2945	0,00%
Spicite	Latvia	ISSN: 1691-0540	12,50%
Peppa Pig	Luxemburg	M 05779-6-F	5,00%
Ablakképek	Hungary	NA	0,00%
Dormogo Domotor	Hungary	ISSN: 0230-1032	0,00%
Kifestó	Hungary	NA	0,00%
Dóra	Hungary	ISSN: 2062-4433	0,00%
Vakáció	Hungary	ISSN: 0239-1457	0,00%
Mia and Me	Moldavia	ISBN: 978-606-651-110-0	0,00%
Neposeda	Moldavia	ISSN: 1991-0568	0,00%
Basteln mit Kindern	Germany	ISBN: 419-626-530-250-1	2,08%
Benjamin Blumchen	Germany	ISBN: 419-855-650-230-009	0,00%
Bummi	Germany	ISBN: 419-912-700-230-4	0,00%
Diddle	Germany	ISBN: 419-541-490-250-0	11,54%
Lowenzahn	Germany	ISBN: 419-511-840-230-6	0,00%
Pettersson und Findus	Germany	ISBN: 419-585-670-240-9	1,39%
Pumucki	Germany	ISBN: 419-489-490-260-406	2,78%
Rätsels pas	Germany	ISBN: 419-613-760-199-2	0,00%
Tabaluga	Germany	ISBN: 419-484-130-230-3	2,27%
Wissens Rätsel	Germany	ISBN: 378-861-322-X	0,00%
Dora	Norway	ISBN: 702-306-021-815-7	5,56%
Moshi monsters	Norway	ISBN: 978-820-241-659-1	0,00%
Naucz mnie mamó	Poland	ISBN: 978-837-316-731-5	0,00%
Truskawkowe Ciastko	Poland	ISSN: 2083-1234	4,17%
Zabawy z Tygryskiem	Poland	ISSN: 1640-2286	0,00%
Trabalhos manuais	Portugal	ISBN: 772-710-101-5	0,00%
Comunicare	Romania	ISBN: 973-706-082-2	0,00%
Incepe meciul!	Romania	ISBN: 978-606-602-579-9	0,00%
Benny	Romania	ISSN: 1843-5947	2,80%
Cei trei purcelusi	Romania	NA	0,00%
Playmobil	Romania	ISSN: 2501-1421	2,77%
Jocuri creative	Romania	ISBN: 978-837-962-387-7	0,00%
Trolii	Romania	ISSN: 2451-4632	0,00%
Maleńkie akademiki	Russia	ISSN: 2313-4666	0,00%
PoniMaška	Russia	ISSN: 1995-8145	0,00%
Uchtyška	Russia	ISSN: 2412-3617	2,78%
Maxík	Slovakia	ISSN: 1336-5029	3,13%
Zvonček	Slovakia	ISSN: 1336-6963	4,17%

Boni	Slovenia	ISBN: 977-185-401-800-8	4,17%
Cicido	Slovenia	ISSN: 0350-8870	5,56%
Duhec	Slovenia	ISBN: 977-131-891-001-5	0,00%
Junior extra	Slovenia	ISSN: 1332-3881	0,00%
Zmajček	Slovenia	ISSN: 1318-7449	1,56%
Boom E Rang	Serbia	ISSN: 1820-2772	0,00%
Igraonica	Serbia	ISBN: 977-133-473-400-8	0,00%
Zabavnik	Serbia	ISSN: 2217-4265	4,41%
Animais	Spain	ISSN: 2014-8976	0,00%
Peppa	Spain	ISSN: 2254-9358	2,78%
Pettson och Findus	Sweden	ISSN: 1652-6147	2,08%
Pyssel & Knap	Sweden	ISBN: 738-824-740-390-1	0,00%
Hsiao sing sing	Taiwan	NA	0,00%
Wei lai er tong	Taiwan	NA	2,00%
Wei lai shao nian	Taiwan	NA	0,00%
You shi shao nian	Taiwan	NA	0,00%
Hsiao dian zang	Taiwan	NA	2,00%
Giocolandia	Italy	ISSN: 1972-4020	2,08%
Pico	Italy	ISSN: 1747-437X	8,33%
Mha snuk	Thailand	NA	0,00%
Caillou	Turkey	ISSN: 1309-7652	0,00%
Cocuk	Turkey	ISSN: 1301-2797	0,00%
Panini	Turkey	ISSN: 2148-8444	0,00%
Kehrypy	Ukraine	ISBN: 482-013-047-016-2	6,67%
Girls	USA	ISSN: 1535-3230	0,00%
Favourites	Great Britain	ISBN: 977-14-6163-000-6	3,13%
Fifi	Great Britain	ISSN: 1747-437X	0,00%
Mizz	Great Britain	ISBN: 977-095-501-199-4	3,57%
Princess	Great Britain	ISSN: 1462-7345	3,13%
Art	Great Britain	ISSN: 977-175-759-602317	5,55%

Source: own research

According to the research, 44.25% of the magazines for children publishes a contact column out of 113 magazines analysed. Of the journals that publish the contact section, its share in the overall volume of the magazine ranges from 1.0% to 12.5%.

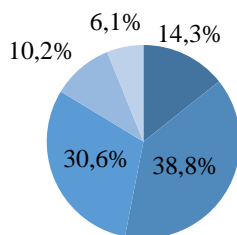
Table 2 Percentage of children's magazines with various ranges of contact columns

CONTACT COLUMNS PERCENTAGE [%]	PERCENTAGE OF MAGAZINES	PERCENTAGE OF MAGAZINES
1 - 1,99	7	14,3
2 - 3,99	19	38,8
4 - 6,99	15	30,6
7 - 9,99	5	10,2
10 - 12,5	3	6,1
	49	100,00



Graph 1 Percentage of children's magazines with various ranges of contact columns

### PERCENTAGE OF MAGAZINES



Source: own research

Portion of contact columns within the range 1 – 1,99 % is present in 14,3 % of children's magazines, portion of contact columns within the range 2 – 3,99 % is present in 38,8 % of children's magazines, portion of contact columns within the range 4 – 6,99 % is present in 30,6 % of children's magazines, portion of contact columns within the range 7 – 9,99 % is present in 10,2 % of children's magazines, portion of contact columns within the range 10 – 12,5 % is present in 6,1 % of children's magazines.

The majority of children's magazines (69,4 %) publish contact columns within the range 2 – 6,99 % of the total magazine volume. The percentage of contact columns exceeding 10% is published by minimum children's magazines (6,1 %).

A qualitative content analysis showed that the content of contact columns in children's magazines are most often images or short texts made by children or brief information from schools about events in these schools, which "is related to the tradition of using magazines in the teaching process and related content requirements (bulk subscription at schools)"[2], especially in Central and Eastern Europe.

Detailed content analyses show that the contents of the contact columns in children's magazines are:

- Children's art work (drawings)
- Letters of children
- Individual photos of children
- Collective photos of children
- Letters of teachers
- Letters of parents
- Short news from schools

The senders and/or authors of articles in the contact columns of children's magazines are children and adults. This is related to the fact that, in addition to the primary addressee, i.e. children, the secondary addressees of children's magazines are adults who buy the magazine, read to children, motivate children to read and solve tasks.

They often act as a mediator of content, a link between the content of a magazine and a child's addressee.

The role of an adult as a secondary addressee of the children's magazine is twofold - they send children's contributions to the editors, who have no experience in postal or e-mail communication and, at the same time, they are the authors of the articles in the contact columns - the parents are the authors of letters and teachers are the authors of letters and short reports on events in schools where they work with the magazine as a supplementary literature. Contact columns significantly strengthen the relationship between the magazine and its readers.

### 3. Conclusions

The hypothesis mentioned in the introduction to this article has been disconfirmed by research. Preschool and junior school magazines publish contact columns as an important tool for public relations, even though the recipients of magazines of this age category are not able to or are just beginning to read, write and have no experience contacting editors as other entities. The sample analysed consisted of 113 magazines published or distributed in Europe, Asia and the USA. Of these, up to 44.25% publish a contact column, with a share of 1.00 to 12.5% of the total volume of magazines. The most common contents of the contact column are children's art works and information on school events. It can be assumed that an adult (parent, educator, etc.) as an intermediary is an inevitable facilitator in the contact of the child's addressee with the journal's editors. Contact columns significantly strengthen the relationship between the magazine and its readers.

### References

- [1] PLICHTOVÁ, M., 2015. *Public relations in culture*. Bratislava: Komenského University, 2015. p. 11. ISBN 978-80-223-4024-3.
- [2] FAKTOROVÁ, D., 2019. Popular-educational Texts in Print Media for Child Addressee. In: *CER Comparative European Research 2019*. London: Sciemcee Publishing, 2019. p. 98 – 101. ISBN 978-1-9993071-2-7.

## COMPARISON OF THEORY OF MIND BETWEEN PSYCHIATRIC PATIENTS AND A HEALTHY POPULATION

Ivana Mirdalíková - Dominika Doktorová

Univerzita sv. Cyrila a Metoda v Trnave

Nám. J. Herdu 2

Trnava 917 01 Slovakia

+421 911 809 949, +421 908 435 682

mirdalikovai@gmail.com - dominikka.doktorova@gmail.com

**Abstract:** *Theory of Mind is an effective tool to understand the world. Describe the theory of mind in psychiatric patients and to compare it with a healthy population is very instructive. The research sample is divided into two research samples - control and clinical. The control sample consisted of 31 people without a psychiatric history and the clinical sample consisted of 30 patients diagnosed with schizophrenia or schizoaffective disorder. Data are obtained via questionnaire method and evaluated quantitatively. For research, we have used non-standardized mind-based verbal tasks. The results of the research have shown significant differences in theory of mind between psychiatric patients and a healthy population. Psychotic patients scored lower than healthy people. Also, our results point to lower scores of patients in the roles of mind theory who are hospitalized and to lower scores of patients in the manifest phase of the disease. Patients with a psychotic disorder have not always been able to create higher order mental representations and thus to think about the mental states of other people.*

**Keywords:** *theory of mind, schizophrenia, schizoaffective disorder, health population*

### 1. Introduction

To understand and explain a complex construct such as Theory of Mind, we need several scientific disciplines [1]. During of life, the individual creates ideas about how the human psyche works. Based on his ideas, he is able to understand what is happening in the minds of others. This ability is used to estimate hidden intentions that are not directly expressed in speech. It is also used in assessing false beliefs and predicting the consequences of behavior. Delusion, imagining or sharing humor and using non-verbal gestures can only be achieved if the Theory of Mind (abbreviated ToM) is present as part of our social instinct [2,3,4,5]. From the perspective of evolutionary psychology, we had to develop a mechanism that helped adaptation to the environment in which we live, at least as important as beliefs [6,7]. Impaired ability to apply ToM is mainly associated with autism spectrum disorders - one who has a damaged module ToM is blind to the existence of other minds [8,9]. This deficit is not necessarily specific to autism [10,11]. New approaches to brain research in particular, they allow neuroimaging techniques [12]. Clinical processes are complex from a neuropsychological point of view and cannot be attributed to certain structures and centers [13]. Clinical experience speaks of linking the activity of some areas to the right hemisphere [14]. Its focal damage can lead to blunting of empathy, limiting the understanding of metaphors, irony or sarcasm. The activity of the frontal lobes contributes to the functions of the theory of mental states. Affecting the lower and inner surfaces of the frontal lobes is detrimental to social behavior and essentially changes personality. Injury of the right frontal lobe can damage the sense of humor, self-awareness, face recognition in the mirror, and episodic memory [9,13,14].

### 1.1. Schizophrenia

Schizophrenia is one of the most fascinating mental disorder and at the same time one of the most serious psychotic disorders. It is an endogenous psychosis with serious disturbances, particularly in the areas of emotion, thinking, action and personality [15]. Schizophrenia is a serious psychotic disorder affecting the ability to act and behave in accordance with the environment; changing external relations and relationships with people [16]. It is a disorder that affects human thinking, feeling and acting and decreases the quality of human life by causing an inability to satisfy the requirements of life roles [16]. Among the basic features are ambivalence, unimportant emotions and thoughts, the release of thought flow. Symptoms of individual clinical forms of the disease are gradually present. Schizophrenia is the most devastating disease that is treated in psychiatry [17]. The symptoms of schizophrenia are so diverse that we look at its types rather than syndromes - a group of symptoms [18]. The disease is of a chronic nature and permanently damages the individual's personality as well as disqualifies the possibility of work and social employment. Mortality in schizophrenia is exceptional - 0.4 - 0.6%. Due to the diverse and multifaceted clinical view of acute disease, a schizophrenia has been divided into types ( in our case Paranoid schizophrenia F20.0., Undifferentiated schizophrenia F20.3. and Residual schizophrenia F.20.5.) - it is also used in diagnostics [19]. Even in the first half of the 20th century, the prevailing opinion was that cognitive deficit in schizophrenia is not a primary symptom, but is related to the reduced motivation of patients in test examinations and positive symptoms. Later, it was believed to be an adverse side effect of typical antipsychotics [20]. With the development of new research methods, the occurrence of specific structural and functional changes in the brain of patients with schizophrenia has been confirmed and refined. The

findings of damage to certain parts of the brain have made cognitive deficits to be seen as the primary symptom of schizophrenia [21,22]. In patients with schizophrenia, it is disrupted in the dorsolateral prefrontal cortex [23]. The presence of negative symptoms such as emotional dullness is associated with dorsolateral prefrontal cortex involvement. Impairment of cognitive functions also affects the social area of patients. Patients' social capacities are significantly lower than in healthy subjects and correlate with the severity of negative symptomatology and cognitive deficit [24].

**1.2. Schizoaffective disorder**

The term schizoaffective psychosis refers mainly to a psychotic disorder with a mixture of schizophrenic affective symptoms. It is defined by both episodic disorders in which both affective and schizophrenic symptoms are at the forefront, so that the episode cannot be diagnosed as either schizophrenia, depressive episode or manic episode[27].

**1.3. Research problem**

The individual is able to understand what is likely to happen in the minds of others based on their ideas. He uses his ability of understanding to estimate hidden intentions, to judge false beliefs, or to predict the consequences of behavior. This can only be achieved if ToM is present - one of the most important tools of social cognition[2]. Schizophrenia is considered to be one of the most fascinating mental disorder and at the same time the most serious psychotic disorders. Schizophrenia can be perceived as a disorder of mental state representations and impaired mental ability is considered to be its central feature[15]. The main aim of the research is to describe the Theory of Mind in psychotic patients diagnosed with schizophrenia and schizoaffective disorder and compare it to a healthy population. the ability to mentalize between patients with psychotic disorders of different diagnosis (between F.20 and F.25).

Partial research aims are:

- to establish a link between ToM and clinical aspects of the disorder
- find out the gender difference in ToM

**1.4. Research questions**

RQ1: Is there a statistically significant difference between a healthy population sample and a group of psychotic patients in the overall ToM score?

RQ2: Is there a statistically significant difference between men and women in the group of psychotic patients in the overall ToM score?

**2. Method**

Data are obtained via questionnaire method and evaluated quantitatively. At the beginning of the questionnaire we found basic data about respondents such as sex, age, completed education, in psychiatric patients also established diagnosis, prevalent symptomatology and episode of the disorder. Word problems focused on the ToM were

used in both research files. The stories have been translated from English and their validity has been verified by bilingual verification. Questionnaires were submitted to the respondents in printed form and were without time limit. Respondents were assured that the completion of the questionnaire was anonymous.

**2.1. Research Sample**

The research sample is divided into two research samples - control and clinical. The control sample consisted of 31 people without a psychiatric history and the clinical sample consisted of 30 patients diagnosed with schizophrenia or schizoaffective disorder. The sample was obtained by deliberate selection. The selection of participants into the groups was made with the aim of equalizing both groups on the basis of gender and age. A total of 61 respondents participated in the research. The condition in clinical sample was a diagnosis of F.20 schizophrenia or F.25 schizoaffective disorder according to diagnostic criteria MKCH-10. The diagnosis in both cases was made by the attending physician and psychologist (Table 1). The second condition was that the respondent should be at least 18 years of age, the upper age limit was not set. 11 women and 19 men participated in the research (Table 2). The data were collected between December 2018 and March 2019 in agreement with the local psychologists and the attending physician. Remission and chronicity of the disease were determined based on the judgment of the attending physician and psychologist according to research criteria routinely used in clinical practice.

The control sample consisted of 30 respondents. The condition was that the respondents were at least 18 years old and had no psychiatric history (Table 3). We were able to compare the sample with a group of psychotic patients based on age and sex.

*Table 1 Psychotic patients - frequency of diagnosis*

<i>Sample of psychotic patients</i>	<i>Diagnosis</i>	<i>N</i>
F20.0 Paranoid schizophrenia		12
F20.3 Undifferentiated schizophrenia		5
F20.5 Residual schizophrenia		8
F25 Schizoaffective disorder		5
Overall		30

*Table 2 Psychotic patients - frequency of sex*

<i>Sample of psychotic patients</i>	<i>Sex</i>	<i>N</i>
Male		19
Female		11

Overall	30
---------	----

Table 3 Control sample - frequency of sex

Control sample	Sex	Use for
Male		12
Female		19
Overall		31

**2.2 Materials and apparatus Word problems focused on the Theory of Mind**

Word problems focused on the ToM are not a standardized method. Different types of tasks are used in the research. From a psychometric point of view, the diversity of tasks is often criticized because it is impossible to assess whether the same concept is measured by verbal tasks. In various researches, Test Anne and Sally and the story of an Ice Cream Maker are most often used to explore mind theory. Other stories are often based on these original stories (from Sally Anne Test, Ice Cream Van Story)[10,7,29]. For our research, we have selected stories from foreign research based on their availability. We have chosen 11 short stories to create a comprehensive set of tasks focusing on the theory of mind 1 st and 2 nd order, mental states and intentions of the actors and last but not least on metaphors. We adapted the names of the story's actors to the current situation. The translation of verbal tasks from English and their validity was determined by means of bilingual verification and Cronbach's alpha. The scoring was done according to the story authors. In tasks 1 - 4 the respondent got 1 point for the correct answer, the point for the wrong answer was not scored. The correct answer pointed to the presence of the 1st or 2nd order mind theory. In the 5th - 9th tasks, the respondent obtained 2 points for the correct answer if he referred directly to the mental state of the characters in the story - they think, believe, desire, or refer to their intention. Recognition of the correctness of the response proceeded directly according to the instructions of the authors. In tasks 10-11, the respondent earned 1 point for the correct answer if he pointed out that it was a metaphor, comparison, or game, and he did not get a point for the wrong answer.

**2.3 Procedure**

We found coefficients of variation for metric variables. In terms of metric variables, all except the ToM MS dimension, a coefficient of variation of less than 50% was shown, meaning that the sample is relatively homogeneous for these variables. We divided the testing of normality into two for a sample smaller than 50, it is preferable to use the Shapiro-Wilk test as guiding for testing the normal distribution of data in the population, whereas for samples higher than 50 the Kolmogorov-Smirn test is more powerful. For a total ToM score, the range of the set is sufficient (N = 61) to use Kolmogorov-Smirnov test values with a significance value of less than 0.05 (p <0.001), which means that we reject the null hypothesis and

therefore claim that the data is not normally distributed in the population for this variable. The same was true of the Shapiro-Wilk test, where at 30 degrees of freedom the significance value was in all cases lower than 0.05, which means that these variables are not normally distributed in the population. Given these normality testing results, we used non-parametric test methods for our statistical processing. When processing and analyzing the obtained data, we worked with the statistical program SPSS. Based on the results of normality (variables do not have a normal distribution form) and the methods used, we used nonparametric statistics methods to compare test-retests and groups:

Mann-Whitney U test- to investigate the differences between two independent selections (psychotic patient population, healthy population, gender)

Spearman's correlation analysis to determine the relationship between positive and negative symptoms and mind theory

**3. Results**

Results of univariate descriptive analysis shows values deviates from -1 to 1, indicating that our data is not normally distributed population.

RQ1: Is there a statistically significant difference between a healthy population sample and a group of psychotic patients in the overall ToM score?

In research question 1, we find differences between the control and the group of psychotic patients with the total ToM score. As we can see in the first descriptive table, the sample is considerably balanced within the two groups (Table 4). Since normality testing showed us an abnormal distribution of data in the population, we used the Mann-Whitney U test, which is a non-parametric alternative to the T-test for two independent selections. As we can see in the first descriptive table, the sample is well balanced between the two groups. In terms of average rank, the control group scored significantly higher in the overall ToM score. At the statistical value of the test (U = -5.98), there was a statistically significant difference (p <0.001) between the healthy population and the group of psychotic patients in the overall ToM score. Given that a statistically significant difference has been demonstrated, it is also appropriate to calculate the effect strength. Its value indicates a very high effect strength (r = 0.77).

Table 4 Descriptive - total score ToM

Descriptive		N	MR
ToM Score	Control S.	31	44,24
	Psychotic S.	30	17,32

RQ2: Is there a statistically significant difference between men and women in the group of psychotic patients in the overall ToM score?

Results of testing statistically significant differences in the group of psychotic patients between men and women in the score of the ToM. Average ranking values indicate that they do not differ relatively in the score. Males scored slightly higher (MR = 16.53) than females (MR = 13.73). The statistical value of the U test was (U = -0.860). Based on the significance value ( $p = 0.39$ ), we accept the null hypothesis and therefore claim that there is no statistically significant difference between men and women in the ToM score.

## 4. Discussion

### 4.1. Interpretation of results

We focused on detecting a difference in mind theories between a healthy population and individuals with a psychotic disorder, which showed a statistically significant difference. The results confirm that patients diagnosed with psychotic disorder are significantly less successful in mind theory tasks as opposed to the normal population that answers questions in mind theory tasks always correctly (ie, to one point each). Using a meta-representation framework, he points out that the signs and symptoms of schizophrenia reflect the exact nature of dysfunctions within a cognitive system aimed at recognizing and monitoring others - their intentions, their characteristics, ideas and beliefs.<sup>10</sup> This model creates abulia as a result of early disintegration of the system causing complete inability to represent intentional behaviors. Research [30] investigated the extent of mental disability impairment in individuals diagnosed with schizophrenia. Patients with schizophrenia scored significantly worse than the control group in mind theory tasks, as evidenced by a meta-analysis [31], which has shown a significant impairment of the ability to mentalize schizophrenia, ultimately supporting the results of our research. An interesting fact is that in tasks of mind theory, a patient with psychotic disorders must understand abstraction by his own abstraction.

In finding a statistically significant difference between patients with schizophrenia and schizoaffective disorder in the exercise of mind theory tasks, we did not notice any difference between groups in our results. However, patients with schizophrenia scored on average higher than those with schizoaffective disorder. We assume that for a larger number of respondents, we would notice a statistically significant difference and this difference could become more significant for a larger sample. In a larger sample study (199 patients with schizophrenia and 73 patients with schizoaffective disorder), he found gender differences between groups that were statistically significant[33]. Patients with schizoaffective disorder scored better than patients with schizophrenia. He describes a schizoaffective disorder as a transition from affective disorders to schizophrenia. In addition to the classic schizophrenic symptomatics, symptoms of affective

illness are present in the schizoaffective disorder, a depressive mood and a manic mood [34]. Our findings suggest that the manifestation of these moods may not affect the exercise in mind theory as much as the patients with schizophrenia. mostly positive symptoms such as delusions, hallucinations, etc., which ultimately affects thinking to a great extent [10,35,36]. Assuming that mind theory is really related to cognitive functions, this could be related to an overall better cognitive score tests in patients during remission [37,38, 39, 40].

We could not find a statistically significant difference between gender and a comparison of schizophrenia and schizoaffective disorder. In the research we worked only with a sample of 25 patients diagnosed with schizophrenia and only 5 patients diagnosed with schizoaffective disorder. Speeches could have been more demonstrable if the number of respondents were higher. On the other hand, our results are also supported with the results of other research that have focused on this issue. When conducting research, it is particularly important to control the impact of different variables. We have managed to match research samples based on age and gender, but there are variables that can also be investigated. In foreign research, the authors also focus on the impact of education on the theory of mind [7,10,17]. For the purposes of our research, we asked participants in research on education for initial research on anamnestic data, but we did not use it in the research itself. However, we can use this data for further investigation.

### 4.2 Limits

Our work has several limits. Working with psychiatric patients is extremely difficult to work on. Not every person with mental illness is willing to participate in research of this type. In some questionnaires there were answers that were only marked with a cross. The fact is that psychotic patients have weakened will properties. Reduced effort could translate into the actual test results.

We cannot generalize the results of our research to the entire population as our sample of psychotic patients consisted of only 30 patients diagnosed with schizophrenia or schizoaffective disorder.

We cannot judge the ability to measure stories by themselves, even if the stories contained control questions focused on factual data, the way the test is designed is certainly not negligible. The heterogeneity of tasks can also indicate a psychometric problem. The reflection of psychometric problems related to mind-testing tests would be advisable to consult with a specialist, as we do not yet have many years of experience.

As a positive result of our research we can consider working with a control research sample, which allowed us to realistically compare the performance of patients with a healthy population. In this case, we did not rely solely on the results of previous studies.

### 4.3 Future intentions and practical application

An interesting question for future research is whether patients with psychotic illness fail only to solve the research tasks themselves, or if the deficit in the theory of the mind manifests itself in everyday life. If, in the future, we continue to focus on the study of mind theory in patients with psychiatric diagnosis, it would be interesting to compare the presence of diagnosis. Research[32,30] points to impaired ability to apply mind theory to patients with bipolar disorder, and the findings illustrate the assumption of some common mechanism between bipolar disorder and schizophrenia. Another interesting area would be to find out what differences exist in executive functions in a healthy and psychotic population[33].

### References

- [1] KOUKOLÍK, F. *Sociální mozek. 1. vydanie*. Praha: Karolinum, 2006.
- [2] CORRIGAN, P., PENN, D. *Social Cognition in Schizophrenia*. Washington: APA, 2001.
- [3] FRITH, C. D., FRITH, U. *Mechanisms of social cognition*. Annual review of psychology, 2012.
- [4] DOHERTY, M.J. *Theory of mind:How Children Understand Others Thoughts and Feelings. 1 Edition*. Hove: Psychology Press, 2009. ISBN 9781841695709.
- [5] LESLIE, A.M. *Core Mechanism in ,Theory of Mind*. In Trends in Cognitive Sciences Vol.8, No.12., 2004.ISSN 1364-6613
- [6] DUNBAR, R. *Příběh rodu Homo. Vydání 1*. Praha: Academia, 2009 s.222.
- [7] [http://www.autismresearchcentre.com/docs/papers/1999\\_BC\\_evolution.pdf](http://www.autismresearchcentre.com/docs/papers/1999_BC_evolution.pdf)
- [8] SCHOOL, B.J., LESLIE, A.M. *Modularity, Development and Theory of Mind* In Mind and Language Vol.14, No.1, 1999. ISSN 1468-0017
- [9] BARON - COHEN, S. *Duševná slepota*. Prvé slovenské vydanie. Bratislava: Európa, 2009.
- [10] FRITH, C. D., CORCORAN, R. *Exploring theory of mind'in people with schizophrenia*. Psychological medicine, 1996. 26(3), 521-530.
- [11] PICKUP, G. J., FRITH, C. D. *Theory of mind impairments in schizophrenia: symptomatology, severity and specificity*. Psychological medicine, 2001. 31(02), 207-220.
- [12] KOVÁČ, L. *Modely mysle. 1. slovenské vydanie*. Bratislava: Európa, 2008.
- [13] ŠTULRAJTER, M. *Chápanie duševných stavov v kontexte kognitívneho vývinu. 1.vydanie*. Bratislava: Ústav experimentálnej psychológie SAV, 2011.
- [14] KOUKOLÍK, F. *Já: o vztahu mozku, vědomí a sebevědomování. 1. vydanie*. Praha: Karolinum, 2005.
- [15] KOLIBÁŠ, E. *Špeciálna psychiatria. Účastníkom 2.zjazdu slovenských psychiatrov*. 1996.
- [16] LIBIGER, J., HOSCHL, C. *Psychiatrie*. Praha: Tigis, 2002.
- [17] BLACK, D.W., ANDREASEN, N.C. *Introductory Textbook of Psychiatry. Fifth Edition*. Arlington: American Psychiatric Pub. 2010.
- [18] MOTLOVÁ L., ŠPANIEL, F. *Schizofrenie - Jak předejít relapsu aneb terapie pre 21.století*. 3. přepracované a doplněné vydání. Praha: Mladá fronta, 2017.
- [19] HERETIK, A. *Schizofrenia, schizotypové poruchy a poruchy s bludmi*. In HERETIK, A., HERETIK, A. *Klinická psychológia*. Prvé vydanie. Nové Zámky: Psychoprof, 2007.
- [20] TUMA, I., & LENDEROVÁ, Z. *Schizofrenie a kognitivní funkce*. Praha: Psychiatrické centrum,1999.
- [21] GOLD, S., ARNDT, S., NOPOULOS, P., O'LEARY, D. S., & ANDREASEN, N. C. *Longitudinal study of cognitive function in first-episode and recent-onset schizophrenia*. American Journal of Psychiatry, 1999, 156(9), 1342-1348.
- [22] GREEN, M. F., KERN, R. S., BRAFF, D. L., & MINTZ, J. *Neurocognitive deficits and functional outcome in schizophrenia*. Schizophrenia bulletin, 2000, 26(1), 119-136.
- [23] MINZENBERG, M. J. *Meta- analysis of 41 functional neuroimaging studies of executive function in schizophrenia*. Archives of General Psychiatry, 2009. 66(8), 811.
- [24] PATTERSON, T. L., MOSCONA, S., MCKIBBIN, C. L., DAVIDSON, K., & JESTE, D. V. *Social skills performance assessment among older patients with schizophrenia*. Schizophrenia research, 2001, 48(2), 351-360.
- [25] MAHNKOPF, A., RAHN E. *Psychiatrie, učebnice pro studium a praxi*. Praha: Grada, 2000.
- [26] PEČEŇÁK, J. *Schizofrenia – koncepty, symptómy, diagnostické kritériá*. Univerzita Komenského, Bratislava, 2014.
- [27] SMOLÍK, P. *Duševní a behaviorální poruchy*. Praha: Maxdorf, 1996.
- [28] OPLER MGA, YAVORSKY C, DANIEL DG. *Positive and Negative Syndrome Scale (PANSS) Training: Challenges, Solutions, and Future Directions*. Innovations in clinical neuroscience 2017;14(11-12):77–81.
- [29] <https://pdfs.semanticscholar.org/a08e/2f9230c0d45b6ea43f019dd4704c3c6c46a0.pdf>
- [30] MAZZA, M. a kol. *Selective impairments of theory of mind in people with schizophrenia*. Schizophrenia research, 2001. 47(2), 299-308.
- [31] SPRONG, M. a kol. *Theory of mind in schizophrenia Meta-analysis*. The British Journal of Psychiatry, 2007. 191(1), 5-13.
- [32] FISZDON, J. M. a kol. *A comparison of basic and social cognition between schizophrenia and schizoaffective disorder*. Schizophrenia research, 2012. 91(1), 117-121.
- [33] SVOBODA, M. a kol. *Psychopatologie a psychiatrie*. Praha, Portál, 2006.
- [34] DLHOŠOVÁ, T. *Teória mysle u pacientov s psychotickým ochorením a jej vzťah k vybraným kognitívnym funkciám*. Diplomová práca. Masarykova univerzita, Filozofická fakulta Psychologický ústav, Brno, 2013.
- [35] BORA, E. a kol. *Cognitive functioning in schizophrenia, schizoaffective disorder and affective psychoses: meta-analytic study*. The British Journal of Psychiatry, 2009a. 195(6), 475-482.

- [36] BORA, E. a kol. *Theory of mind impairment in schizophrenia: meta-analysis*. Schizophrenia research, 2009b. 109(1), 1-9.
- [37] <https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1600-0447.1999.tb05991.x>
- [38] KERR, K.S. a kol. *Theory of Mind Deficits in Bipolar Affective Disorder* In: Journal of Affective Disorders Vol.73, No.3, 2003. ISSN 0165-0327
- [39] ZANESCO, A. P., KING, B. G., MACLEAN, K. A., & SARON, C. D. (2013). Executive control and felt concentrative engagement following intensive meditation training. *Frontiers in Human Neuroscience*, 7, 566.2013
- [40] LUTZ, A., JHA, A. P., DUNNE, J. D., & SARON, C. D. Investigating the phenomenological matrix of mindfulness-related practices from a neurocognitive perspective. *American Psychologist*, 70, 632–658.2015 doi: 10.1037/a0039585
- [41] MASS, R., SCHOEMIG, T., HITSCHFELD, K., WALL, E., & HAASEN, C. *Psychopathological syndromes of schizophrenia: evaluation of the dimensional structure of the positive and negative syndrome scale*. Schizophrenia Bulletin, 2000, 26(1), 167-177.
- [42] SMOLÍK, P. *Duševní a behaviorální poruchy*. Praha: Maxdorf, 1996
- [43] <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1600263/pdf/brmedj00002-0006.pdf>
- [44] FRITH, C. D. *The cognitive neuropsychology of schizophrenia*. New York: Psychology Press, 1996
- [45] DLHOŠOVÁ, T. *Teória mysle u pacientov s psychotickým ochorením a jej vzťah k vybraným kognitívnym funkciám*. Diplomová práca. Masarykova univerzita, Filozofická fakulta Psychologický ústav, Brno, 2013.
- [46] FRITH, C. D., CORCORAN, R. *Exploring theory of mind in people with schizophrenia*. Psychological medicine, 1996. 26(3), 521-530.

## A CROSS-SECTIONAL STUDY OF EMOTIONAL INTELLIGENCE IN BACCALAUREATE NURSING STUDENTS

*Ludmila Majerníková – Anna Hudáková – Marta Vojteková – Andrea Obročníková – Mária Kaščáková*

**Prešovská univerzita in Prešov**

Partizánska 1

Prešov, 08001, Slovakia

ludmila.majernikova@unipo.sk – anna.hudakova@unipo.sk- marta.vojtekova@unipo.sk – andrea.obrocnikova@unipo.sk – maria.kascakova@unipo.sk

**Abstract:** *The theory of emotional intelligence provides a framework to think about all of the non-technical skills you need in order to be a good nurse. It's often described as the potential to feel, use, communicate, recognize, remember, describe, identify, learn from, manage, understand, and explain emotions. The aim of the study was to determine the level of total global Emotional Intelligence among nursing students in undergraduate training and also the influence of factors (the year of study, type of completed high school education). The study involved together 100 university students of nursing (average age 21.3±1.5; 96.5% females). We used the standardized questionnaire Trait Emotional Intelligence Questionnaire –Short Form (TEIQue-SF). The results show a higher level scores achieved by nursing students in all areas EI except Self-control compared to a population norm. Students who have completed non-health's education achieved higher level scores of Emotionality ( $p \leq 0.05$ ). EI abilities are essential to the profession of nursing in both educational and clinical practice. Examination of the role of education and the development of EI abilities in student nurses are needed to support this foundation of EI research.*

**Keywords:** *Emotional intelligence, nursing students, nursing education.*

### 1. Introduction

Emotional intelligence (EI) is contested but well conceptualized in the psychology literature [1, 2, 3] and might be related to quality of nursing care [4]. It is suggested that EI is a useful variable to understand in relation to nurse recruitment [5]. Most EI theorists see emotional intelligence either as an ability, a trait, or some combination of the two [6], and then attempt to measure it in accordance with that view [7]. For example Schutte et al. [3] self-reported Emotional Intelligence Scale (SEIS) is an 'ability' measure. It is theoretically grounded in Salovey and Mayer's concept of emotional intelligence that sees it as a subset of social intelligence concerning the capacity to: monitor one's own and others' feelings and emotions, discriminate among them, use this information to guide one's thinking and actions [8]. One of the most recent models of EI was published in 2009 by Petrides and colleagues and marks a break from the idea that emotional intelligence is ability-based. Instead, it proposes that people have, as part of their personalities, a number of emotional self-perceptions and emotional traits [2]. Petrides and Furnham [9] identified via content analysis 15 distinct components common to more than one salient EI model. Table 1 presents a brief description of these components, which have provided the basis for the development of our operational definition of EI [10].

Emotional intelligence ability has a significant place in nursing, where compassion and caring are two foundations of the profession. In order to provide compassionate care nurses must be able to identify, use, manage, and understand emotions not only in themselves but also in the context with others. EI ability is not something that can be taught in a lecture class, it has to be developed through an active listening, engagement, and participation [11].

*Table 1 The sampling domain of trait emotional intelligence in adults [10].*

<i>Global trait EI</i>	<i>High scorers perceive themselves as...</i>
Well-being Self-esteem Trait happiness Trait optimism	...successful and self-confident. ...cheerful and satisfied with their lives. ...confident and likely to "look on the bright side" of life.
Self-control Emotion control Stress management Impulse control	...capable of controlling their emotions. ...capable of withstanding pressure and regulating stress. ...reflective and less likely to give into their urges.
Emotionality Emotion perception (self and others) Emotion expression Relationships Trait empathy	...clear about their own and other people's feelings. ...capable of communicating their feelings to others. ...capable of having fulfilling personal relationships. ...capable of taking someone else's perspective.
Sociability Social awareness Emotion management (others) Assertiveness Adaptability* Self-motivation*	...accomplished networkers with excellent social skills. ...capable of influencing other people's feelings. ...forthright, frank, and willing to stand up for their rights. ...flexible and willing to adapt to new conditions. ...driven and unlikely to give up in the face of adversity.

Note.\*These two facets feed directly into the global trait EI score without going through any factor

### 1.1 Material and Methods

Research was conducted in order to determine the existence of differences among level EI according to year of study at University, type of previously completed high school education of students in undergraduate studies in the field of nursing.



A total of 100 day bachelor's students in the field of nursing in the second and third years at the Faculty of Healthcare at the University of Prešov in Prešov. The majority of students (96.5%) were women; the mean age was 21.3 (SD  $\pm$  1.5). More than half of respondents had completed high school education with healthcare specialization. More information on the respondents is presented in Table 2.

Table 2 Demographic characteristics of respondents

Gender	n	%
Female	97	97
Male	3	3
Age	n	%
20 – 22 years	78	78
23 – 25 years	10	10
26 and more years	12	12
Completed high school education	n	%
Healthcare high school	64	64
Other	36	36
Year of study	n	%
Second	54	54
Third	46	46

We used Trait Emotional Intelligence Questionnaire – Short Form (TEIQue-SF). This tool was developed by Petrides & Furnham [12] it includes 30-question designed to measure global trait emotional intelligence (trait EI). It is based on the long form of the TEIQue [12, 13]. Items were responded to on a 7-point Likert scale where 1= completely disagree and 7= completely agree. Fifteen out of the 30 items were reversed. The TEIQue has been constructed with the aim of providing comprehensive coverage of the trait EI domain [12]. The Global Score of the questionnaire (all the 30 items, ranging from 30 to 210 after managing the reversed items) gives a snapshot of the general emotional functioning. It is important to note that the global score is very broad, but it is made up of more focused factor scores. These factors are: Well-being factor (selected 6 items of the 30) that suggests the likelihood to be more upbeat and fulfilled than most people. Self-control factor (selected 6 items of the 30) describes how far people think they can control their impulses or are controlled by them. It comprises three different traits: Impulse Control, Stress Management and Emotional Regulation. Emotionality factor (selected 8 items of the 30) comprises four different traits: Empathy, Emotion Perception, Emotion Expression and Relationships. Together they indicate how aware you may be of your own emotions and feelings, as well as those of other people. Sociability factor score (selected 6 items of the 30) suggests that one feels comfortable in social contexts than most people. This may mean you particularly enjoy jobs which require concentration on process details and little social contact. Individuals with a high sociability score are good listeners and effective communicators. Individuals with a low score are

not as effective at social interaction. In study was used questionnaire validated in the population in Slovakia [14]. For processing the results of the research, we used statistical methods of descriptive statistics – calculation of frequency (n) and percentage values (%), calculation of the average scale values (M), standard deviation (SD). For statistical processing of our data, we used STATISTICA 14 software. For statistical comparison of observed groups, we used the t-test (Student's t-distribution). This statistical methodology enabled us to identify statistically significant differences between groups for the monitored parameters. All tests were performed at the significance level  $\alpha = 0,05 = 5\%$ .

## 1.2 Results

From the point of view total score of EI in our Global trait of respondents reached 5.02, what is compared to a population norm (average value is 4.94) above average. The highest score was recorded in the area of Well-being (5.46) and Sociability (5.45), while population standard samples show in Well-being score 5.33 and in Sociability 4.69. Our sample of respondents achieved a successful score also in Emotionality 5.12, what is very important for profession of nurse. Population norm in this area is 4.77. In the area of Self-control students achieved value 4.95, slightly less than the population norm score 5.00. For a clearer view we present following Table 3.

Table 3 Average scores of items EI all respondents against general population

EI		All respondents (n = 100)		Population standards*		
		M	SD	M	SD	
Factors EI	O1.	Global trait	5.02	1.17	4.94	0.68
	O2.	Well-being	5.46	1.27	5.33	0.95
	O3.	Self-Control	4.95	1.64	5.00	0.84
	O4.	Emotionality	5.12	2.09	4.77	0.95
	O5.	Sociability	5.45	1.56	4.69	0.91

\*by Kaliská, Nábělková, 2015 [14]

We also compared the group of respondents in terms of year of study at the Faculty of Healthcare (Table 4). Students from 2<sup>nd</sup> year study had a lower level of average value of factors EI, except Sociability which was higher. However, statistically we was not confirm differences between two compared groups.

In terms of comparing groups of students with completed healthcare high school education (n =64) and non-healthcare education (n =34) we found at the level of average values of EI factors higher score in group non-healthcare education students. The level of Emotionality was more highly among the non-healthcare educated group. The significance of the difference was analyzed using the Student's t-test, in our sample of respondents this factor was confirmed by a statistically significant difference (\* p < .05) (Tab. 5).

Table 4 Comparison of variables in terms of year of study

EI			2 <sup>nd</sup> year		3 <sup>rd</sup> year		p
			M	SD	M	SD	
Factors EI	O1.	Global trait	4.81	1.62	4.87	1.72	0.554
	O2.	Well-being	4.98	1.60	5.14	1.60	0.268
	O3.	Self-control	4.4	1.64	4.6	1.75	0.077
	O4.	Emotionality	5.16	1.57	5.27	1.78	0.449
	O5.	Sociability	4.56	1.67	4.47	1.76	0.508

Key to the significance of the statistical results \* p < .05; \*\* p < .01; \*\*\* p < .001, M – mean, SD–standard deviation

Table 5 Comparison of variables based on type of completed high school education

EI			Non-healthcare		Healthcare		p
			M	SD	M	SD	
Factors EI	O1.	Global trait	4.95	1.58	4.89	1.75	0.567
	O2.	Well-being	5.13	1.57	5.02	1.68	0.461
	O3.	Self-control	4.65	1.68	4.54	1.75	0.523
	O4.	Emotionality	5.44	1.52	5.09	1.75	0.022*
	O5.	Sociability	4.59	1.58	4.55	1.82	0.818

Key to the significance of the statistical results \* p < .05; \*\* p < .01; \*\*\* p < .001, M – mean, SD–standard deviation

**2. Discussion**

EI has of recent engaged the attention of researchers. It encompasses the human skills of empathy, self-awareness, motivation and self-control. The relationship of EI with academic performance is controversial. EI as a predictor of life satisfaction and mental health, is the ability to assess, regulate, and utilize emotions and has been found to be associated with academic self-efficacy and a variety of better outcomes, including academic performance. EI has been found to be associated with a variety of outcomes, including academic performance. Some studies have examined the moderating influence of EI on the link among academic self-efficacy and academic achievement among university students [15].

In this study above-average level of our respondent's area of Sociability (M 5.12) compared to a population norm (M 4.77) shaping the skills of effective communication, listening skills, adapt to a single, honesty, social sensitivity, creating a favorable social interaction [14]. In the Emotionality, we also recorded above-average values, they show the ability of student's emotion perception self and others, emotion expression, relationship skills and empathy. The results of this study showed that EI Global score and factors EI for nursing students was not significantly to year of study and type of secondary school. A few studies have examined the outcome after including EI training/education in nursing programs. Nursing students who began EI training with a high EI level strengthened their ability to process emotions, communicate, and feel clinically competent [16, 17]. After the EI training, nursing students also reported an increase in their EI level [16]. The EI training/ education enhanced

the level of EI with two major assumptions: the current study curricula does not promote the level of EI in nursing students and an adjunct EI training/ education is needed to enhance EI in nursing students. As a result, the current science about EI in regards to nursing students is questionable because there is no research about the status of the EI and the nursing students' perception of their EI throughout the study curriculum [18, 19, 20].

**3. Conclusion**

EI issue is given little attention in Slovakia. Without the empirical evidence to support the idea that many health care outcomes can be improved by increasing EI in health care professionals, widespread adoption of programs to increase EI should not be considered. The questions posed here call for a systematic examination of the role of EI in health care rather than the uncoordinated scattered approach which is currently evident. The study results have limits, because some results could be influenced by the methodological limitations (size and composition of the sample group).

Grant: The publication presents the output of the KEGA grant assignment Latin-Slovak-Polish anatomical terminology as a modern lexicographical guide in vocational education Any ID or registration number of grant, project etc.:004P-4 / 2017th.

**References**

[1] Mayer, J.D., Salovey, P., and Caruso, D.R. A further consideration of the issues of emotional intelligence. *Psychol. Inq.* 2004; 15: 249–255.  
 [2] Petrides, K. V., & Furnham, A. Trait emotional intelligence: Behavioral validations in two studies of emotion, recognition and reactivity to mood induction. *European Journal of Personality*, 2013, 57(17), 3957. <http://doi.org/10.1002/per.466>.  
 [3] Kurt AS, Çetinkaya S. Lösemili çocuklarda yaşam kalitesi ve hemşirelik bakımı (Life quality in children with leukemia and nursing care). *Fırat Sađlık Hizmetleri Dergisi* 2008;3:35-55.  
 [4] Schutte, N.S., Malouff, J.M., Bobik, C., Coston, T.D., Greeson, C., Jedlicka, C., Rhodes, E., and Wendorf, G. Emotional intelligence and interpersonal relations. *J. Soc. Psychol.* 2001; 141: 523–536  
 [5] Bulmer Smith, K., Profetto-McGrath, J., and Cummings, G.G. Emotional intelligence and nursing: An integrative literature review. *Int. J. Nurs. Stud.* 2009; 46: 1624–1636.  
 [6] Taylor, R., Macduff, C., and Stephen, A. A national study of selection processes for student nurses and midwives. *Nurse Educ. Today.* 2014; 34: 1155–1160DOI: <http://dx.doi.org/10.1016/j.nedt.2014.04.024>.  
 [7] Austin, E., Saklofske, D., Huang, S., and Mckenney, D. Measurement of trait emotional intelligence: testing and cross-validating a modified version of Schutte et al's (1998) measure. *Personal. Individ. Differ.* 2004; 36: 555–562DOI: [http://dx.doi.org/10.1016/S0191-8869\(03\)00114-4](http://dx.doi.org/10.1016/S0191-8869(03)00114-4).  
 [8] Qualter, P., Ireland, J., and Gardner, K. Exploratory and confirmatory factor analysis of the Schutte Self-Report

- Emotional Intelligence Scale (SSREI) in a sample of male offenders. *Br. J. Forensic Pract.* 2010; 12: 43–52.
- [9] Salovey, P. and Mayer, J.D. Emotional intelligence. *Imagin. Cogn. Pers.* 1990; 9: 185–211.
- [10] Petrides, K. V., & Furnham, A. The role of trait emotional intelligence in a gender-specific model of organizational variables. *Journal of Applied Social Psychology*, 2006, 36(2), 552–569. <http://doi.org/10.1111/j.0021-9029.2006.00019.x>
- [11] Petrides K. V., Mikolajczak M., Mavroveli S., Sanchez-Ruiz M. J., Furnham A., Perez-Gonzales J. C. Developments in trait emotional intelligence research. *Emotion Review*, 2016, 8 (4), 335–341.
- [12] Szeles HM. Developing emotional intelligence in student nurse leaders: a mixed methodology study. *Asia Pac J Oncol Nurs.* 2015 Apr-Jun; 2(2): 89–98. doi: 10.4103/2347-5625.157575.
- [13] Cooper, A. & Petrides, K. V. A psychometric analysis of the Trait Emotional Intelligence Questionnaire-Short Form (TEIQue-SF) using Item Response Theory. *Journal of Personality Assessment*, 2010, 92, 449-457.
- [14] Kaliská, L., E. Nábělková, *Psychometrické vlastnosti a slovenské normy Dotazníkov črtovej emocionálnej inteligencie pre deti, adolescentov a dospelých.* 2015. Banská Bystrica: Belianum. ISBN 978 – 80 – 557 – 0940 – 6.
- [15] Adeyemo, DA. Emotional intelligence and the relationship between job satisfaction and organizational commitment of employee in public parastatals in Oyo State, Nigeria. *Pakistan Journal of Social Sciences*, 2007: 4, 324- 330.
- [16] Choi, Yeonja, Song, Eunju, and Oh, Eunjung. Effects of teaching communication skills using a video clip on a smart phone on communication competence and emotional intelligence in nursing students. *Archives of Psychiatric Nursing.* 2015, 29: 90-95.
- [17] Lee, Oi Sun and Gu, Mee Ock. Development and effects of emotional intelligence program for undergraduate nursing students: Mixed methods research. *Journal of Korean Academy of Nursing* 2014, 44: 682-696.
- [18] Hegge, Marge and Larson, Vicky. Stressors and coping strategies of students in accelerated baccalaureate nursing programs. *Nurse Educator*, 2008, 33: 26-30.
- [19] Codier E, Kamikawa C, Kooker BM. The impact of emotional intelligence development on nurse managers. *Nurs Adm Q*, 2011;35:270-6.
- [20] Nelis D, Quoidbach J, Mikolajczak M, Hansenne M. Increasing emotional intelligence: (How) is it possible? *Pers Individ Dif* 2009;47:36-41.

## PROBLEMS OF THE MEANING OF LIFE CANCER PATIENTS

Ludmila Majerníková – Marta Vojteková – Anna Hudáková – Beáta Grešš Halasz – Ľubomíra Tkáčová

Prešovská univerzita in Prešov

Partizánska 1

Prešov, 08001, Slovakia

ludmila.majernikova@unipo.sk – anna.hudakova@unipo.sk – marta.vojtekova@unipo.sk

**Abstract:** The goal of the study was focused on examining the impact survival meaningfulness of life on the quality of life in cancer patients. The study involved together one hundred cancer patients undergoing anticancer therapy in cancer care center (chemotherapy, radiotherapy) in the Prešov and Košice regions. We used two standardized questionnaire World Health Organisation WHOQOL-BREF 26 and The Life Meaningfulness Scale (LMS). The results show statistical significance ( $p < .001$ ) between LMS dimensions and total score LMS, positive correlation ( $p < .001$ ) we found between the dimensions of the LMS and factors - religiosity, social support, older age, female gender. A higher sense of life showed in our sample population of women with cancer, patients with a higher level of social support and religiosity positive patients. A positive correlation was recorded in terms of the meaning of life impact on quality of life in relation overall score LMS and Domain 2 Survival Domain 3 Social relationships ( $p < .05$ ) and Q2 Satisfaction with health ( $p < .001$ ).

**Keywords:** Quality of life, Meaning of life, Cancer patients, Nursing.

### 1. Introduction

During the past years, the number of people diagnosed with cancer has increased. Cancer can be a threat to life itself, as well as to the individual's perception of the quality of life. The question of what contributes a clinically significant change or difference in perceived quality of life remains unanswered. Hope is frequently referred to as important for coping with a disease such as cancer. Hope enables people to cope with difficult and stressful situations and suffering. Nevertheless, hope is seldom stressed in definitions of the quality of life for cancer patients and discusses the relationship between hope and quality of life, and hope can be regarded as a coping strategy. From existing theory, hope can be seen as a variable positively contributes to the experience of quality of life. Future research should empirically explore to what extent hope contributes to the adaptive process that maintains the quality of life at an acceptable level despite having cancer [1]. Quality of life is an individuals' perception of their aims, expectations, interests and ideas, satisfaction and happiness among their cultural and values as a whole [2]. Quality of life is the effect of patients' physical (movement, physical activities and ability to succeed in work and in family responsibilities), social (social activities, being beneficial, body image, anxiety and depression) and psychological (life satisfaction, social support need and role function) for well-being. Symptoms of disease and therapy are pain, respiration difficulty, nausea, alopecia, impotence and, of course, side-effects of the same. [3, 4]. Many factors affect quality of life positively or negatively. Tiredness, anxiety, concern for the future and the family, difficulties to meet basic demands and changes in body image worsen the quality of life of cancer patients [5, 6]. Social support, economic security and faith in recovery improve the quality of life [7, 8, 9]. We were focused in our study to examining the impact of survival meaningfulness of life on the quality of life for cancer patients.

### 1.1 Material and Methods

The aim of our study was to determine and compare the level of evaluation the meaning with quality of life in oncological patients in terms of physical, psychological, spiritual, and socio-economic areas.

In the study was included one hundred cancer patients undergoing anticancer therapy in cancer care center (chemotherapy, radiotherapy) in the Prešov and Košice regions. Respondents who fulfilled the criteria - age of maturity, diagnosed oncological disease and compliance with arrangement of the research are included in the study. The study was carried out between September and December 2016. For the research, we used the standardized questionnaire from the World Health Organization WHOQOL-BREF (short version), which is comprised of 26 items of the Likert type. The questionnaire covers two individual items; evaluation of general quality of life (general satisfaction with quality of life and health), and four quality of life domains [10]. The range in individual items is 1-5, where a higher score means better quality of life. The score in the domain is between 4 and 20, where a higher score also means a better quality of life. The results of the questionnaires were evaluated individually and with the help of domain scores which represent approximate average score totals for corresponding items, including transformation to scale 4-20 according to the methodology of Dragomirecká a Bartoňová [10]. The questionnaire was completed based on demographic and basic information about the respondents - age, sex, duration of disease, level of education. The questionnaire was anonymous.

The Life Meaningfulness Scale (LMS) [11] is an original Slovak measure drawn from Reker and Wong's three-component model of meaning mentioned above. It has 18 items and measures the general level of meaningfulness as well as three dimensions – level of meaning in cognitive, motivational and affective area. Equivalence of these two

scales was assumed on the basis of a previous high mutual correlation (0.77) found in the Slovak samples. The total scores of acquiring the value of 36-90 (score may be in the range 18-90) [11].

**1.2 Results**

In the study participated 100 respondents (50% male, 50% female). Prevalent group of respondents was older adults (aged 51-65 years 45%, 41-50 years 35%). The average age was 45.2 ± 9.26 years. Most patients suffered from oncological disease (60%) less than six months and 40% respondents over half a year (up to 2 years 25%, up to 5 years 15%). The average duration of disease was 1.09 ± 0.45 year. The majority of respondents reported a social support from family and friends (65%), support self-help groups 30%. Without social support was 15% of respondents.

*Table 1 Characteristics of respondents*

	N (100)	%
Gender		
Male	50	50
Female	50	50
Age (A ± SD)	45.2 ± 9.26	
18- 30 year	10	10
31- 40 year	10	10
41- 50 year	35	35
51- 65 year	45	45
Duration off disease (A ± SD)	1.09 ± 0.45	
Up to 6 months	60	60
Up to 2 years	25	25
Up to 5 years	15	15
Type social support		
Family, and fiends	65	65
Family	35	35
Friends	0	0
Self group	30	35
Without social support	15	15
Religion		
believers	69	69
faithless	31	31

N – number, A – average, SD – standard deviation

In terms of correlation relations in our sample of respondents showed statistical significance at the p <.001 between individual dimensions (D1, D2, D3) and their total score LMS. Also, a positive correlation on the level p <.001, we found between the dimensions of the meaning of life and factors - religiosity, social support, older age, female gender. A higher sense of life showed in our sample population of women with cancer, patients with a higher level of social support and religiosity positive patients (Table 2).

In terms of correlation relations between the domains of the WHOQOL-BREF 26 and LMS, we found interesting facts. A positive correlation we recorded in terms of impact to the meaning of life to quality of life in relation overall score LMS and Dom 2 Survival, Dom 3 Social relations (p <.05) and Q2 Satisfaction with health (p <.001). In the others areas we have not shown significant correlation relationship (Table 3).

*Table 2 Correlations between LMS and demographic factors*

	Age	Ssocial	Durati on dis.	Religio n	Gende r	D1	D2	D3
Age	1,0							
supp.support	0,30	1,0						
Duration	- 0,154	-0,072	1,0					
Religion	0,301	1,0	-0,072	1,0				
Gender	0,301	1,0	-0,072	0,321	1,0			
D1	0,380*	0,883**	-0,133	0,884**	0,886**	1,0		
D2	0,419**	0,845**	-0,139	0,846**	0,846**	0,843**	1,0	
D3	0,439*	0,835**	-0,216	0,835**	0,835**	0,927*	0,869*	1,0
LMS overall score	0,423*	0,873**	-0,119	0,873**	0,873**	0,915**	0,965**	0,918**

\* p < .05; \*\* p < .01; \*\*\* p < .001

*Table 3 Correlations between LMS and WHOQOL-BREF*

	D1	D2	D3	LMS	Do m1	Dom2	Dom3	Dom4	Q1
D1	1,0								
D2	0,843**	1,0							
D3	0,927**	0,869**	1,0						
LMS	0,918**	0,965**	0,915**	1,0					
Dom1	0,099	0,140	0,069	0,125	1,0				
Dom2	0,056	0,026	0,073	0,385*	0,758**	1,0			
Dom3	0,375*	0,016	0,056	0,335*	0,491*	0,314	1,0		
Dom4	0,096	0,280	0,283	0,013	0,198	0,538*	0,448*	1,0	
Q1	0,220	0,108	0,037	0,087	0,758**	0,491*	0,319	0,432*	1,0

$\xi$	- 0,0 93	- 0,08 9	- 0,0 91	0,597 ***	0,5 45* **	0,179	0,461 *	0,394 *	0,59 7** **
-------	----------------	----------------	----------------	--------------	------------------	-------	------------	------------	-------------------

\* p < .05; \*\* p < .01; \*\*\* p < .001

## 2. Discussion

The Quality of life, as a dynamically changing state, affects a complex of clinical, personal, and social factors. Its support becomes the aim of therapeutic and treatment interventions where a holistic, therefore a complete approach in perceiving the patient as a individual bio-psycho-social and spiritual being is used, thereby equalizing subjective and objective criteria. The concept of quality of life should be multidimensional, meaning that it should include subjective comfort as an emotional component, satisfaction as a cognitive component, social functioning as a productive component, and meaning of life as a spiritual component [12]. Meaning in life is considered as a binary construct having both existential and positive psychological characteristics. Existential philosophers and psychologists have argued that the experience of meaning in life lies at the heart of human existence. Most of the researcher defined meaning in life as a belief of an individual which is in a purposeful pattern of the universe, and sense that life is meaningful [13].

In our study, we focused on the relationship between the quality of life of cancer patients and the level of the meaning of life. Quality of life was assessed by the respondents at a lower level in all domains of WHOQOL BREF than the population norm. Reduced quality of life in cancer patients in Slovakia found out in her study author Sadovska [14]. Mean global quality of life score on 5 point scale (WHOQOL-BREF) was 3.34, resp. 4.38 on 7-point scale (QLQ C30). Palliative patients achieved worse score for global QL and domain of physical functioning in comparison with norms for healthy subjects, score for emotional and social functioning were comparable with healthy population and score for environment domain was even better than in healthy subjects. Strong positive significant correlation was found only between Karnofsky Performance Status Scale and domain of physical functioning of quality of life, correlations between performance status and other domains of quality of life were weak or insignificant. Patients with performance status 40 had the worst score for all domains of quality of life, even worse than patients with performance status 30 or 20. Significant correlation between global quality of life and symptoms of advanced disease was found only for fatigue [14].

Our respondents showed a higher degree of sense of life as measured by the LMS ( $74.1 \pm 9.72$ ). A positive correlation we recorded in terms of impact of meaning of life on quality of life in relation overall score LMS and Dom 2 Survival, Dom 3 Social relations ( $p < .05$ ) and Q2 Satisfaction with health ( $p < .001$ ). Positive correlation ( $p < .001$ ) we found out between the dimensions of the meaning of life and factors - religiosity, social support, older age, female gender.

Pasarra and Kleftras [15] assessed the role of meaning in life and depression in adaptation to physical disability. The sample (N=511) was quite heterogeneous having various types of physical disability and also with wide age range from 19-78 years. For measurement of meaning in life the Greek version of Revised Life Attitude Profile consisted of 48-item was used. Results indicated that meaning in life reduced the physical disability and made people easy with adaptation towards physical disability.

Kernan & Lepore presented in a longitudinal study on women (N=72) primarily diagnosed with breast cancer, revealed that at base line level a higher level of search for meaning in life was found to be associated with a higher level of negative affect. Women who engaged in an ongoing unresolved search for meaning from baseline to follow-up also had a significantly higher level of negative affect at follow-up than women who infrequently or never engaged in a search for meaning over time [16].

Saraf, Singh and Khurana [17] performed an investigation on Indian sample of cervical cancer patients to measure the association of meaning in life with long term treatment, recovery and survivorship of women patients (N=10, age 35-60 years) belonged to post treatment stage. A semi structured interview was designed to measure the meaning in life before the diagnosis of cancer, meaning in life in current situation, experiences and significant others that influenced the patients since the diagnosis of cancer, change in perception of life since cancer diagnosis and their recovery, role of spirituality since cancer diagnosis and recovery, and purpose, hopes and future plans. Thematic Apperception Test was used to assess the purpose of the study. Findings were interpreted in terms of themes (for example, distress during treatment, post treatment distress, renewed meaning in life, support system, faith and religiosity, hope and purpose) that were come out on the narratives from the life experiences of the subjects. Subjects experienced life being predestined and guided by fate. In few cases, the realization of immortality resulted in peace and satisfaction. This transformed meaning was strongly mediated by faith in God and increased religiosity which facilitated hope and resilience. Strong support systems further enhanced meaning in their lives. However, underlying factors like fatigue, fear of recurrence of the disease and perceived burden continue to be worrying factors for them. On the other hand, few subjects who sensed a preoccupation with somatic complaints and ambivalent feelings toward God, experienced a sense of meaninglessness, lack of purpose and diminished hope. They most often used defense mechanisms such as sublimation, reaction formation, undoing, displacement and projection.

## 3. Conclusion

The study indicates the presence of relationship quality of life and the meaning of life for cancer patients. The results could form the basis for implementing strategies in oncological nursing practice. A limit of the study is the

choice of sample patients in selected localities of the Prešov and Košice region in Eastern Slovakia.

Grant: KEGA grant assignment Latin-Slovak-Polish anatomical terminology as a modern lexicographical guide in vocational education Any ID or registration number of grant, project etc.: 004P-4 / 2017th.

## References

- [1] Rustøen, T. Hope and quality of life, two central issues for cancer patients: a theoretical analysis. *Cancer Nurs.* 1995 Oct;18(5):355-61. <https://www.ncbi.nlm.nih.gov/pubmed/7585489>
- [2] Webster K, Cella D. Quality of life in patients with low-grade non-Hodgkin's lymphoma. *Oncology* 1998; 12: 697-714.
- [3] Kurt AS, Çetinkaya S. Lösemili çocuklarda yaşam kalitesi ve hemşirelik bakımı (Life quality in children with leukemia and nursing care). *Fırat Sađlık Hizmetleri Dergisi* 2008;3:35-55.
- [4] Rodrigues AM. Determinants of Overall Quality Of Life in People with Advanced Cancer. Dissertation, McGill University of Canada 2012.
- [5] Burgess C, Cornelius V, Love S, Graham J, Richards M, Ramirez A. Depression and anxiety in women with early breast cancer: Five year observational cohort study. *BMJ* 2005;330:702-5.
- [6] Shapiro SL, Lopez AM, Schwart GE, Bootzin R, Fiqueredo AJ, Braden CJ, *et al.* Quality of life and breast cancer relationships to psychosocial variables. *J Clin Psychol* 2001;57:501-19.
- [7] Reich M, Lesur A, Pedrizet-Chevallier C. Depression, quality of life and breast cancer: A review of the literature. *Breast Cancer Res Treat* 2008;110:9-17.
- [8] Lindley C, Vasa S, Sawyer WT, Winer EP. Quality of life and preferences for treatment following systemic adjuvant therapy for early stage breast cancer. *J Clin Oncol* 1998;16:1380-7.
- [9] Ferlay J, Steliarova-Foucher E, Lortet-Tieulent J, Rosso S, Coebergh JW, Comber H, *et al.* Cancer incidence and mortality patterns in Europe: Estimates for 40 countries in 2012. *Eur J Cancer* 2013;49:1374-403.
- [10] Dragomirecká E, Bartoňová J. *Přiručka pro uživatele české verze dotazníků kvality života Světové zdravotnické organizace*. 1. vyd. Praha: Psychiatrické centrum Praha, 2006.
- [11] Halama P. Vývin a konštrukcia škály životnej zmysluplnosti. *Československá psychologie*. 2002; 46(3) : 265–275.
- [12] Gurková E. Hodnocení kvality života. Pro klinickou praxi a ošetrovateľský výzkum. 1. vyd. Praha: Grada; 2011.
- [13] Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the Meaning of Psychological Wellbeing. *Journal of Personality and Social Psychology*, 57, 1069–1081.
- [14] Sadovska, M. Hodnotenie zmyslu života hospitalizovaných onkologických pacientov v paliatívnej starostlivosti. *Paliat. med. liec. boles.*, 2012, 5(2): 62–66.
- [15] Psarraa, E. & Kleftaras, G. (2013). Adaptation to Physical Disabilities: The Role of Meaning in Life and Depression. *The European Journal of Counselling Psychology*, 2(1), 79–99.
- [16] Kernan, W. D. & Lepore S. J. (2009). Searching for and Making Meaning after Breast Cancer: Prevalence, Patterns, and Negative Affect. *Social Science & Medicine* 68, 1176–1182.
- [17] Saraf, S., Singh, T. B., & Khurana, S. (2013). Cervical Cancer Survivors: Meaning in Life. *Psychological Studies*, 58(2), 144-152.

## CANCER PATIENTS SATISFACTION WITH INFORMATION

*Anna Hudáková - Andrea Obročníková - Ludmila Majerníková - Marta Vojteková - Mária Kaščáková*

### University of Presov in Presov

Partizánska 1

Prešov, 08001, Slovakia

tel: +421 51 7562 460

anna.hudakova@unipo.sk-andrea.obrocnikova@unipo.sk-ludmila.majernikova@unipo.sk-marta.vojtekova@unipo.sk-  
maria.kascakova@unipo.sk

**Abstract:** *The objective of this study was to measure the extent of information by measuring patients' levels of satisfaction in inpatient departments of clinical oncology and radiation oncology at the Faculty Hospital in Presov (Slovakia). The measurement of patient satisfaction contributes to the identification the type of information cancer patients need. For the collection of data was used a questionnaire EORTC QLQ - INFO 25 designed by the European Organization for Research and Treatment of Cancer. The research sample consisted of 50 (98%). The criterion for inclusion in the survey sample were patient diagnosed with cancer, hospital stay of the patient, patient age from 18 years. Patients' satisfaction with providing information about medical tests ( $2.85 \pm 0.72$ ), about disease ( $2.67 \pm 0.71$ ) by healthcare professionals were best rated. Patients were least satisfied with the provision of information regarding subsequent health care and other services ( $2.05 \pm 0.73$ ) such as rehabilitations, psychological support, managing the disease at home. Respondents were generally satisfied with the information provided, although some discrepancies were noted in subscale other services. Patients perceive the information obtained as useful, but also wish to provide it in writing form.*

**Key words:** *patient information, cancer, communication, patient's rights, satisfaction*

### 1. Introduction

Providing patient information is an important indicator of the quality of delivered health care. Patient satisfaction with care and access to information is one of the main goals of clinical practice. The patient has the right to access all information relating to the state of health and health services. It is a universal fundamental right, enshrined in international documents and national legislation [1]. The importance of the patient's right becomes more important in cancer diagnosis. A diagnosis of cancer elicits psychological distress and is a very traumatic event. Cancer diagnosis brings a significant mental and physical change to the patient's and familie's life. The complex nature of the disease and the treatment modalities as well as the psychosocial impact associated with the disease, those diagnosed with cancer and their family members will encounter information and emotional support needs throughout the course of the disease and treatment. Approximately one third of cancer patients suffer from mental illness during the disease, most commonly fear and anxiety, which increases the patient's internal tension and agitation. Attention can be reduced, perception narrowed, memory weakened [2]. Providing cancer patients with information helps patients with decision making, prepares them for treatment and helps them cope with adverse effects associated with it, reduces anxiety and depression, increases satisfaction with treatment, improves communication with family and improves quality of life [3]. Information leading to increased self-care, health control and self-management of health can also help to teach the patient what to do for himself to keep good mental condition. This information is equally important for the patient's family, who sometimes cannot help his loved ones. Information and physician-patient communication greatly influence the patient's

cooperation in treatment. Keeping the communication principles of truthfulness, unambiguousness, use of appropriate language, sequence, consistency and confidentiality contribute to increasing patient awareness, co-decision, as well as creating a confidential relationship and patient satisfaction. Patient-oriented or not disease-oriented communication has a high degree of compliance and adherence in disease management. The aim of this study was to evaluate cancer patient's perception of the information received and satisfaction with them.

### 2. Material and methods

We implemented the research in months: January to June 2019. The total number of respondents was 50 (98%). The criterion for inclusion in the survey sample were: patient diagnosed with cancer disease, hospital stay of the patient in active cancer therapy (radiotherapy and/or chemotherapy), patient age from 18 years. mentally fit to complete the questionnaires. The study followed the Declaration of Helsinki and was approved by the ethics committee.

For the collection of data was used a questionnaire EORTC QLQ - INFO 25 designed by the European Organization for Research and Treatment of Cancer. EORTC QLQ-INFO25 is a relatively new 25 item self-report questionnaire developed to measure how cancer patients perceive the information they receive. It measures how much information patients perceive to have received about their disease (4 items), medical tests (3 items), treatment (6 items), other services such as help and support available (4 items); and eight single items, which have a dichotomous response (yes/no) - whether written or audio-visual information has been provided; whether they are satisfied with the amount of information; whether they



would like to receive more or less information; and whether the information has been helpful. The response format in four subscales is a 4-point Likert scale (1, not at all; 2, a little; 3, quite a bit; 4, very much). A higher score reflected a higher level of satisfaction with received information. The EORTC QLQ-INFO25 has been used in studies of patients with various cancer types and patients from several different countries (Sweden, Spain, Germany, United Kingdom, Austria and Taiwan) and has proven to have good internal consistency and good test-retest reliability [4].

The data were processed using the statistical program SPSS 15.0. *software*. Statistical analysis and evaluation of empirical data has been realized in Microsoft Office Excel 2007 programme and by using descriptive statistics - calculation of frequency (n), percentage values (%), calculation of the average scale values (M), standard deviation (SD).

**3. Results**

The questionnaire included additional items such as patient demographic and clinical data (tab.1).

*Table 1 Demographic and clinical characteristics of the patients*

<i>Patient characteristics</i>	<i>N = 50</i>
	<i>n (%)</i>
<i>Sex</i>	
<i>Male</i>	24 (48.0)
<i>Female</i>	26 (52.0)
<i>Age (years)</i>	
<i>25–44</i>	4 (8.0)
<i>45–64</i>	21 (42.0)
<i>65 and above</i>	25 (50.0)
<i>Cancer type</i>	
<i>Breast/ovarian</i>	8 (16.0)
<i>Colon/rectal</i>	16 (34.0)
<i>Lung</i>	8 (16.0)
<i>Others</i>	17 (34.0)
<i>Treatment modality</i>	
<i>One</i>	15 (33)
<i>Two or more</i>	35 (77)

Mean age of respondents was 62.6 years. The prevalence in the sample were women (52%), with various cancers (34%), treated with two or more treatment modalities (77%).

*Table 2 Descriptive statistics of scales/items*

<i>Assessed items</i>	<i>N</i>	<i>M</i>	<i>SD</i>
Information about the disease [1–4]	50	2.67	0.71
Information about medical tests [5–7]	50	2.85	0.72
Information about treatments [8–13]	50	2.62	0.75
Information about other services [14–17]	50	2.05	0.73
Information about different places of care [18]	50	2.50	0.70
Information about things you can do to [19]	50	2.34	0.77
Written information [20]	50	1.26	0.44

Information on CD tape/video [21]	50	1.60	0.57
Satisfaction with the information received [22]	50	2.82	0.74
Wish to receive more information [23]	50	1.56	0.50
Wish to have received less information [24]	50	1.94	0.23
Overall the information has been helpful [25]	50	3.00	0.67

Generally, patients can receive information at an average level (tab. 2). In view of individual subscales, patients receive the most information about necessary medical tests (2.85±0.72), disease (2.67±0.71) and treatment (2.62±0.75). Patients perceive the provided information as helpful (3.00±0.67) and express satisfaction with the information (2.82±0.74).

*Table 3 Descriptive statistics of scales/items - gender comparison*

<i>Assessed items</i>	<i>F</i>		<i>M</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Information about the disease	2.58	0.82	2.77	0.68
Information about medical tests	2.88	0.82	2.82	0.61
Information about treatments	2.61	0.85	2.63	0.65
Information about other services	2.10	0.83	1.98	0.62
Information about different places of care	2.58	0.76	2.42	0.65
Information about things you can do to	2.62	0.80	2.04	0.62
Written information	1.35	0.49	1.17	0.38
Information on CD tape/video	1.50	0.51	1.71	0.62
Satisfaction with the information received	2.92	0.80	2.71	0.69
Wish to receive more information	1.58	0.50	1.54	0.51
Wish to have received less information	1.92	0.27	1.96	0.20
Overall the information has been helpful	3.03	0.77	2.96	0.55

In table 3 no significant differences in satisfaction with the information provided were observed between men and women, but women evaluate better information to help the patient feel better. However, women (2.92±0.80) are more satisfied with the information they receive from healthcare professionals than men (2.71±0.69).

*Table 4 Descriptive statistics of scales/items – aged comparison*

<i>Assessed items</i>	<i>Age ≤ 64</i>		<i>Age ≥ 65</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Information about the disease	2.57	0.60	2.79	0.81
Information about medical tests	2.65	0.62	3.05	0.79
Information about treatments	2.50	0.65	2.74	0.84
Information about other services	2.02	0.65	2.06	0.82
Information about different places of care	2.58	0.76	2.75	0.74
Information about things you can do to	2.27	0.60	2.58	0.93
Written information	1.35	0.49	1.21	0.41
Information on CD tape/video	1.61	0.57	1.58	0.58

Satisfaction with the information received	2.50	0.81	3.12	0.54
Wish to receive more information	1.58	0.50	1.54	0.51
Wish to have received less information	1.92	0.27	1.96	0.20
Overall the information has been helpful	2.80	0.69	3.21	0.59

Overall, older patients are more satisfied with the provided information compared to patients under 64 years of age (tab. 4). Significant values were recorded in subscales: information about medical tests ( $2.65\pm 0.62$ ;  $3.05\pm 0.79$ ), treatments ( $2.50\pm 0.65$ ;  $2.74\pm 0.84$ ), disease ( $2.57\pm 0.60$ ;  $2.79\pm 0.81$ ) and in items: satisfaction with information ( $2.50\pm 0.81$ ;  $3.12\pm 0.54$ ), the helpfulness of information ( $2.80\pm 0.69$ ;  $3.21\pm 0.59$ ).

#### 4. Discussion

Cancer, especially malignant, majority of the population perceives as a disease that is accompanied by pain and suffering, loss of vital power, helplessness and impending death [5]. The disease has an impact on patient psyche and may alter his personal characteristics. It affects to his actual survival, thinking and behaviour, as described in phases of survival by Kübler-Ross.

Creating balanced and confidential relationship between caregivers and patients leads to strengthen the feeling of security and safety. The patient's attitude towards disease is a decisive moment that determines the course of any treatment. The positive attitude of the patient is influenced by the approach of doctors and nurses to patient, depending on their professional and interpersonal skills. The patient has the right to open communication, mutual communication helps the patient to understand the situation, also prevents the genesis of negative emotions such as anxiety, stress, fear, etc. Sufficient information is a prerequisite for better patient compliance [6].

Source of information about health condition, efficacy of the treatment or change of treatment is the patient's doctor. This information for cancer patients is very important and particularly how are administered to the patient. Andrášiová states, "It is not true that an uninformed patient is a happier patient - lack of information can increase uncertainty and anticipatory anxiety"[7]. An adequately informed patient becomes a partner in decision-making and treatment management.

Our study also indicated that respondents wanted more information about cancer survivor support services. Accurate information and support from counsellors and other survivors can empower the patient, relieve anxiety and improve quality of life and this information gap is frequently present. In a study by Ernstmann et al [8], almost a third of the cancer population surveyed indicated an unmet need for psychosocial support. Concerns about social functioning, role functioning and emotional functioning in descending order were present in both male and female patients. Respondents were also anxious and depressed. Psychosocial support was needed for emotional functioning. Due to the complex nature of cancer and its

treatment, a multidisciplinary team approach is important to provide comprehensive care. Our study revealed that more intensive cooperative with psychologists and social workers and more awareness of such services is needed.

Respondents wanted access to a variety of information sources (e.g., leaflet and audio materials). There is evidence that patients retain only 20% of what they hear [9]. Written information materials are useful tool in contributing to patient awareness. Therefore, written information materials/ videos are useful supplements as they can help reinforce verbal information/ education provided by the healthcare professionals. Patients are interested in an adequate amount of information that is useful to their lives. However, the volume of information may decline with poor prognosis respectively not curative treatment.

#### 5. Conclusion

Patient education and meeting patients' information needs is a fundamental aspect of patient-centred care. It is only when patients are fully informed that they can become an active partner in the process of their care. Overall, cancer patients are satisfied with the information they receive from the physician, but they require services of a supportive nature that help to make life easier and better during the disease. The health care team consists of other members, nurses, who are equally trusted source of information, particularly in supportive care. In the UK, clinical nurse specialists working in long-term cancer care are key staff dedicated to the care of patients. They are often the main point of contact for patients and their family. One major aspect of their role is to insure that the patient knows who to access for information and advice. Strengthening access to nurse specialists may resolve some of the shortfalls of unmet information needs. The care model is inspiring to address the issue of awareness in cancer patients in Slovakia. The study has limitations: survey sample was recruited from only one hospital with inpatient department of clinical oncology and radiation oncology in Slovakia and was relatively small sample size. Grant: The contribution was supported by project KEGA No. 004PU-4/2017 Latin-Slovak-Polish anatomical terminology as a modern lexicographical manual in professional training.

#### References

- [1] *Charter of the Patients' Rights in Slovakia*. Act No. 576/2004 Coll. on health care and health care-related services.
- [2] Husson O, Mols F, van de Poll-Franse LV. The relation between information provision and health-related quality of life, anxiety and depression among cancer survivors: a systematic review. *Ann Oncol*, Vol. 22, No. 4, pp. 761–72, 2011
- [3] Lo AC, Olson R, Feldman-Stewart D, et al. A patient-centered approach to evaluate the information needs of women with ductal carcinoma in situ. *Am J Clin Oncol*, Vol. 40, No. 6, pp. 1–8, 2015

- [4] Arraras JI, Greimel E, Sezer O et al. An international validation study of the EORTC QLQ-INFO25 questionnaire: an instrument to assess the information given to cancer patients. *Eur J Cancer*, Vol. 46, No. 15, pp. 2726–2738, 2010
- [5] Tschuschke V. *Psychoonkologie*. 1. vyd. Praha: Portál; 2004, 215 p.
- [6] Andrášiová, M. Onkologické ochorenie a psychika pacienta. *InVitro Onkológia*, Vol. 1, pp. 173-177, 2016
- [7] Andrášiová, M. Psychologické minimum o psychickom prežívaní onkologického pacienta. *Via practica*, Vol. 4, No. S2, pp. 42-46, 2007
- [8] Ernstmann N, Neumann M, Ommen O, et al. Determinants and implications of cancer patients' psychosocial needs. *Support Care Cancer*. Vol. 17, No. 11, pp. 1417–1423, 2009
- [9] Mansoor LE, Dowse R. Effect of pictograms on readability of patient information materials. *Ann Pharmacother*, Vol. 37, No. 7-8, pp. 1003–1009, 2003

## DETERMINATION OF MUTUAL CONNECTIONS IN BETWEEN LEVEL OF EMPATHY AND POPULARITY IN A GROUP WITH REGARDS TO SEX

*Dominika Doktorová – Veronika Kalivodová*

**University of Ss. Cyril and Methodius in Trnava**

Námestie J. Herdu 577/2

Trnava, 917 01, Slovakia

+421 33 5565 298

dominika.doktorova@ucm.sk – veronika.kalivodova@student.ucm.sk

**Abstract:** *The aim of this study is to find out if empathy and popularity are anyhow interrelated. The research was executed on two elementary schools, one in Piešťany and the other one in Hlohovec on the research sample of 160 children aged 11 to 12. The evaluation was done based on standardized questionnaires SO-RA-D and TEIQue-CSSF. We found out that there is no significant statistic correlation in between the two variables. In regards to empathy, there exist significant statistic differences, on the other hand, this is not the case with popularity.*

**Keywords:** *empathy, popularity, mutual connections, elementary school pupils*

### 1. Introduction

Empathy comes from philosophy and esthetics. The word „*Einflühlung*“ was used for the first time by Robert Vischer, a philosopher in 1846 in connection to our feelings while watching a piece of art. He described our ability to get into a piece of art, into its essence (Howe, 2013). Empathy is nowadays considered to be a term that cannot be precisely defined. Empathy is an ability that has the power to transform our lives and cause essential social changes (Prekop, 2002). People who are able to empathize well are often those who can set themselves on specific emotional mood (Howe, 2013). This clearly shows that empathy plays a significant role in setting new and transforming old relations (Buda, 1994).

Within the scope of social development, a child is a member of a peer group since they start to go to school. These groups are formed primarily to satisfy child's need to belong somewhere. These groups later on become groups of strong pressure where the fight for popularity is ongoing (Shapiro, 2009). Based on this, we may assume that popularity is a significant element in peer groups formation (Čapek, 2010, Lašek, 2012). This also leads us to an assumption that social intelligence plays a significant role in class relationships formation. Emotional intelligence (an ability to understand and regulate emotions of the others and of oneself) should correlate with characteristics that enables formation of relationships and their maintenance (Baumgartner, 2009). In a class, that is undoubtedly a social group, each child has their own position. This position is given by social role of the child and is based on child's behavior, how they are able to fulfill their role. This all determines child's position in a group- it represents certain form of hierarchy (Čížková, 2001). According to Helus (2006), the need for positive relationship (affiliation) is important. It is being satisfied by the feeling of belonging and immersion among other children in the group.

Our research problem is aimed at mutual correlation in between two variables, empathy and popularity, in a

school class (Buda, 1994, Howe, 2013, Lašek, 2012, Helusa, 2006). Children with high level of social intelligence are able to immerse into a group of children and function within such a social group. The same applies for the level of emotional intelligence, as emotional intelligence comprises of the ability to understand and regulate emotions of the others and oneself. As such, emotional intelligence should be in correlation with characteristics that enable relationships formation and maintenance (Baumgartner, 2009). Our research problem deals with the fact if these two notions anyhow correlate together as both terms are currently very important for the psychology. Our research aims at proving that the level of empathy influences popularity in a class. The aim of this study is to find out if the level of empathy really influences popularity in a class; also to determine how empathetic the most popular child actually is.

Our research hypothesis is:

H: There is no significant statistic correlation in between popularity in a group and empathy.

Research question:

RQ1: Are there any differences in empathy level in different sex groups (boys vs. girls)?

RQ2: Are there any difference in popularity level in different sex groups (boys vs. girls)?

### 2. Method

#### 2.1 Materials and equipment

The first method employed is sociometric survey- a rating survey, known also as SO-RA-D. We employed the survey in order to get to know enough relevant information about class relationships, popularity, sympathies, influence and the overall mood in a class (Hrabal, 1998). The survey should help us to acknowledge the diagnostics of relationships and interactions in small social groups. The survey is aimed at children up to 12 years and we handed it out in a group. It is a sociometric survey that employs rating. This means that scaling is employed to acknowledge information. The scale consists of five basic

points. The individual uses them to evaluate other group members based on their influence and sympathies. Sociometric- rating survey determines individual pupils' personalities, it especially acknowledges those characteristics that manifest in interpersonal relationships.

The second survey method employed is survey TEIQue-CSSF. It is meant to determine the level of trait emotional intelligence. The survey method is meant for children from 8 to 12. In our research, we worked with shortened version of the survey that consists of 36 items that interpret trait emotional intelligence. The authors of the survey are S. Mavroveli and K. V. Petrides (2008). However, in our study we employ the version of the survey from the year 2015, as it was translated into Slovak. The survey can be done individually as well as in a group. Its hand out tased approximately 1é to 15 minutes. The advantage of the survey is that it comprises nine essential items of emotionalism. These are expression, temperament, adaptability, regulation and perception of emotions, self-esteem, self-motivation, low impulsiveness and interpersonal relationships. One of the components is empathy, too. For this reason we decided to reflect the level of trait emotional intelligence into the level of empathy (Kaliská, Nábělová et al. 2015).

**2.2 The choice of research sample**

Our research sample consisted of 160 children from 11 to 12 years old, the same proportion of boys and girls (80 boys and 80 girls). The survey was completed on two elementary schools, one in Hlohovec and the other one in Piešťany. The children attended the 6th grade. The survey forms were distributed to children in September 2019 and they were gathered on two occasions (given the fact that we had to visit two towns) in two weeks time. Both schools had the kids divided into two separated classes which resulted in their division into 4 groups of approximately the same number of members. We employed the method of an intentional choice, given the number of children, we employed the quantitative research. The only criterion for the choice of children was their age, we picked up children up to 12.

**2.3 Procedure**

We opted for a survey, as a method of data gathering. Subsequently, we employed Spearman's nonparametric correlation coefficient. In the research, there were employed 2 surveys: TEIQue-CSSF, a survey of trait emotional intelligence and SO-RA-D, a sociometric rating survey. The level of dependency is set based on the scheme:

- Up to 0,3 .....moderate dependency
- From 0,3 to 0,6 .....average dependency
- Above 0,6..... strong dependency

We employed the nonparametric U test to find the difference between sexes.

**3. Results**

H: There is no statistically significant correlation in between popularity in a group and empathy.

*Table No. 1: Popularity in a group and empathy*

		PS
EI	Spearman Correlation	,022
	Sig. (2-tailed)	,945
	N	70

The value of Spearman's correlation coefficient is 0,022, sig. p. Is 0.945, that means that sig. p. > 0,05. This means that there is no statistically significant correlation in between variables. Based on the results we may claim that no statistically significant correlation in between the variables was proven.

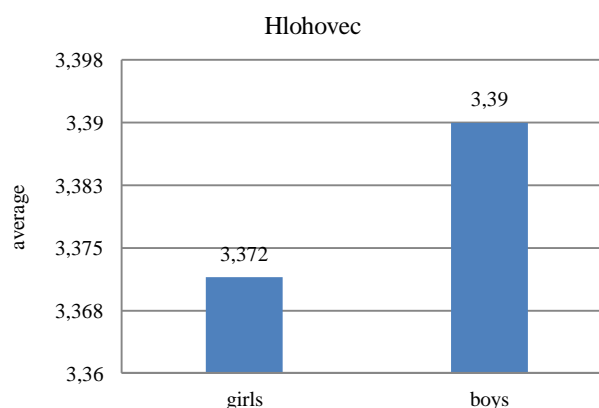
RQ1: Are there any differences in empathy level in different sex groups (boys vs. girls)?

Based on TEIQue-CSSF survey we found out that there exist differences in the level of empathy for sexes. This can be seen in the graphs No. 3 and 4.

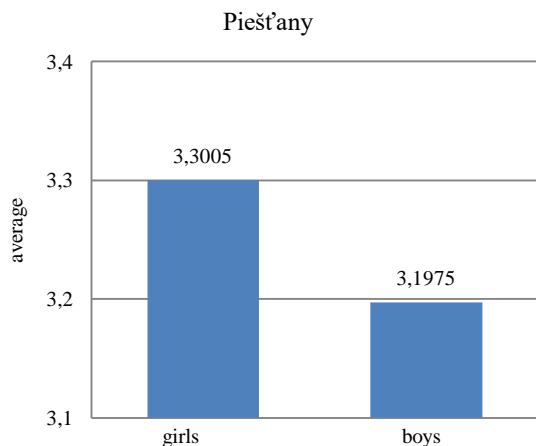
Graph No. 3 represents the level of trait empathy intelligence, in our case the level of empathy . The survey was executed at elementary school in Hlohovec, where the average level of empathy for the girls was 3,3715 compared to 3,39 as average level of empathy for the boys. According to the results, the boys are more empathetic than the girls.

Graf No.4 represents the level of empathy at elementary school in Piešťany. The average level for the girls was 3,30 compared to boys with 3,20. This means that compared to Hlohovec, in Piešťany, the girls are more empathetic than the boys.

*Graf No. 3: Average level of empathy at the elementary school in Hlohovec*



Graf No. 4: Average level of empathy at the elementary school in Piešťany



**3.1 Results of SO-RA-D**

The second survey method is SO-RA-D. We employed it to acknowledge the popularity in a class. As there are not set any norms eliminating the survey, for the purpose of our study we evaluated the level of influence and sympathies based on correlation and average.

RQ2: Are there any difference in popularity level in different sex groups (boys vs. girls)?

Table No. 2: Average ranking between boys and girl

	N	Average Rank
girls	60	64,37
boys	60	56,63
summary	120	

Table No. 3: Results of popularity differences between genders

Test statistics	
	Score (brutto)
Mann-Whitney U	1568,000
Wilcoxon W	3398,000
Z	-1,275
Sig.	.202

We used Man-Whitney’s U test to acknowledge the differences. The results are shown in Tables 2 and 3. The results of MW U test proved statistically significant degree of empathy for different sexes (average Rank of girls was 64,37; average Rank of boys was 56,63; U = 1568, Z = -1.275, sig =, 202).

In the process of evaluation sympathies we decided to justify affinity or hostility towards individual classmates.

At the elementary school in Hlohovec, there appeared the following responses related to affinity: „he/she is my BFF“ , „he/she is friendly“, these responses appeared in 25 cases.

„he/she is a good sportsman/sportswoman“, „he/she looks good (note: describing the body figure)“, „he/she is funny“, these responses appeared in 40 cases.

„she/he has beautiful thick hair“, these responses appeared in 30 cases.

„she/ he looks good (clothes related)“, „ he is handsome/ she is beautiful“, „I like the way she looks“, these responses appeared in 22 cases.

The most common responses related to hostility were the following:

„he/ she has a big head“, „she/ he is nasty to others“, „he/ she disturbs the class sessions“, these responses appeared in 56 cases..

„he/she doesn't raise the hand in the class“, „he/ she often misses the classes“, these responses appeared in 38 cases.

„I don't know him/her“, „he/she doesn't speak much“, these responses appeared in 24 cases.

„he/she is fat“, „he/she is shy“, these responses appeared in 18 cases.

At the elementary school in Piešťany, there appeared the following responses related to affinity evaluation:

„he/she is funny“, „I can speak with him/her about whatever“, „he/she is nice“, these responses appeared in 64 cases.

„she/he tells jokes“, „he/she let's me copy his/her homeworks“, „he/she helps me on the exams“, these responses appeared in 46 cases.

„he/she always has some candy“, „he/she is a good person to chat with“, these responses appeared in 24 cases.

„we go out together“, „we have common interests“, „he/she helps me with anything“, these responses appeared in 26 cases.

The most common responses related to hostility were the following:

„he/she is weird“, „he/she takes away my things“, „he/she is rude“, these responses appeared in 54 cases.

„he/she fights all the time“, „he/she is nasty to everybody“, „he/she thinks that they can do whatever“, these responses appeared in 28 cases.

„he/she complains all the time“, „he/she is awkward and embarrasses the others“, tthese responses appeared in 24 cases.

„he/she wears the glasses that doesn't hit them“, „nobody likes him/her, neither do I“, „he/she always wears dirty clothes“, these responses appeared in 22 cases.

**4. Discussion**

**4.1 Interpretation of the results**

The main aim of our study was to find out if there exists any correlation in between the level of empathy and the level of popularity. The results proved that these two variables are independent one from the other. As such, empathy does not have any influence on whether or not a child is going to be popular in the class. This is possibly caused by the fact that popularity is measured based on multiple attributes, such as child’s look, child’s level of

communicativeness, social status of child's family. A lot of children's sympathy related responses suggested that children are mostly superficial; they tend not to communicate with other children because of their clothing, hair or their body shape.

Similarly, Langlios et. al (1987) claimed that physical beauty is the most important attribute playing a role in someone's popularity. Children refuse to accept among themselves other children if those are somehow different from them, e.g. they wear glasses, they do not practice any sport, they excel in other than usual subjects, etc. Usually it suffices if the most popular member of the group stands against someone in the class and the rest of the members of the group will do the same. Even during the distribution of survey forms, it was clear who are the leaders of groups and who are the least popular children. The latter do not have any significant influence on the group. On the other hand, the choice of the most popular child in the group was done based on such attributes as the sense of humor, communicativeness and not based on physical features of the child. The most common responses given by the children were the one about the popular child being able to tell jokes, being able to laugh with and being able to talk to. Based on the results we may assume that the most popular children are those who can make a good atmosphere in the class. A similar opinion is held by other academics, too. Hill (2004), and Vágnerová (2001), too, claim that the most popular kids are the ones who are communicative, sociable and willing to help. School classes where there are more pupils with high level of trait emotional intelligence are well-coordinated, the collective is friendly, harmonious, the pupils are conscientious. They are also more successful in various school activities (Shapiro, 2004). T. Lovat and R. Toomey (2009) claim that academic performance and the ability to learn learning materials at school (even if these are challenging) arises when the children reflect on school environment in a positive way. Children are then able to naturally express their own emotions in a positively reflected collective and to emphasize the emotions of their classmates, too. The children are able to deal with challenging expectations easier (In Aritzeta, Balluerka, Gorostiaga, Arbiol, Haranburu, Gartzia, 2015).

The researches of J. D. Mayera and coll. (1999), as well as the research of V. Salbota (2011) proved the existence of differences in the level of trait emotional intelligence and the level of empathy based on one's sex. The results proved that girls scored higher than boys. We incline to the opinion of M. Vágnerová (2005) who suggests that girls, compared to boys, tend to express their own emotions better in their middle school age. They also have higher personal motivation and better quality relationships with their peers and classmates. This may clarify the differences resulting from the survey. Girls could regulate the emotions related to their everyday life more effectively

We did not acknowledge any differences related to the sex of the respondents. One of possible explanation of the fact

can be that a child is significantly influenced by the opinion and expectations of their classmates (Hanuliaková, 2010; Koštrnová, 2014). Children's behavior vary; they act differently during the class, during breaks and after school (Čáp, Mareš, 2001; In: Koštrnová, 2014). Self-consciousness and self-valuation of child is very much linked with other children's performance evaluation and comparison. So it is with teachers' evaluation and perception (Kubáni, 2010; Oravcová, 2010). A child starts to acknowledge fellowship with their class collective and they find it important to feel that they are popular. Children are sensitive to teacher's evaluation, one's own comparison to other schoolmates or the one from the teacher. If a child feels insulted by their schoolmates' or teacher's evaluation, it manifests in subjective (personal) dissatisfaction in the class collective. It is really important for a child to „belong somewhere“ (Langmeier, Krejčířová, 1998; Vágnerová, 2000). Girls tend to be more emotional and less self-confident. Boys are performance oriented, competitive and as a result, more self-confident. Boys are more active; girls prefer stereotypes (Sarková (2013, In: Geršicová, Hlásna, 2013).

### Limitations of the research

The primary limitation was the fact that children at school are not much willing to cooperate and have no motivation to participate in survey forms fill in. This may cause survey results distortion as children often invent their answers. If they did not know what to respond, they skipped the question or wrote something of no sense. They were also inattentive while filling in the forms that resulted in multiple needless mistakes, e.g. in the EQ test, they often misinterpreted the scale; number 1 stands for 'I totally disagree' and number 5 stands for 'I totally agree' - this caused needless errors. The absent-mindedness and errors resulted in reduced research sample as mistaken forms were not relevant to our research. Another negative factor that might have resulted in inaccurate research results was the fact that children often 'spied on' their classmates' survey forms and copied them if they did not know the answer themselves. The next possibly negative factor was the wrong hand out of the forms. There was always present the teacher in the class. It might have caused the feeling that the children are being examined. Sometimes it also happened that the teachers tried to support us by 'their helping hand' as they tried to answer their pupils' questions regarding the survey forms; communication buzz was created and children might not have react in an adequate way.

### References

- [1] Aritzeta, A., Balluerka, N., Gorostiaga, A., Alonso-Arbiol, I., Haranburu, M., & Gartzia, L., Classroom emotional intelligence and its relationship with school performance, *European Journal of Education and Psychology*, 9(1), 1-8, 2016, <http://dx.doi.org/10.1016/j.ejeps.2015.11.001>
- [2] Baumgartner, F., *Sociálna inteligencia vo vzťahu k interpersonálnym črtám*, *Československá psychologie*, r. 53, č.2, 2009



- [3] Buda, B., *Empatia – psychológia vžitia a vcítienia sa do druhého*, vyd. Psychoprof, Nové Zámky, 1994, 338 s., ISBN 80-967148-0-5
- [4] Čapek, R., *Třídní klima a školní klima*, vyd. Grada, 2010, 325 s., ISBN 978-80-247-2742-4
- [5] Čížková, J., *Přehled sociální psychologie*, vyd. Univerzita Palackého, Olomouc, 2001, 181 s., ISBN 80-244-0150-9
- [6] Geršicová, Z., Hlásna, S., *Sociální klima třídy v edukačnej teórii a praxi*, Brno, Tribun, 2013
- [7] Hanuliaková, J., *Kreovanie klímy triedy v edukačnej praxi*, Bratislava, IRIS, 2010, 102 s. ISBN 978-80-89256-51-8
- [8] Helus, Z., *Sociální psychologie pro pedagogy*, vyd. Grada, 2006, 280 s., ISBN 9788024711683
- [9] Hill, G., *Moderní psychologie*, vyd. Portál, Praha, 2004, 282 s., ISBN 8071786411
- [10] Howe, D., *Empathy – What it is and why it matters*, vyd. PALGRAVE MACMILLAN, 2013, 248 s., ISBN 978-1-137-27642-1
- [11] Hrabal, V., *SO-RA-D Sociometricko - ratingový dotazník*, Bratislava, Psychodiagnostické a didaktické testy, 1998
- [12] Kaliská, L., Nábělková, E., Salbot, V., *Dotazníky črtovej emocionálnej inteligencie (TEIQue-SF/TEIQue-CSF): manuál k skráteným formám*, 1.vyd., Banská Bystrica, Equilibria, 2015, 65 s., ISBN 978-80-557-0948-2
- [13] Koštrnová, D., *Tvorba a rozvoj pozitívnej klímy v triede*, 1.vyd., Bratislava, MPC, 2014, 66 s.
- [14] Krzmaric, R., *Empathy – Why it matters and how to get it*, vyd. CPI Group, 2015, 272 s., ISBN 9781846043857
- [15] Kubáni, V., *Všeobecná psychológia*, Prešov, Prešovská univerzita v Prešove, 2010, 157 s.
- [16] Langlois, J. H., Roggman, L. A., Casey, R. J., Ritter, J. M., Rieser-Danner, L. A., & Jenkins, V. Y., Infant preferences for attractive faces: Rudiments of a stereotype? *Developmental Psychology*, 23, p.363-369, 1987
- [17] Langmeier, J. Krejčířová D., *Vývojová psychologie 2., aktualizované vydání*, 4. vyd., Praha, Grada Publishing, a.s., 2006, 368 s., ISBN 80-247-1284-9
- [18] Lašek, J., *Sociálně psychologické klima školních tříd a školy*, vyd. Gaudeamus, 2012, 162 s., ISBN 9788074352201
- [19] Lovat, T., Toomey, R., *Values education and quality teaching: The double helix effect (Internationalth ed.)*, Dordrecht, Springer, 2009.
- [20] Mayer, J., Caruso, D.R., Salovey, P., Emotional intelligence meets traditional standards for an intelligence, *Intelligence*, 27, p.267-298, 1999
- [21] Oravcová, J., *Vývinová psychológia*, 1. vyd., Banská Bystrica, Univerzita Mateja Bela, 2010, 232 s.
- [22] Petrides, K.V., Furnham, A., & Mavroveli, S. Trait Emotional Intelligence: Moving Forward in the Field of EI. In Matthews, G., Zeidner, M., Roberts, R. (Eds.). *Emotional Intelligence: Knowns and Unknowns*, Oxford, Oxford University Press, p.151-166, 2007
- [23] Prekop, J., *Empatie – vcítění v každodenním životě*, vyd. Grada, 2004, 132 s., ISBN 978-80-247-0672-6
- [24] Salbot, V. a kol., *Črtová emocionálna inteligencia a psychometrické vlastnosti nástrojov na jej meranie: projekt VEGA*, Banská Bystrica, Univerzita Mateja Bela, Pedagogická fakulta, 2011, 79 s.
- [25] Shapiro, L., E., *Emoční inteligence dítěte a její rozvoj*, 3. vyd., Praha, Portál, 2009, 272 s. ISBN 978-80-7367-648-3
- [26] Vagnerová, M., *Kognitivní a sociální psychologie žáka základní školy*, vyd. Karolinum, 2001, 306 s., ISBN 8024601818
- [27] Vagnerová, M., *Vývojová psychologie I. Dětství a dospívání*, Praha, Karolinum, 2005, 467 s., ISBN 80-246-0956-8
- [28] Vagnerová, M., *Vývojová psychologie. Dětství, dospělost, stáří*, Praha, Portál, 2000, 522 s., ISBN 8071783080



## ATTACHMENT AND LOVE IN SINGLE AND COUPLED YOUNG ADULTS

Katarína Greškovičová – Zuzana Sakačová

Faculty of Psychology, Paneuropean University

Tomášikova 20

Bratislava, 821 02, Slovakia

greskovicovakatarina@gmail.com

**Abstract:** Attachment and love are overlapping concepts. We wanted to explore them with relationship status in young adults. We used the Experience in Close Relationship- Revised (ECR-R) to estimate the attachment dimensions (anxiety and avoidance) and the Triangular Theory of Love questionnaire (TTL) to estimate intimacy, passion and commitment. We had two groups- single participants (n=38) and coupled adult participants (n=48). We found that correlations between attachment and love in coupled participants are stronger than in single participant, but the pattern of correlations is similar. We noted higher relationships of love dimensions with avoidance in both groups, in coupled participants they were all strong. Avoidance and anxiety related to relationship status and there were medium differences between coupled and single participants suggesting single ones have higher scores in attachment dimensions. Our results are in line with theoretical concepts and empirical results.

**Keywords:** attachment, love, single adults, coupled adults, relationship status

### 1. Introduction

Emotional bond is relatively stable relationship that is created toward a specific person [1]. Attachment is an emotional bond that is based on internal working models that are included into basic working models of oneself, attachment figure and relationship [2]. There exists two strategies of adult attachment, namely hyperactivation and deactivation [3], that are responsible for attachment orientation and thus creating dimensions of anxiety and avoidance respectively. Attachment has been a vital part of the research and has been studied in various connections and contexts which have resulted in proliferated amount of publications.

Since attachment is an emotional bond, it is important to study it within partnership context, and namely love. Love is, without doubt, hardly to define. In fact, in the 1990<sup>th</sup> Hazan and Shaver [4] conceptualized romantic love as an attachment process and they confirmed it with their research. It was later confirmed it by other researchers as well, for instance by Hendrick and Hendrick [5]. They assessed 5 measures of love including the attachment method by Hazan and Shaver [4] and the Triangular Theory of Love Scale as elaborated by Sternberg [6,7] that defines love as a combination of its three aspects: intimacy, passion and commitment. Factor analysis was used for all the methods and 5 factors were revealed, among them secure attachment, ambivalence, passionate love and closeness. Feeney and Noller [8] also wanted to assess the attachment in adult romantic relationships. They found that “*anxious-ambivalent subjects expressed dependence and desire for commitment in relationships*” while “*subjects in the avoidant group were most likely to endorse items measuring mistrust of and distance from others*” (p.285).

When dealing with relationship status, there was no difference between single and coupled participants in

expressing attachment security and rely on attachment figures [9]. Attachment dimensions are connected to relationship status and especially avoidance is connected with fewer relationships [10]. But there are not unifying results in attachment anxiety. Previous research stated higher scores in single participants [9], and especially in single ones between 31 and 45 years old [11]. But there is also research that stated higher anxiety in coupled participants aged up to 30 years [11]. The results could be different due to different understanding of singlehood- could be short one, but also a long term one.

As there is absence of empirical studies on relationship between love and attachment in single and coupled young adults in Slovakia, we formulated following research hypothesis and two questions:

RH1 There will be the relationship between attachment and love in our research sample [4, 5].

RQ1 What is the relationship between attachment / love and relationship status in our research sample?

RQ2 What is the difference in attachment and love between single and coupled participants in our research sample?

### 2. Methods

#### 2.1 Research sample and data collection

The research was quantitative, exploratory with comparative design.

Our sample consisted of 86 bachelor students of psychology at Paneuropean University in Bratislava, Slovakia, aged from 19 to 45 years (M = 23.2, SD = 4.7). There were more women (n=69, 80.2%) and more coupled participants, e.g. with ongoing romantic relationship (n=48, 55.8%), with maximum length 9 years.

The data were collected from December 2018 till February 2019. Two instruments plus sociodemographic questions were integrated into one battery together with other methods studying anxiety that are not part of this article. The data were processed in the PSPP statistical program. We analysed and interpreted the results as recommended by Boleková, Ritomský and Košecká [12]. We used the following statistical methods: descriptive statistics, frequency tables, Spearman coefficient, modified eta, Mann-Whitney U test and effect size of correlation measure  $r_m$ .

**2.2 Methods of data collection**

**2.2.1 Experience in Close Relationship- Revised (ECR-R)**

Attachment to romantic partner was measured by the Slovak version [13] of the Experience in Close Relationship- Revised [14]. The instrument is a self-report tool that aims to identify adult attachment style regardless of relationship status. The instruction refers to experiencing the relationship in general.

It has two dimensions: avoidance and anxiety. Avoidant adults prefer independency and keeping distance from their romantic partners, while anxious adults fear to be rejected and lose love of their romantic partners. 36 items (18 items for each dimension) are scored on a 7-point scale ranging from “1=strongly disagree” to “7=strongly agree”. Average scores are computed for each dimension. Higher score indicates higher avoidance or anxiety. Researchers [15] estimate good reliability ( $\alpha = .82$  for anxiety,  $\alpha = .83$  for avoidance).

**2.2.2 Triangular Theory of Love questionnaire (TTL)**

Sternberg’s [16] theory of love states three dimensions in intimate relationships:

- intimacy- emotions in relationship, closeness, connectedness, bondedness, experience of warmth, mutual psychological support;
- passion- drives, physical attraction, sexual consummation;
- commitment- conscious and cognitive part of the relationship, planning, decision, helping to overcome problems and crisis in relationship.

Three dimensions are incorporated into a self-reporting instrument that consists 45 statements. The items are scored on a 9-point scale from 1 = “I strongly disagree” to 9 = “I strongly agree”. We used Slovak version adopted by Martinovská and Falat [17]. The instruction for single participants was changed- to express their agreement with items referring not to actual romantic relationship (since they did not have any), but to their romantic relationships in general. Higher summary index score indicates increased intimacy, passion and commitment. Reliability coefficient is acceptable in previous researches [6] ( $\alpha > .90$ ).

**3. Results**

**3.1 Description of the groups**

Estimate of reliability for both groups was very good. Coefficient of reliability for attachment variables for coupled participants was high ( $\alpha = .91$  for avoidance,  $\alpha = .85$  for anxiety). For single participants, it was also high ( $\alpha = .92$  for avoidance,  $\alpha = .89$  for anxiety). As for love variables, Cronbach coefficients were high for both groups.

Distributions of the attachment and love variables were positively skewed. We concluded that all the variables are non-Gaussian distributed. Basic descriptive statistics is displayed in table 1.

*Table 1 Descriptive statistics of the TTL variables, source: authors*

	1C	1S	2C	2S	3C	3S
Mean	117.4	108.3	103.1	94.4	116.8	101.1
Median	123.3	109.8	112.5	97.3	125.5	110.0
Mode	135	109	107	91	135	135
SD	18.29	21.72	23.60	21.93	22.42	32.03
Skewness	-1.42	-0.67	-0.98	-0.67	-1.4	-1.14
Kurtosis	1.68	-0.49	0.17	0.10	1.29	0.53
Minimum	59	57	35	39	43	18
Maximum	135	135	129	135	135	135
Cronbach $\alpha$	.94	.95	.94	.90	.96	.98

1- Intimacy, 2- passion, 3- commitment, C- coupled participants, S- single participants, SD- standard deviation

For coupled participants, the correlation in attachment variables was  $r_s = .49$ , the correlations between the love variables were more than  $r_s > .72$ . For single participants, the correlation in attachment variables was  $r_s = 0.25$ , the correlations between the love variables were more than  $r_s > .82$ .

*Table 2 Descriptive statistics of the ECR-R variables, source: authors*

	anx C	anx S	avoid C	avoid S
Mean	2.6	3.4	2.2	2.9
Median	2.5	3.2	2.0	2.9
Mode	1.9	4.6	1.0	1.6
SD	0.85	1.02	1.02	0.97
Skewness	0.93	0.24	0.74	0.43
Kurtosis	0.74	-0.8	-0.43	-0.1
Minimum	1.44	1.61	1.00	1.28
Maximum	5.00	5.67	4.67	5.33
Cronbach $\alpha$	.85	.89	.91	.92

anx- anxiety, avoid - avoidance, C- coupled participants, S- single participants, SD- standard deviation

### 3.2 Correlations and differences between the groups

Assumptions of linearity between the variables were checked with scatterplots of the data. The assumption of linearity was met in all cases.

*Table 3 Correlation matrix between variables in TLS and ECR-R, source: authors*

	<i>intimacy</i>	<i>passion</i>	<i>commitment</i>
anx C	-.494	-.261	-.381
anx S	-.101	.033	-.054
avoid C	-.812	-.658	-.647
avoid S	-.568	-.484	-.371

anx- anxiety, avoid - avoidance, C- coupled participants, S- single participants

Correlational analysis (tab. 3) using Spearman's correlational coefficient shows negative relationships that are weak to strong. The pattern of correlations is similar in both groups, but correlations in coupled participants are stronger. The avoidance variable is more important with love variables in both groups. The strongest correlation was found between avoidance and intimacy in both groups.

We can spot difference in anxiety variable. For coupled participants there are medium and small relationships between anxiety and love variables, but there are neglecting relationships in single participants.

*Table 4 Correlation of relationship status with attachment and love variables, source: authors*

	<i>eta</i>
anxiety	.38
avoidance	.35
intimacy	.23
passion	.24
commitment	.30

Then we wanted to know the relationship of relationship status with attachment and love variables. We ranked the variables since they were non-Gaussian distributed. We computed eta coefficient (table 4). Medium relationship was found between anxiety/avoidance and relationship status (eta= .38; .35 respectively).

*Table 5 Comparison of variables between coupled and single participants, source: authors*

<i>partnership</i>	<i>Z</i>	<i>r<sub>m</sub></i>
anxiety	-3.519	.40
avoidance	-3.197	.37
intimacy	-2.071	.24
passion	-2.222	.26
commitment	-2.743	.32

All the comparisons were statistically significant using Mann-Whitney U test, but medium differences were found in attachment variables (table 5). The coupled participants had lower anxiety and avoidance than single participants. From love subscales, commitment was the most differentiative, with  $r_m = .32$

### 4. Discussion

In our study we took Sternberg triangular theory of love and attachment theory to be our concept framework. Little research has been done with respect to relationship status, especially in Slovakia. Therefore, we posed one hypothesis and two research questions.

Firstly, we wanted to know the relationship between attachment and love (RH1). We found negative relationships that were weak to strong. The strongest correlation was found between avoidance and intimacy in both groups. Moreover, avoidance dimension had stronger relationships compared to anxiety dimension in both groups. Our results support Hazan and Shaver [4] idea of romantic love as an attachment process or Feeney and Noller's results [8].

In the first research question we concentrated on the relationship between attachment / love and relationship status (RQ1). Using eta coefficient, we found medium relationships. The commitment was the dimension from triangular theory of love that had the strongest relationship with relationship status, though on the verge of small and medium. On the other hand, anxiety and avoidance were both medium related to relationship status, which is in line with other research [10].

Then we wanted to know the difference in attachment and love between single and coupled participants (RQ2). Differences in attachment style were more obvious than in love. Coupled participants were less anxious and avoidant than single ones. These differences disfavour singlehood, as was found in other research as well [9, 10, 11]. Our results suggest that single ones occupy themselves with the idea of finding a romantic partner but, on the other hand, they also avoid possibilities.

Commitment was on the verge between small and medium difference and is only one dimension from triangular love theory that was differentiative. Coupled participants scored higher in this dimension than single ones suggesting that they have already made decision about loving their partners and committing themselves to be together.

This study has several limitations such as purposeful sampling, university students, self-reporting instruments, sensitive topic, social desirability bias and so on.

Our results are in the line with theoretical concepts and some empirical results. We found that attachment acting on working inner models is differentiative when regarding relationship status (coupled and single participants). Attachment dimensions express themselves in love (intimacy, passion, commitment)- emotional stress while thinking about loving one (anxiety) or distance between persons involved in the partnership (avoidance). Therefore, attachment in romantic partnership overlaps with love in coupled participants. For further research we encourage to study single participants and their understanding of love.

## References

- [1] M. D. S. Ainsworth, "Attachments and other affectional bonds across the life cycle," in *Attachment Across the Life Cycle*, C. M. Parkes, J. S. Hinde, and P. Marris, Eds. London: Routledge., 2006, pp. 33–51.
- [2] I. Bretherton and K. A. Munholland, "Internal working models in attachment relationships: Elaborating a central construct in attachment theory," in *Handbook of attachment: Theory, research and clinical applications*, 2nd ed., J. Cassidy and P. R. Shaver, Eds. London: The Guildford Press, 2008, pp. 102–127.
- [3] M. Mikulincer and P. Shaver, "Adult attachment and affect regulation," in *Handbook of Attachment: Theory, Research and Clinical Applications*, 2nd ed., J. Cassidy and P. R. Shaver, Eds. London: The Guildford Press, 2008, pp. 503–531.
- [4] C. Hazan and P. Shaver, "Romantic Love Conceptualized as an Attachment Process," *J. Pers. Soc. Psychol.*, vol. 52, no. 3, pp. 511–524, 1987.
- [5] C. Hendrick and S. S. Hendrick, "Research on Love: Does It Measure Up?," *J. Pers. Soc. Psychol.*, 1989.
- [6] R. J. Sternberg, "Construct validation of a triangular love scale," *Eur. J. Soc. Psychol.*, vol. 27, pp. 313–335, 1997.
- [7] C. E. Rusbult, N. Olsen, J. L. Davis, and P. A. Hannon, "Commitment and relationship maintenance mechanisms," in *Close Relationships: Key Readings*, Psychology Press, 2004, pp. 345–365.
- [8] J. A. Feeney and P. Noller, "Attachment Style as a Predictor of Adult Romantic Relationships," *J. Pers. Soc. Psychol.*, vol. 58, no. 2, pp. 281–291, 1990.
- [9] D. A. Schachner, P. R. Shaver, and O. Gillath, "Attachment style and long-term singlehood," *Pers. Relatsh.*, vol. 15, no. 4, pp. 479–491, 2008.
- [10] F. O. Poulsen, "Adult Attachment: A Framework for Predicting Dating Patterns," Brigham Young University, 2011.
- [11] K. Petrowski, S. Schurig, G. Schmutzer, E. Brähler, and Y. Stöbel-Richter, "Is it attachment style or socio-demography: Singlehood in a representative sample," *Front. Psychol.*, vol. 6, no. NOV, 2015.
- [12] V. Boleková, A. Ritomský, and D. Kočecká, *Spracovanie dát o obetiach násilia pomocou PSPP*. 2017.
- [13] R. C. Fraley, N. G. Waller, and K. A. Brennan, "The Experiences in Close Relationship-Revised (ECR-R) Questionnaire," *Jpsp*, pp. 19–21, 2000.
- [14] J. Hašto, *Vzťahová väzba. Ku koreňom lásky a úzkosti*. Trenčín: Vydavateľstvo F, 2005.
- [15] G. Rozvadský Gugová and A. Heretik, "Gender Differences in Attachment Styles Using Slovak Version of the Experiences in Close Relationships – Revised (ECR-R)," *Acta Technol. Dubnicae*, vol. 1, no. 2, pp. 29–36, 2011.
- [16] R. J. Sternberg, "A Triangular Theory of Love," *Psychol. Rev.*, vol. 93, no. 2, pp. 119–135, 1986.
- [17] M. Martinovská and M. Falat, "'Zrozumiteľná' láska: slovenská verzia Sternergovej 3-dimenzionálnej škály," in *Sociálne procesy a osobnosť: Zborník z konferencie*, 2004, pp. 295–300.

## IMPLEMENTATION OF MEASURING INSTRUMENTS IN HEALTH INSTITUTIONS

<sup>1</sup>Anna Hudáková - <sup>1</sup>Ludmila Majerníková - <sup>1</sup>Andrea Obročníková - <sup>2</sup>Marta Vojteková - <sup>1</sup>Lubomíra Tkáčová

### University of Presov in Presov

Partizanska 1, Presov, 08001, Slovakia

<sup>1</sup>Department of Nursing, Faculty of Health Care, University of Presov

<sup>2</sup>Institute of Central European Studies, Faculty of Arts, University of Presov

tel: +421 51 7562 460

anna.hudakova@unipo.sk-ludmila.majernikova@unipo.sk- andrea.obrocnikova@unipo.sk-marta.vojtekova@unipo.sk-lubomira.tkacova@unipo.sk

**Abstract:** *The main objective of this study was to examine the level of awareness of nurses in methods for measuring quality of life in nursing, determine which of the methods used by nurses in clinical practice and highlight the individual domains that respondents considered most important in assessing the overall quality of life. The research was conducted in the form of a questionnaire, the research sample consisted of 155 respondents-nurses. The statistical processing of the results, we used the Mann-Whitney test, Chi-square test and Z test. Based on the statistical processing of data, we found significant differences in perception between subjective and objective quality of life for our respondent ( $p < 0.001$ ). We assumed that there are significant differences in the sample examined in the knowledge of selected methods for measuring the quality of life that nurses use in their practice. That assumption was confirmed to us the different items characterizing selected methods for measuring quality of life in nursing. The methods for measuring quality of life in nursing major contribution to nursing practice.*

**Key words:** *clinical practice, quality of life, health institutions, nurse, instrument.*

### 1. Introduction

The concept of quality of life as a priority assumes that the social and physical environment affects the QoL of the people living in it. The process of perception can be understood as a series of physiological, social and psychological factors that are responsible for feeling (dis)satisfaction with the environment that surrounds an individual or social group [1].

Health is now seen as a “metasystem” comprised of various interconnected systems; physical, mental and social, and it depends on how a person or social group perceives and interprets health and disease, how it responds to ideas about the human body and its functioning [2]. The concept of health itself is defined as the “dynamic equilibrium of the body in relation to endogenous and exogenous conditions that will ensure its proper functioning”. The society-wide importance of health today is perceived not only as a social indicator of quality of life but also as a factor which is of growing importance as a source for social and economic development of the regions. Evaluation tools that try to capture the objective state of physical health of individuals and their satisfaction with health are sufficiently sophisticated.

Gurková, Žiaková define the quality of life through three approaches: psychological, applicational and synthesizing. The psychological approach focuses on conceptual differentiation between the concepts of quality of life, well-being and satisfaction. When evaluating the applicational approaches to quality of life, they point to the difference between concepts such as: health, health condition, quality of life. When processing synthesizing

approaches, they integrated components and factors of quality of life into the same theoretical framework, based on conceptual models [3].

Babincak says that the concept of quality of life should express the complex, subjective and dynamically changing the status of the individual, and should therefore be multidimensional, each component should be determined multifactorially [1]. The concept of health related quality of life (HRQoL) is found in many electronic databases and has multiple instruments. Proof of this is the tool developed by a working group and in cooperation with the WHO which is known as WHOQOL (World Health Organization Quality of Life). It incorporates the perception of quality of life from a subjective point of view and in conjunction with daily activities [4].

The consensus of opinion that prevails in nursing considers quality of life to be a subjective phenomenon. Quality of life is defined as the subjective perception and evaluation. Studies draws attention of the conceptual confusion that arose in defining objective and subjective quality of life [5]. These are mainly due to imprecise use of terms such as: subjective quality of life versus the subjective well-being, subjective quality of life versus satisfaction, satisfaction versus subjective well-being, objective quality of life versus functional status. The author emphasizes that the concepts of subjective well-being, satisfaction and functional status should not be equated with the concept of quality of life [6].

### 2. Methodology

In this paper we investigated the level of knowledge of nurses in methods to measure quality of life in nursing. We

wanted to see which methods nurses use in clinical practice. We implemented the research in months: January to April 2016. The research sample consisted of 155 respondents, nurses working at the bedside in hospitals and outpatient care at the General Hospital and Polyclinic Levoci, Inc.

The statistical processing of the results, we used the Mann-Whitney test, Chi-square test and Z test. The dependent variables consisted of: the level of knowledge of methods to measure the quality of life in nursing, knowledge of the individual scales for monitoring quality of life, which are used in clinical practice and the attitudes of nurses to the use of methods for measuring quality of life in clinical practice. The independent variable was the education of the respondents.

**3. Results and Discussion**

We can examine quality of life at different levels and spheres ranging from the macro level, through the national level or as a specification of the quality of life for individual selected groups. At present there is now an indisputable duality of QoL or 2-dimensionality to the stated concept. The main dimension is the preferred subjective-psychological dimension, dealing with how individuals live their life (human wellbeing). The second researched dimension is the dimension is the objective-spatial one analyzing in particular the conditions in which people live their lives (Environmental Quality) [2].

We expected that there is a statistically significant relationship between the perception of subjective and objective quality of life among our respondents. On the basis of the correlation coefficient, which has a value of 0.592, we found that the more positive view of respondents of their objective quality of life (physical health, material security, social status in the society), the more positive their assessments of their subjective quality of life (human emotionality, general satisfaction with life). The result of the test  $p=0.001$  confirmed that the said relation is statistically significant. Significant differences in the perception of the quality of life in the sample, and satisfaction with health were verified using the Mann-Whitney U test. In finding the perception of overall quality of life in nurses, the tested result was  $p=0.034$ . Within the area of educational attainment, nurses with secondary education more satisfied with their health compared with nurses with higher education, who assessed the quality of their health as "average" (Table 1).

*Table 1 Quality of life and satisfaction with health*

	A-SE	A-UE	M-SE	IR	M-UE	Interkvartil. rang	Mann-Whitney U test	Z test	p
Quality of life	84,48	70,13	2	1	2	1,5	2424,0	-2,114	0,034

Satisfaction with health	87,59	66,35	2	1,2	3	1	2159,5	-3,053	0,002
--------------------------	-------	-------	---	-----	---	---	--------	--------	-------

A - Average, M - Medián, IR - Interquartile Range, SE - Secondary Education, UE - University Education.

We expected that there are significant differences in the research sample in terms of knowledge of elementary methods for measuring the quality of life that are used in their practice. Also, we expected that respondents had more fully encountered at least two methods for measuring quality of life. We was verified using the Mann-Whitney U test, Chi-square test for conformity of distributions and Z test. The nurses confirmed that in their practice at the hospital, possibly during training, they had encountered a standard type of questionnaire to assess quality of life. In the area researched, there is a statistically significant relationship between the groups surveyed and their answers, which were identified ( $p=0.001$ ). We can say that there are significant differences between sample area (allocated on the basis predictor - education) and respondents' answers. Quality of life is currently used for the assessment of health and social interventions in a wide range of adverse life circumstances and diseases.

The World Health Organization drew up a questionnaire aimed at measuring the quality of life, the WHOQOL- 100 (World Health Organization Quality of Life Assessment), as well as the abridged version WHOQOL- BREF, which contains 24 items in four domains and two separate items for analysis of overall quality of life and state of health (total 26 items) [7].

Nurses in our sample had only occasionally encountered the SEIQoL (Schedule for the Evaluation of Individual Quality of Life) method of measuring the quality of life through a questionnaire, which assesses 12 categories of life goals [4].

On the basis of the Mann-Whitney U test we can be appreciated that there are significant differences between groups of respondents and claims in this region ( $p=0.051$ ). The SEIQoL method was created by the combination of the two methods and the methods of "Barometer of everyday moods" (Daily reports mood) and "Diener methods" (The Satisfaction with Life Scale). They use a combination of the methods listed, investigating the extent to which we are able to accomplish their set goals in life (Table 2).

The Diener method includes the results of the factor analysis of some adjectives that describe the mood of an individual. We examined whether the nurses had encountered this method during practice or training.

The nurses generally indicated that they had never seen this method before. Among the ways to measure individual satisfaction with life and its overall quality is the method "Barometer of everyday moods" (Daily mood reports). That method requires a person to record their feelings at

regular time intervals. In evaluating the scale “Barometer of everyday moods” or Daily mood reports we found significant differences between groups of respondents.

Both groups of respondents in greater numbers said that they know the Barometer everyday moods in connection to the VAS method, where a person is asked to record their experiences at regular time intervals in the selected section.

Table 2 Implementation of methods evaluated Mann-Whitney test

	A-SE	A-UE	M-SE	IR	M-UE	IR	Mann-Whitney test	Z test	p
WHO-QOL	90,81	61,53	1	1	2	3	1822,0	-4,270	0,001
SEIQoL	83,54	70,26	2	2	3	2	2433,0	-1,952	0,051
ADL	79,59	74,99	1	1	1	1	2764,5	-0,736	0,461
MMSE	75,09	80,39	2	1	2	1	2737,5	-0,820	0,412
IADL	89,38	63,24	1	1	2	1	1942,0	-4,163	0,001
Implementation of methods	72,74	83,21	2	2	2	2	2540,0	-1,519	0,129
Method of happy and dismayed faces	70,41	86,01	2	1,3	1	1	2344,5	-2,424	0,015
Other methods	76,60	78,59	2	2	2	1	2864,0	-0,302	0,762

A - Average, M - Medián, IR - Interquartile Range, SE - Secondary Education, UE - University Education.

The statistical results of both groups were verified using a Chi-square test with good correlation, though the result of the test  $p=0.533$  is not statistically significant, there are no significant differences between groups of respondents and their arguments in this field (from the total sample, 30.3% of nurses use the “Barometer everyday mood” or Daily mood reports in clinical practice. The group of secondary educated nurses dominated in comparison with university educated nurses. We tested this possibility using the chi square test and we found that there were no significant differences between groups of respondents ( $p=0.185$ ) (Table 3).

Table 3 Significant differences between implementation of scale and completed education

„Daily mood reports“	UE	SE	Together	Chi-kvadrát p
Own feelings	27 38,60%	37 43,50%	64 41,30%	0,389a 0,533
Use in practice	25 35,70%	22 25,90%	47 30,30%	1,756a 0,185
Rarely use	25 35,70%	28 32,90%	53 34,20%	0,131a 0,717
No use	0	0	0	-

SE - Secondary Education, UE - University Education

We examined in which area the method is most used in practice. Nurses with secondary education indicated they use this scale to assess mental health/personal experience of the client and nurses with university qualifications used the scale most commonly to assess pain. Using the Mann Whitney test, we found that there are significant differences between the groups of surveyed respondents in terms of their education and personal approach to this issue, as the result of the test,  $p=0.015$  was statistically significant. The nurses in our study do not know other (non-specified) methods which measure quality of life in practice.

The Bartel test of basic daily activities ADL (Activity Daily Living) was used by 52.9% of the total number of respondents surveyed. Based on the statistical hypothesis test using a chi square test of correlation distribution, we investigated the relationship between the Respondents and their completed education there were not significant differences between the examined area and the group of respondents ( $p=0.241$ ) (Table 4). Bartel’s test is not one of the standard methods for measuring the quality of life in nursing, nurses also perceive this alternative as one way of assessing the quality of life of the client. The ADL test (Activities of Daily Living- ordinary daily activities) along with the I ADL test (Instrumental Activities of Daily Living- instrumental daily activities) are used to assess functional skills of older people.

Table 4 Chi-kvadrát test

Chi- kvadrát	1,374
p	0,241

4. Conclusions

Methods of measuring the quality of life in nursing are of great benefit for nursing practice. According to the survey, we found that nurses only know some methods to measure quality of life. Measurement of the quality of life in nursing has been influenced by the psychological approach (presented in the SWB construct) and the application of the medical approach (concept of HRQoL). SWB is an original psychological concept applied in the context of psychological research into quality of life. SWB is used in psychology to evaluate the quality of life as a whole. As part of the approach of SWB as well as the approach to

quality of life, we encounter ambiguities and differing opinions. Generally it is expressed mostly to describe, in relation to other related concepts. In Anglo-Saxon literature, the most common terms such as satisfaction, happiness, well-being and so on in relation to the quality of life also include the concept of subjective well-being (well-being) and psychological well-being (psychological wellbeing) [0]. The origin of subjective well-being on a psychological level is given not only by the author's background and the sphere of constructs used. Subjective well-being experienced is evaluated by the person by connecting the cognitive and affective planes to respond to the events in the life of the person. Similarly the terminology used is typical of psychological research. Cummins clarifies the stability of evaluation of the positive pole across different life situations. Psychology is ascribes interest to the subjective assessment of a person's life and "handling" of "soft" data that has its roots in introspection. The nature of this data can be illustrated by comparing the "objective, hard" data, which is used in other scientific disciplines [8].

Project KEGA No. 004PU-4/2017. Latin-Slovak-Polish anatomical terminology as a modern lexicographical manual in professional training.

## References

- [1] BABINČÁK, P. 2008. Definície, teoretické modely a indikátory kvality života. In: BAČOVÁ, V. ed. Kvalita života a sociálny kapitál- psychologické dimenzie. Acta Facultatis Philosophicae Universitatis Prešovensis, Monografia 89, s. 42- 77.
- [2] HEŘMANOVÁ, E. 2012. Kvalita života a její modely v současném sociálním výzkumu. Sociológia. January 2012, 4(44):478-496.
- [3] GURKOVÁ, E., ŽIAKOVÁ, K. 2009. Ošetrovateľská diagnostika v kontexte praxe založenej na dôkazoch. Kontakt. 2009 (1):32-37.
- [4] DRAGOMIRECKÁ, E., BARTOŇOVÁ, J. 2006. Dotazník kvality života Světové zdravotnické organizace WHOQOL-BREF. Psychometrické vlastnosti a první zkušenosti s českou verzí. Psychiatrie, 10 (3), 144-149.
- [5] DIENER, E. 2006. Guidelines for National Indicators o Well- being and III- being. Journal of Happiness Studies, Vol. 7, No. 4, p. 398- 403.
- [6] GURKOVÁ E. 2011. Hodnocení kvality života. Pro klinickou praxi a ošetrovateľský výzkum. 1. vyd. Praha: Grada. 2011. 224 str. ISBN 978-80-247-3625-9.
- [7] BUŽGOVÁ, R. et al. 2009. Zkušenosti s měřením kvality života dotazníkem WHOQOL-BREF u vybraných skupin pacientů. Kontakt. 2009, roč. 11, č. 1, s. 155. ISSN 1212- 4117.
- [8] CARR, A. J., GIBSON, B., ROBINSON, P. C. 2001. Is Quality o life determined by Expestations and Experience? British Journal of Psychiatry, No. 322, p. 1241- 1243.



## RISK AND PROTECTIVE FACTORS RELATED TO INTIMACY IN ADOLESCENCE

*Kristína Mydlová*

**University of St. Cyril and Methodius in Trnava**

Námestie Jozefa Herdu 577/2

Trnava, 917 01, Slovakia

+421919170573

Kristina.Mydlova@student.ucm.sk

**Abstract:** *This study is concerned with intimate relationships of adolescents, emphasizing risk and protective factors. The aim of this study was to analyze and inquire the present state of the matter regarding intimate relationships of the adolescents in the Slovak population, and to simultaneously detect a possible connection to heavy drinking. Therefore, said study compares two groups of adolescents-the first being adolescents engaged in heavy drinking and the second group of adolescents, who occasionally drink alcohol or are non-drinkers. The results of this study refer to the dangerous tendencies within intimate relationships of adolescents, who partake in heavy drinking. Protective factors of relationship intimacy are more common within adolescents, who consume alcohol occasionally or do not consume alcohol at all.*

**Keywords:** *risk factors, protective factors, intimacy, adolescence*

### 1. Introduction

In the stage of adolescence, changes occur in the emotional region. The majority of adolescents come into their first partnerships in this period, in which there is an increase of yearning to be in a partnership. The first partnerships are short-term and explorative in nature [8]. Adolescents prefer selecting a caring and devoted partner, able to create an emotional bond and is willing to spend free time with them. An unfavorable partner was voted to be a dangerous person gravitating towards experimenting with alcohol [14].

#### 1.1 Risk factors of intimacy

Marshall with a collective of authors [4] define jealousy as provoked emotions, triggered by an occasion involving an intimate partner or another important person. The jealous individual is capable of emotionally changing their attributes very quickly and on its behalf, to administer an emotional response. Results allude to adolescents with impaired communication in a partnership, to have a higher likelihood of a jealous partner present in a partnership. The shorter the length of the partnership is, the lower the probability is of jealous behavior [12]. Committing physical and sexual violence presumes individually determined tolerance to violence within behavior amongst friends, relationships and characteristics of a group. Close friendships are an opportunity to prevent committing violence [15]. Communication in intimate relationships was enhanced due to the impact of this age and the emergence of social media, text messaging and technology, all of which allow us immediate and comfortable access to information of others. Internet websites of social media serve us as a source of information, as well as a source of tension between romantic partners [6].

#### 1.2 Protective factors of intimacy

In the relationships of adolescents, a certain virtue, such as loyalty, comes about, which enables preservation of the relationship not only within relationships from childhood,

but also the newly-formed, adult relationships. Adolescents recognize who they are, what others think of them and for what they take them, through relationships. To be able to answer themselves, they try out various roles, personas and tasks, with which adolescents explore the world and build their identity [3]. The importance of social support provided by peers increases in adolescence, when the relationship value accretes in significance and the relationships with peers simplify the process of detachment from parents [13]. The forming of an intimate relationship often leads to physical intimacy, while intimacy should be ensured prior to sexual behavior, since it secures the relationship, as well as it secures the partners [1]. An experiment conducted by Kimura [7] refers to the assessment of intimacy based off the observation of interpersonal communication between friends and partners.

#### 1.3 Alcohol in the context of intimacy

Some studies propose a connection of ingesting alcohol with highly hazardous sexual behavior, which can differ, depending on the nature of the relationship. Tesla and Collins [2] detected, that the length of the relationship influenced alcohol ingestion. Stronger impacts of alcohol were spotted during the first sexual engagements, but were not spotted during engagements happening later with the same partner. There is a trend spreading among adolescents, called "binge drinking", which is defined by The National Institute on Alcohol Abuse and Alcoholism, as excessive approach to ingestion of alcoholic beverages, when the concentration in blood extends 0.08 grams per deciliter. This concentration is most commonly observed in women after ingesting 4 alcoholic beverages and when it comes to men, it is observed after ingesting 5 alcoholic beverages in the course of 2 hours [18]. Another trend within adolescents is "hooking up", which means the engagement of partners, who are not in an intimate relationship, while their relationship is defined as occasionally sexual and free. Adolescents in these relationships trust replacing intimate relationships with sexual relations with friends [5].

The exploratory research within Slovakia compares two groups, heavy drinking adolescents (they drink heavily every week or 1-2x a month on average) and adolescents, who consume alcohol occasionally (few times a year, big events), or they are non-drinkers.

- describe protective and risk factors of intimate relationships in adolescence
  - compare results between mentioned groups of adolescence
  - discover a connection between heavy drinking and intimate relationships of adolescents
1. What is the condition of the current partnerships of adolescence in the compared groups?
  2. What factors have an effect on intimate relationships in the compared groups?

**2. Methods**

**2.1 Research sample**

To select a research sample, convenience sampling was used due to the sensitivity of the research problem of adolescents. The sample consisted of 130 participants from 3 high schools in Banská Bystrica. 46% (N=60) of the female sex and 54% (N=70) of the male sex participated in the research. The study compares results of the two groups of adolescents. The first group consisted of adolescents, among whom heavy drinking is present-56% (N=73) and the second group consisted of adolescents, who consume alcohol occasionally or are non-drinkers, therefore are not binge-drinkers-44% (N=57). There were 27.70% (N=36) of heavy drinking females, and there were 28.46% (N=37) of male heavy drinkers. The second group of occasional consumers of alcohol consisted of 18.46% (N=24) female, and 25.38% (N=33) male. The study focused on the population of adolescents in high schools, meaning 15 to 18 years of age. The average age of the participants is 17.05 years of age.

**2.2 Instruments and Data Collection**

The selected method for this study is the newly created questionnaire, focused on the analysis of adolescent intimate relationships. The validity of the questionnaire method is secured by presenting the theory, out of which the survey emanates from and by the regulation by experts. Factor analysis uncovered the presence of 4 protective factors of intimacy, which are referred to as Social support, Display of emotions and affection, Confidential communication and Mutual life sharing and free time; and 4 risk factors of intimacy, which are referred to as Impaired communication, Agression, Jealousy and Infidelity [9]. In the first part of the survey, there are 8 statements about protective characteristics of adolescent intimacy, which were validated via factor analysis; and in the second part there are the another 8 statements, focusing on the risk factors of intimacy, also validated via factor analysis. The statements within the survey of protective factors of intimacy have a minimum of 2 points, and a

maximum of 10 points per one factor. The reliability of the survey is secured by using the Cronbach Alpha formula; there is a strong correlation and sufficient internal consistency.

Based off the protective and risk factors of intimacy, we have created a description of protective and risk types of intimacy. As per the accumulated data, we recognized which factor is superior in individuals. The sum of protective and risk factors within the protective and risk type of intimacy is at a minimum of 8 and at a maximum of 40 in both case. The protective type within an intimate relationship achieved a higher score within the protective factors of intimacy, and the risk type achieved a higher score within the risk factors of intimacy in comparison to the protective type.

**3. Results**

The results of this study monitor the current condition of the partners intimate life, specifically if the adolescents have a partner. The results point to the comparison between the two research groups, while 36.9% (N=27) of heavy drinkers currently have a partner, and 63.1% (N=46) of the heavy drinkers do not have a partner. The group of non-binge drinkers consists of 57.9% (N=33) of participants, who currently have a partner and the remaining 42.1% (N=24) of non-binge drinkers, who do not have a partner currently.

In table 1, there is data displayed of the protective and risk factors of intimacy in partnerships between the two groups. Out of the 130 participants of the research, 105 of adolescents have been in a relationship, out of which 60 are part of the heavy drinkers, and 45 are part of the occasional drinkers. Within the average order of the protective factors, social support 45.27; free time 45.21; display of emotions 45.98; confidential communication 43.34; within heavy drinkers were measured lower averages in comparison to the numeric results of the occasional drinkers-social support 63.31; free time 63.93; display of emotions 62.37; confidential communication 65.88. Risk factors were shown to have higher average of order opposed to the heavy drinkers, the numeric results of aggression 61.63; infidelity 61.75; jealousy 58.53; and impaired communication 62.18. In comparison to the occasional drinkers- aggression 41.59; infidelity 41.33; jealousy 45.63; and impaired communication 42.17. The Mann-Whitney U test evaluates a statistical comparison of the two groups. Said test has shown statistical significance for every protective and risk factor of intimacy (sig. < 0.001).

*Table 1 Protective and risk factors of relationship intimacy between groups*

	Compared groups	N	Mean rank	Mann Whitney U test	
PFI social support	Binge drinkers	60	45,27	U	886
	Non- drinkers	45	63,31	Z	-3,125
	Together	105		Sig.	<b>0,002</b>

PFI free time	Binge drinkers	60	45,21	U	882,5
	Non- drinkers	45	63,39	Z	-3,080
	Together	105		Sig.	<b>0,002</b>
PFI display of emotions	Binge drinkers	60	45,98	U	928,5
	Non- drinkers	45	62,37	Z	-2,866
	Together	105		Sig.	<b>0,004</b>
PFI confidential communication	Binge drinkers	60	43,34	U	770,5
	Non- drinkers	45	65,88	Z	-4,013
	Together	105		Sig.	<b>0,000</b>
RFI aggression	Binge drinkers	60	61,63	U	832
	Non- drinkers	45	41,49	Z	-3,394
	Together	105		Sig.	<b>0,001</b>
RFI Infidelity	Binge drinkers	60	61,75	U	825
	Non- drinkers	45	41,33	Z	-3,534
	Together	105		Sig.	<b>0,000</b>
RFI Jealousy	Binge drinkers	60	58,53	U	1018,5
	Non- drinkers	45	45,63	Z	-2,173
	Together	105		Sig.	<b>0,030</b>
RFI impaired communication	Binge drinkers	60	62,18	U	859
	Non- drinkers	45	42,17	Z	-3,350
	Together	105		Sig.	<b>0,001</b>

(Explanation of table: PFI- Protective Factors of Intimacy, RFI- Risk Factors of Intimacy)

Table 2 displays the cumulative numeric values per protective and risk factors of relationship intimacy between heavy drinkers and occasional drinkers. The average order per protective factors are 43.19 for heavy drinkers in comparison to the value of 66.08 for occasional drinkers. The average order per risk factors are 63.07 for heavy drinkers in comparison to the value of 39.58 for occasional drinkers. Using the Mann-Whitney U test we compared the factors of intimacy in both groups, while both cases there was statistical significance (sig. < 0.001).

Table 2 Comparison of the factors of intimacy in compared groups

Types of Intimacy	Compared groups	N	Mean rank	Mann-Whitney U test	
Protective factors of Intimacy (Protective type)	Binge drinkers	60	43,19	U	761,5
	Non- drinkers	45	66,08	Z	-3,825
	Together	105		Sig.	<b>0,000</b>
Risk factors of Intimacy (Risk type)	Binge drinkers	60	63,07	U	746
	Non- drinkers	45	39,58	Z	-3,915
	Together	105		Sig.	<b>0,000</b>

#### 4. Discussion

The study was concerned with the factors which have an effect on intimate relationships in compared groups. During adolescence, there is an increase in yearning to be in a relationship [16]. Within the analysis of intimate relationships of adolescents we examined, if the adolescents have yet engaged in an intimate, serious

relationship or not. The majority of heavy drinkers have claimed they have not yet been in a serious partnership, specifically 63% . The majority of non- drinkers have claimed they have already been engaged in a serious partnership, specifically 58%. As we can see, the binge drinkers can be hazardous when regarding an intimate relationship and when beginning a new, serious partnership. It is very likely for them to not show interest in committing to a relationship, in comparison to the occasional drinkers, which can be related to the regular consumption of alcohol. As per protective factors of intimacy, the occasional drinkers have achieved a higher score of average order in all factors-social support, confidential communication, free time and display of emotions. As per risk factors of intimacy, the heavy drinkers have achieved a higher score in all factors-aggression, infidelity, impaired communication and jealousy. We can proclaim that binge drinkers are hazardous in a relationship with a tendencies of aggression, infidelity, jealousy and a disability of communicating in a relationship. We can assume that heavy drinking has an influence on intimacy in a relationship and vitiates it. Within the risk of intimacy, it creates a typically undesired person in a relationship , which adolescents voted for as hazardous-they would not willingly engage in a relationship, in which their potential partner would be consuming alcohol. On the other hand, adolescents, who prefer protective factors are more inclined to a partner, who be supportive, trusting, would willingly spend their free time with them and would display emotions, even in the presence of others [14]. The results of the study are supported by the discoveries from a study conducted by Sanchez [12], whose aim was to examine the quality of adolescent relationships. Within the results we recognized that adolescents, who drink binge have short-term relationships, with an average length of 7.5 months, as opposed to the occasional drinkers, whose relationships last 13 months, on average, which is almost double the length. It can mean heavy drinkers are not as able to carry the weight of what a relationship comes with and their incline to drink alcohol disrupts the quality and length of the relationship. Even the amount of relationships established is higher among heavy drinkers, in average it represents 4 relationships per individual, while the occasional drinkers only establish 2 relationships per individual on average. These results can suggest promiscuous behavior of heavy drinkers, which can suggest the short length of relationships. On the other hand, the occasional drinkers are more protective in their relationships with an incline to protect the relationship. The results are supported by research conducted by Šukulová [14], for example, in which adolescents mostly preferred selecting a caring and devoted partner, capable of engaging in an emotional bond and will spend their free time mainly with their partner. Successful adolescent relationships are defined by emotional support, sociability and being caring [17]. Hazardous behavior can fulfill a function of a coping strategy [11], when it brings positive satisfaction such as higher confidence, improved communication with peers , which is of greater importance

to an adolescent individual, as opposed to the consequences of their behavior. Their future commitments are dependent on the development of their identity during adolescence. An adolescent will not know who they are, until they do not meet certain people as potential friends or partners at school, and until they do not try to engage in relationships. Therefore it is important to mention that the formation of intimate relationships during adolescence influences their future; throughout these relationships adolescents become conscious of their social environment and they form their identity. Drug behavior among adolescents may also be affected by this development [10]. For that reason it is important to take notice on prevention regarding risk factors, which have an effect on intimate relationships of adolescents with an effort to eliminate them through communication with a parent, pedagogue, psychologist and student. We consider the adolescent realizing the difference between protective and risk factors of intimacy, to be important, as well as avoiding the increase of the binge-drinking trend, which disrupts intimate relationships.

The research study presented in the article was created within the grant FPPV-56-2019

#### References

- [1] Alexande, M., Garda, L., Kanade,S., Jejeebhoy,S., Ganatra,B., Romance and sex: pre-marital partnership formation among young women and men, Pune district, India In: *Reproductive Health Matters*, Vol.14, No. 28, pp. 144-155, 2006
- [2] Brown, J.L., Vanable, P.A., Alcohol Use, Partner Type, and Risky Sexual Behavior Among College Students: Findings from an Event-Level Study In: *Addictive Behaviors*, Vol.32, No.12, pp. 2940-2952, 2007
- [3] Erikson, E.H., *Životní cyklus rozšířený a dokončený: Devět věku člověka*. Praha: Portál, 2015, pp. 147.
- [4] Farrugia, R.C., Facebook and Relationships: A Study of How Social Media Use is Affecting Long-Term Relationships In: *Rochester Institute of Technology*, 2013.
- [5] Fielder, R.L., Carey, K.B., Carey, M.P., Are hookups replacing romantic relationships? A longitudinal study of first-year female college students In: *Journal of Adolescent Health*, Vol.52, No.5, pp. 657-659, 2012
- [6] Fox,J., Warber, K.M., Social networking sites in romantic relationships: attachment, uncertainty, and partner surveillance on facebook In: *Cyberpsychology, Behavior and Social Networking*, Vol.17, No.1, pp. 3-7, 2014
- [7] Kimura, M., Inferential evaluation of intimacy based on observation of interpersonal communication In: *Shinrigaku Kenkyu*, Vol.86, No.2, pp. 91-101, 2015
- [8] Macek, P., *Adolescence*. Praha: Portál, 2003, pp. 144.
- [9] Mydlová, K., Vavrová, M., *Verification of psychometric abilities of the questionnaire the risky sexual behavior and intimate relations of adolescents*. 2019. In press.
- [10] Rojková, Z. Vavrova, M., Drug-using behaviour among adolescents in slovakia according to the age and gender. In: *EPBS*, 2019. In press
- [11] Rojková, Z., *Situačno-motivačné faktory alkoholového správania. Koncept – meranie – overovanie*. Trnava: UCM, ISBN 978-80-8105-801-1, 2016
- [12] Sanchez, Z.M., Ribeiro, K.J., Wagner,G.A., Binge Drinking Associations with Patrons' Risk Behaviors and Alcohol Effects after Leaving a Nightclub: Sex Differences in the "Balada com Ciência" Portal Survey Study in Brazil In: *Public Library of Science*, 2015.
- [13] Širuček, J., Širučeková, M., Vývoj a zkoumání vrstevnických vztahů. In *Vztahy v dospívání*. Brno: Barrister a Principal, 2012. ISBN 978-80-87474-46-4, pp. 196
- [14] Šukulová, D., Výber romantického partnera u adolescentov – Qštúdia. In: *Testforum*, No. 18, 2017
- [15] Taylor, B., Joseph, H., Mumford.E., Romantic Relationship Characteristics and Adolescent Relationship Abuse in a Probability-Based Sample of Youth In: *Journal of Interpersonal Violence*, 2017
- [16] Vágnerová, M., *Vývojová psychologie I. Dětsví a dospívání*. Praha: Karolinum, 2012. pp. 536
- [17] Volpe, E.M., Morales-Alemán, M.M., Teitelman, A.M. Urban adolescent girls' perspectives on romantic relationships: initiation, involvement, negotiation, and conflict In: *Issues in Mental Health Nursing*, Vol.35, No.10, pp. 776-790, 2014
- [18] [http://pubs.niaaa.nih.gov/publications/Newsletter/winter2004/Newsletter\\_Number3.pdf](http://pubs.niaaa.nih.gov/publications/Newsletter/winter2004/Newsletter_Number3.pdf)

## Session: History, Sociology

### Index of Author(s)

Antolová, Barbora  
Bajnarová, Marie  
Danišová, Nikola  
Hovancová, Silvia  
Šuřová, Michaela

## CHARACTERISTICS OF SCIENTIFIC RESEARCH FOCUSING ON SOCIAL RESEARCH

Barbora Antolová

Catholic University in Ružomberok

Hrabovská cesta 1A

Ružomberok, 034 01, Slovakia

+421 44 430 46 93

baboka.antolova@gmail.com - barbora.antolova@edu.ku.sk

**Abstract:** *The aim of the paper is to theoretically define scientific research with a specific focus on social research. Whatever we do in our lives, we do it in some way. The purpose of social studies is to describe, explain, predict and possibly influence the mental processes or behavior of people in society. To this end, humanities, such as sociology, social work and the like, use scientific methods and techniques to carry out social research. The scientific method is a set of principles and procedures that researchers use to raise questions for collecting data and reaching conclusions. Scientific technology is a particular mode of action that is used within a given research method.*

**Keywords:** *scientific research, social research, method, technology*

### 1. Introduction

The first chapter focuses on the theoretical definition of the definition of science, with a focus on scientific research. Scientific research is defined as any research in which the conclusions of the study are strictly derived from specific scientific evidence and thus verifiable facts. Research social scientists not only try to describe people's behavior, but also explain why these behaviors occur in a particular society, community. They seek to create research that can predict and create a change in human behavior. In well-conducted research, observations about the social world are cemented into a specific research question or hypothesis. The researcher can meaningfully record this information. Techniques will vary according to the area, context and objective of the study. Research methods are an essential part of any research project carried out. Each field of science requires its specific adaptation of methods and approaches in carrying out research activities. In addition, we can say that each research is distinctive, requiring a special adaptation and specialization to suit the specific area of the project.

### 2. Scientific Research

The aim of the first chapter of the paper is to describe science with a focus on its scientific research. The fields of science are classified into different fields. In social work, we rank among the social sciences, where through research we examine systematic human behavior and society.

Science is a field of human activity aimed at developing and systematizing objective knowledge of reality. There is also a systematic and logical approach to discovering this knowledge. We can state that science is a system of acquiring knowledge that is achieved through study or practice. This means that it is knowledge covering the general truths of the functioning of general laws through scientific methods. Science is understood and defined as an organized set of knowledge that scientists have acquired through this system. Most scientific research uses some form of scientific method [3].

Science always has a certain set of information within the methodology. These are the most well-known theories that can be understood as the basic goals of science. The science process is designed to grasp the idea through research. We can say that science is a systematic and logical approach to discovering how things work in the world. It is also a collection of knowledge accumulated through discoveries and all the happening phenomena in the world. When conducting research, scientists use scientific methods to collect measurable scientific evidence in research. The aim of scientific research is to support or contradict theories [9].

Research is defined as detailed studies on a particular problem or problem using scientific methods and techniques. Furthermore, research is a systematic survey that describes, explains, predicts and controls the observed phenomenon. Research is a careful examination of a particular problem or concern using scientific methods and tools [5].

An important part of scientific research is the method. According to author Čižnár [3], *“the scientific method consists of a set of procedures by which we investigate phenomena, phenomena, events, gain new knowledge or correct existing knowledge. The scientific method is based on obtaining observable, empirical and measurable evidence. The scientific method helps science to develop into original knowledge.”*

The author Benčo [2] stated that the steps of the scientific method begin with general questions and later narrow down to one specific aspect. They suggest where we can observe and analyze a given research aspect through research. Finally, we will close and generalize the real world as part of our research. Researchers organize their research by formulating and defining a research problem. This helps them focus on the research process so that they can best draw conclusions that reflect the real world.

*“The definition of the subject of scientific research (determination of the research problem) is one of the most complex problems of scientific research. This issue must be given great attention in order to ensure a comprehensive view of the defined subject of scientific research, in particular in terms of quantity, quality, scope and content of the problem under investigation. The definition of the subject of scientific research from these points of view calls for the need to emphasize the meaningfulness of the use of specific scientific research procedures with a view to truthful knowledge of a certain part of reality and indirectly also to gain partial knowledge contributing to the explanation of existence and movement of that reality [2].”*

We consider scientific research to be a standardized way to make notes, collect data, create theories, test predictions, and interpret results. Scientific research is based on observed and measured phenomena, deriving knowledge from practice rather than theory.

Table 1 Types of scientific research

Title of the research	Description of the research
Basic (theoretical) research	Research through which new knowledge is acquired. Often times these studies do not have the goal of being used in practice. The aim is to formulate certain hypotheses, theories, but not solutions for practice.
Applied research	Research aims to propose and implement measures in practice. It is always based on the knowledge of basic research.
Empirical research	The most common research in social sciences. It is based on data collection.
Quantitative research	It is a precisely structured research that systematically collects measurable information and the data obtained is subjected to the correctness, logic check. Its data processing is in tables and graphs. It uses statistical and mathematical methods such as mean, median.
Qualitative research	This is a less structured, quality-oriented research. It examines the effects of social phenomena. They may not have hypotheses; they may be formed in the research phase. It is demanding for the researcher and for the perception of the context. The results are presented in words, such as minutes of interviews, transcripts of recorded conversations and free descriptions.
Combined research	This research uses both qualitative and quantitative research methods. It detects the quality and frequency of occurrence of a particular phenomenon.
Comparative research	Research that is carried out in the same areas, but in other states, cultures, institutions, generations.
Control research	It is realized on two nearly identical or very similar research sets. The members of one research sample are affected by a fact and the other group is free of such action.
Experimental research	It is used to create new products and materials. The results of this research are often patented and purpose-oriented.

Longitudinal research	This is a long-term research that is carried out regularly at certain intervals, for example every five years. It must be methodologically precise. Based on this research, we can talk about the causes and effects of one phenomenon on another.
-----------------------	--

Source: Own processing, [6].

Sociologists and other social scientists regularly suggest explanations of human behavior. On an informal level, people make daily decisions about the intentions, motivations and actions of others. Everyday judgments about human behavior are subjective and unofficial. Therefore, researchers use the scientific method to study the humanities in an objective and systematic way. The results of these studies are often reported in popular media. What leads many to ask how or why researchers came to the conclusions they have made [7].

To sum up, the relationship of science and research plays an important role, because it comes with many new processes that need to be published in a constantly evolving society. Science is defined as a system of classified knowledge, which means that it cannot exist without research. Eventually, scientific research cannot be separated from science, because it complements it.

### 3. Social Researches

In the second chapter we focus on social research. Social researchers through research examine almost all areas of human behavior to gain a better understanding of the individual and society and expand our knowledge of a particular social experience. Any question about behavioral trends can inspire the researcher for new research.

The word social describes all the information gained by experience, observation or experiment. One of the main principles of the scientific method is that evidence must be empirical, that is, based on evidence observable by the senses. Empirical research can be performed and analyzed using qualitative or quantitative methods. This empirical evidence can be obtained through quantitative and qualitative market research [2].

Social research is the process of testing a hypothesis through experimentation, direct or indirect observation and experience. Empirical data are generated by experiment and observation and may be of a quantitative or qualitative nature. Empirical research is the ability of a researcher to formalize these observations using testable research questions [5].

In our view, the basis of all social research is an attempt to observe and then answer well-defined questions by accepting or rejecting specific processed data. By comparison, author Reichel [8] said that social research can be seen as a more structured way of asking questions. Assumption, opinion, rational argument, or anything that belongs to the metaphysical or abstract sphere is also valid

ways of seeking knowledge. Social research is based on data through real-world observation.

The aim of social research is to provide a systematic observation of a particular topic. The researcher first obtains primary resources that provide detailed reports on the methodology used and previous findings of the research. Most likely, the researcher seeks scientific resources in peer-reviewed journals, projects, dissertations, government reports, legal legislation, professional publications, conferences, and the like. A scientist should avoid secondary sources such as articles and contributions from non-professional publications [4].

According to Almäšiová [1] *"social work is a science that is classified in the sciences as social sciences - the subject of which, in the broader sense, is man and his behavior. The research in social work is therefore about phenomena - in particular, the study of social relationships, attitudes and opinions, human activities (such as work, leisure, etc.), social processes and products of human activities."* Further, the author [1] explained that *"it is important to realize in social research that social phenomena are much more inaccurate compared to the phenomena researched in the exact sciences research. Social phenomena are often influenced by factors that are not obvious and whose existence or importance may not always be realized by the researcher."*

We can say that the social research used is known as a scientific method that is designed to study various aspects of what people think and why they do and behave in their lives. The life process in humans allows researchers to explore it, but also to convey and explain it.

### 3.1 Methods in social research

The scientific method used in social research is basically a step-by-step procedure that researchers can monitor and see if there is any type of relationship between two or more variables. In social research, the researcher chooses a research method, such as a biographical, historical, comparative, statistical or case study, and the like [8].

By comparison, Zouhar, Bielik and Kosterec [11] state that the term *"scientific method" or "scientific method" is ambiguous. We can distinguish its two most common meanings: Firstly, scientific is simply a method that is used in science, or in scientific research, respectively. In this sense, we can speak of classification, explication, definition, observation, experimentation and the like of scientific methods. Secondly, the term 'scientific method' is also used to characterize the basic steps and structure of scientific research. In this sense it is assumed that scientific research corresponds to purposeful action corresponding to the involvement of (scientific) methods (in the first meaning) in a certain sequence."* We can say that in social research the method is a guide to get the result.

Data collected through research methods need to be analyzed. Evidence can be analyzed both quantitatively and qualitatively. The researcher can answer research questions that need to be clearly defined and respond to the findings. The type of research design used will vary depending on the area in which it will be used. Many of the researchers can choose collective research involving a quantitative or qualitative method to better answer research questions [10].

### 3.2 Techniques in social research

Technique in social research is the ability to process a huge amount of human-generated data. Technology is a powerful tool for social science research. We can state that a technique is a tool through which new data and information are obtained. Basic techniques for obtaining new data include, for example, document analysis, interview, questionnaire, observation and the like [1].

The author Juszczyk [4] stated that *"the concepts of methods, techniques and instruments of research are interrelated. This is reflected in the research process, when the problem and question put the researcher before choosing the method by which he develops the concept of theoretical bases and practical work. Only on the basis of the method can it transfer the selection of relevant research techniques. The technique chosen clearly decides on the use of research tools, which must ensure the objectivity, clarity and accuracy of the research."*

Therefore, in our opinion, the choice of the right research technique or techniques in social research plays one of the key factors in the elaboration and methodological underpinning of the research. The author Benčo [2] stated that it is common for researchers to increasingly combine multiple techniques within one social research. This is important because it adds precision to the project and reduces errors and inconsistencies. Each data collection technique has its strengths and weaknesses. We must therefore point out that the researcher should have enough time to select the techniques that are best suited for research.

In conclusion, the data collected by researchers through selected techniques require analysis. This can take several different forms, depending on the type of study and the form of analysis that social research requires. Researchers can apply statistical programs to quantitative data or can also evaluate data qualitatively, verbally based on topics, patterns and links.

## 4. Conclusions

It may be noted that, after the preparation of specialist publications, it follows that, regardless of their origin, scientific studies often follow the same procedure many times. Different research methods in social work allow researchers to gather information according to the purpose of the study. They can apply one research tool or several depending on the project objectives. Generally speaking, science is interested in answering questions and gaining



knowledge about observable social work. Various research methods are used to satisfy these interests. In order to truly understand how social scientists and other researchers are reaching these conclusions, we need to know more about the research process used to study social work. Furthermore, the basic steps that are used in carrying out any type of social research.

### References

- [1] ALMAŠIOVÁ, A. 2016. Sociálny výskum. In *Metódy a metodika sociálnej práce I*. Ružomberok : VERBUM, vydavateľstvo Katolíckej univerzity v Ružomberku, 2016. ISBN 978-80-561-0400-2. s. 37-58.
- [2] BENČO, J. 2001. *Metodológia vedeckého výskumu*. Bratislava : Vydavateľstvo IRIS, 2001. 194 s. ISBN 80-89018-27-0.
- [3] ČIŽNÁR, I. 2012. *Základy vedeckovýskumnej práce*. Bratislava : Program rozvoja Slovenskej zdravotníckej univerzity v Bratislave, 2012. 143 s. ISBN 978-80-89352-68-5.
- [4] JUSZCZYK, S. 2003. *Metodológia empirických výskumov v spoločenských vedách*. Bratislava : IRIS, 2003. 137 s. ISBN 80-89018-13-0.
- [5] PAVLÍČEK, J. – DOBRÍKOVÁ, P. 2007. *Sociálny výskum a štatistické spracovanie dát*. Bratislava : VŠZaSP sv. Alžbety, n. o., 2007. 83 s. ISBN 978-80-89271-16-0.
- [6] PRUŽIŇSKÝ, M. – MIHALÁČOVÁ, B. – JELEŇOVÁ, I. 2016. *Veda, výskum, vedecké metódy a ich aplikácia*. [online]. [cit. 2019.10.10.]. Available: <[https://www.researchgate.net/publication/315646627\\_Veda\\_vyskum\\_vedecke\\_metody\\_a\\_ich\\_aplikacia](https://www.researchgate.net/publication/315646627_Veda_vyskum_vedecke_metody_a_ich_aplikacia)>.
- [7] PUNCH, K. 2015. *Úspesný návrh výskumu*. 2 vyd. Praha : Portál, 2015. 232 s. ISBN 978-80-262-0980-5.
- [8] REICHEL, J. 2009. *Kapitoly metodologie sociálních výskumů*. Praha : Grada Publishing, a. s., 2009. 192 s. ISBN 978-80-247-3006-6.
- [9] ŠTEFÁKOVÁ, L. – HULÍNOVÁ, V. a kol. 2016. *Metódy a metodika sociálnej práce I*. Ružomberok : VERBUM, vydavateľstvo Katolíckej univerzity v Ružomberku, 2016. 259 s. ISBN 978-80-561-0400-2.
- [10] ŠVEC, Š. a kol. 1998. *Metodológia vied o výchove. Kvantitatívno-scientické a kvalitatívno-humanitné prístupy v edukačnom výskume*. Bratislava : IRIS, 1998. 303 s. ISBN 80-88778-73-5.
- [11] ZOUHAR, M. – BIELIK, L. – KOSTEREC, M. 2017. *Metóda: metodologické a formálne aspekty*. Bratislava : Univerzita Komenského v Bratislave, 2017. 176 s. ISBN 978-80-223-4352-7.

## INTERPRETATIVE POSSIBILITIES OF EXPLORING THE MOTIF OF FIGURAL TRANSFORMATION IN MAGICAL FOLK TALES

*Nikola Danišová*

**Univerzita Konštantína Filozofa v Nitre**

Štefánikova 67, 94901 Nitra

+421917325290

nikol.danisova@gmail.com

**Abstract:** *By following one example of a folktale the author attempts to uncover what function(s) does the motive of metamorphosis, the motive of a human character's transfiguration in particular, have within the exterior as well as the interior structure of such, i. e. folktale, works of art. As research object and thus an object of an in-depth interpretation and semantic analysis the Slovak folktale entitled "O troch zhavranelých bratoch" from Pavol Dobšinský.*

**Keywords:** semiotic, interpretation, folktale.

### **1. Interpretative and semantic overlap with selected fairy tales and the function of the metamorphic motif in the narration structure**

Pavol Dobšinský included the fairy tale "About three brothers who turned into ravens" into his collection based on the master of the Slovak collector, ethnographer and historian Samuel Reuss.

The entire narration is built on the principle of "aesthetics of identity", which, according to the Russian structuralist Yuri Lotman, ensures the artistic effect of the folklore text. This effect, according to Lotman, is based on the fact that the recipient already knows in advance and expects the petrified narrative models and/or the templates of the characters and plot. Therefore, the narrator throws away everything that constitutes an individual digression from the set phenomena during the storytelling. This creates a *loci communes* – an epic repetition, that is, the fairy tale clichés that may be present at different levels of the plot [4].

The narrator leaves out the chronotopical phrases, which are typical for magical folktales (e.g., Once upon a time...). The first sentence in the narration directly informs the reader about the main characters and their life situation: "A poor mother had three sons and one very cute girl" [1].

The narrator presents the characters to the reader as psychologically drained and depersonalised, which is typical for magical folk tales. The narrator uses blunt and direct factual descriptions, in which he presents the approximate age of the characters, identifies their status, character and appearance, for example: "poor mother", "the boys already have a strong build, but the girl was young" [1]. In addition to direct descriptions, he also uses indirect descriptions to dynamize the plot and provide a more diversified description of the naughty boys and their desperate mother as the most important characters at the beginning of the story, for example: "... she [the mother] did not know what to do with them [the boys]. She admonished them, she begged,

punished and beat them. All in vain. Finally, she completely lost patience" [1]. In direct and indirect descriptions, the narrator uses rich vocabulary with expressive, emotionally colored words, which according to their negative connotations and nuances correspond to the described characters. The narrator identifies the brothers by dysphemisms and pejorative expressions, which tends to the hyperbole, and also uses a pleonasm to highlight disobedience: "scoundrels", "disobedient and gourmand", they "sniff" food, "drag food from the pot", "devour", "pig out" etc. [1]. Through the descriptions, the narrator implies a conflict in the very introduction phase, which emerges especially in the moral-social area as a double-sided violation of the fundamental ethical norms (gluttony and disobedience of the boys, disrespect for parents on the one hand, mother's curse and hasty, inadequately cruel punishment of their own children on the other hand). The collision between the mother and her children is a catalyst for further development of the plot and it is also a driving force in the story. The French structuralist Claud Brémont called the negative plot development a process of "deterioration". In their actions, the boys go beyond the fixed boundaries of morality (respect for parents) and summon the actions of a figure that Brémont termed a "rewarder", and which sanctions them for the violation of the rules [3]. In our story, the rewarder is the mother herself who becomes an active factor of transformation, i.e. she deprives the sons of their human form and transforms them into ravens: "At that moment, the boys turned into three ravens, as black as charcoal, they flapped their wings and, plucking the meat from each other and shrieking terribly, they flew God knows where" [1].

From a purely linguistic and/or semiotic perspective, the "raven" lexeme has a sign nature of a saturated information symbol, and it is an important sememe both on the textual and non-textual level in the fairy tale. The meaning function of the sememes cannot be overlooked even in magical tales. The transformation of the brothers into ravens as a just

punishment for their misbehavior has a semantically transparent symbolism. Within the European cultural circuit, which is strongly influenced by the Judeo-Christian tradition, the raven is viewed as a religiously unclean animal because it feeds on corpses [7]. The very link with death, misery, magic, divination and clairvoyance, the devil, the world of pagan gods and spirits is a dominant and obvious aspect of its symbolism [6]. The brothers who are affected by the mother's curse are deprived of the human anatomy and, when considering the symbolic meaning of a raven, are stigmatized by magic and death. The raven shape explicitly turns them into negative and dirty beings and enhances their existing antagonist action.

The mother later realizes the inadequacy of her curse and regrets her actions. She significantly changes her attitude towards her sons, which is signaled by the narrator in the description of her lament: "...her anger has passed, she came to her senses, began to cry heartbreakingly and wrung her hands over the unfortunate of her sons and their curse. And so she wept, she almost cried her eyes out, every single day" [1]. The mother is a representative of two functions – rewarder and victim, she retracts from her earlier decision to punish the sons for the harm caused, and forgives them. The perspective is also changed in the reader who no longer sees the boys as perpetrators but as victims of the mother's curse. This results in an inversion of the functional roles: the guilty boys become victims.

In the next sequence, the narrator emphasizes the time shift in the story: "...years have passed, and no rumors about the sons" [1]. Subsequently, the narrator directs the attention of the reader to the conduct of her sister, the main protagonist who has matured in the meantime. She is presented briefly, using positive adjectives, such as: "The girl was kind", "working" and her appearance is described through similes - "as red as a rose" [1]. As with the previous characters, indirect descriptions are used to emphasize her noble character: "...wherever she went, everybody loved her, she helped the mother around the house and in the field" [1].

According to Propp, each main protagonist or hero of a magical fairy tale is experiencing a lack or deficiency, which is compelling him/her to leave the comfort of his/her home, and eliminate this shortage through a variety of life-threatening tests [5]. In the interpreted story, the narrator points out that the girl wanted siblings during her childhood and adolescence: "...but our little girl noticed that she neither had a brother nor a sister, and others did" [1].

When she learned from her mother that she had three cursed brothers who roamed the world as ravens, she immediately set out on a journey to find them. In terms of the Greimas model of actants, the sister can be classified as a subject that seeks the object, i.e. the brothers-ravens, within the functional paradigmatic oppositions [3]. The relationship between them moves on semantic axis of searching in the

first part of the story, which corresponds to Propp's hero-seeker action profile of a person who goes into the world to search for someone [5].

The narrator opens another sequence by the protagonist's wandering and arrival into the magical cottage. Within the semantic pattern of the narrative space in the interpreted text, the reader is alerted to the existence of two worlds – the bewitched and human – that contradict themselves. The human world – the first extreme on this imaginary axis – is portrayed by the protagonist of the story and the human zone, which is her own, is known to her and secure. The other extreme of the narrative world is represented by the distant, foreign, sacred, dangerous and alien land inhabited by supernatural beings. In their semantic ambiguity caused by their mother's curse, the cursed brothers themselves oscillate between two worlds, thereby forming tension in the plot for two reasons: first, because they have no fixed place in the structure of the story, and second, because their moral misconduct was subsequently forgiven, but their situation did not improve by being transformed back into the human form. The brothers do not fit into the semantic field of the human world, let alone the magical land.

According to Lotman, the narrative space on the non-textual level is the basic means of understanding and realization of reality. Most commonly, the social, religious, political or ethical models of the world through which man understands the life around assume fixed spatial characteristics in the structure of text. These models are a constitutional basis for the construction of the "world view" and are strongly determined by the culture they belong to [5]. The two different semantic fields making up the narrative space in the interpreted fairy tale could also be grasped through the following binary oppositions: own - alien, we - they, or close - far away.

The bipolar division of the narrative space through the category "own – foreign", and its semantic equivalents "we - they", or "close - far away", is based on the natural need of man for delimiting his/her territory/land where one feels safe and exercises control. The archaic and traditional societies translate this idea into the microcosm – the known domestic territory that immediately surrounds them. According to the Romanian historian of religion Mircea Eliade, the other – outer and unknown – space, located beyond the borders of the microcosm, is the dangerous and desolate world of spirits, demons, ghosts, the kingdom of the dead, ruled by chaos, death and night. Despite the fact that it is an intangible and fantasy world, it is a real space par excellence [2]. in the mythical/fabulous geography of all peoples and communities. According to the mythological and religious ideas, the human world and the world of supernatural beings is separated by an impassable boundary, which was also reflected into the topological feature of the boundaries in the structure of fairy tale text. The impassable boundary can

only be overcome by exceptional characters such as a shaman, initiate or cultural or fairytale hero.

In terms of Lotman's typology of the characters according to their distribution in the narrative space, the characters that cross the border may be termed "moving". These characters open or develop the plot because they convey the collision and conflict. Conversely, the static and immobile characters that do not destroy the specified classification structure of the narrative world view, confirm it in the plot with their passivity and submit to it. To cross the border is essentially an invariant event that develops the sujet [4]. The protagonist's entrance into the magical world assumes a meeting with the donor or helper in the unchanging natural laws of the magical fairy tale, who will help her get to the desired goal – in this case, the encounter with the lost brothers. The scope of actions of the donor and helper, in Propp's terminology, is irreplaceable in terms of plot development [5]. The helper's function in the interpreted story is fulfilled by the Moon's mother, and later the Sun's and Wind's mother, who the protagonist visits in their cottages. Todorov generally defines three basic types of relationships, namely love, communication and help, the characters in the plot may be in, and calls them "predicates" [1]. The donor and helper clearly profile themselves in the relationship with the protagonist as the providers of help. All three mothers (Moon's, Sun's and Wind's) try to help the girl and surreptitiously solicit the information about the whereabouts of her brothers from their supernatural sons. Unfortunately, the Moon's and Sun's mother cannot help the girl and cannot find the answer to her question. In essence, their function is just potential and unfulfilled, but the function comes into completion in the third helper – Wind's mother – who advises the girl to go look for her brothers in the glass castle. The almost identical composition of one narrative situation typical of magical fairy tales both slows down and escalates the plot. In addition to the help function, the Wind's mother also meets the function of a donor. She gives the girl a magical object – a baked bird: "Store its [the baked bird's] bones safely. When you come under the Castle, make a ladder from them and climb up to your brothers"[1]. To enter the glass castle seems to be an insurmountable obstacle from the very beginning. This impression is evoked by the narrator when Wind's mother speaks about the accessibility of the castle and mystery surrounding it: "My girl, you want to do a noble thing. Your brothers are in the glass castle and the glass castle is over those mountains. I do not know how you get there" [1].

This worldwide religious-mythological idea of connecting the underworld with the initiation test naturally penetrated into the fairy tale fabulation. Also, according to Propp, the initiation process is closely linked to the experience of the afterlife. It is therefore not possible to reliably indicate which part of the fairy tale narrative represents the border delimiting the end of one cycle and the beginning of another. The entire initiation ceremony is also seen as a stay in the

land of the dead, which is a metaphor for the world of magical beings, and vice versa, the dead experience everything that the initiated persons have to go through (e.g. getting a helper or donor, encounter with a being that wants to devour or otherwise harm the hero, similar to how the allegoric heavenly beings wanted to eat our protagonist, etc.) [5]. The protagonist's feeble ascent on the unstable ladder made out of small and fragile bird bones into the glass castle is therefore a kind of metaphor of the dangerous and difficult entry into the other world, which is in agreement with Propp's argument that the various non-traditional, distant and inaccessible kingdoms and unknown magical lands are a metaphor of the underworld in the magical fairy tales where the hero survives his initiation [5].

The whole episode, which begins with the arrival into Moon's and his mother's magical cottage, and ends with the meeting of the protagonist and her brothers in the glass castle, is characteristic of a horror-mystical atmosphere, implicitly showing the presence of death, which assumes a tensile nature until the final sequence of the story.

In the subsequent episodes, the relationship between the brothers and sisters changes. It is no longer contained on the semantic axis of the search, but rather help. The sister is helping the brothers to reacquire the human form by a seven-years-long silence. The voluntary suppression of interests, convenience and safety to rescue other characters is a prerequisite for self-sacrifice. In terms of the typology of characters, the sister who suffers for the salvation of her brothers could be aptly called a messianic/redeeming character.

For several years, the protagonist bravely fulfills her oath of silence. The plot is entangled when she meets the prince and he takes her from the glass castle into his kingdom. The protagonist's arrival in the kingdom and her marriage with the king invokes anger and envy in the witch, who lives incognito at the castle: "The king had enemies, he had to go to war and leave his beautiful wife alone [...] under the protection of an old woman who lived in the castle, and she was a witch. The witch had a girl, but a nasty one, and wanted her to marry the king, but the king declined. Therefore, the witch was very angry with the king and the mute queen" [1].

The witch character acts as a typical evildoer as defined by Vladimir Propp [5]. Within the Greimas actant model [3], the witch fulfills the role of an antagonist. An antagonist and/or evildoer harbors antipathy toward his/her victim for a variety of reasons. The witch in the fairy tale is jealous of the girl's youth and beauty, which her daughter lacks, and tries to disqualify and eliminate the mute queen: "While the king was at war, the queen gave birth to a beautiful boy [...] The witch stole it from the queen and replaced it with a puppy. Then she rushed to the window to throw the boy out. The witch immediately spread the news around the city that

the queen gave birth to a puppy, and she reported this fictional news to the king himself" [1].

The king, however, pardoned his wife and the evildoer's expectations were not met. Therefore, the narrator repeats the narrative situation two more times. The repetitiveness of this sequence keeps the recipient in suspense, which eventually results in a disaster and the protagonist is sentenced to death. The queen is unable to defend herself against the false accusation of the evildoer, and despite her life being endangered, she remains bravely silent to save the brothers. In her innocence and integrity, she acts as a character counterpart to the brachial evildoer. Through the actions of the witch-evildoer, the narrator models a horror, cruel and brutal expression of the entire sequence.

The following sequence of the story, which results in the resolution of the plot, happens at the scaffold. The location of the plot at this bleak place is a natural culmination of the death-horror atmosphere, which the narrator gradually and skillfully builds since the beginning of the story: "The king ordered her [the queen] to be taken to the field and beheaded. The executioner raised his sword [...] he swung, but stopped his sword an inch away. Out of the blue, a raven carrying a little boy with golden hair and a golden star on his forehead calls: "Executioner, stop! Here is the beautiful boy, play with him", and puts the boy down. The executioner [...] played with him and so did the king, and they forgot about the beheading. All of a sudden, the recovered and called: "Executioner, to work!" The executioner picked up the sword" [1]. The tone of the story changes at this point and comes close to the typical happy ending of a magical fairy tale. At the very moment when the protagonist is to be beheaded, one of the brothers-ravens arrives at the scaffold in the *deus ex machina* principle and brings a healthy child, which was previously eliminated by the witch. The king and the executioner like the little boy and the storyteller relieves the tense atmosphere. For the third time, the eldest brother arrives with another child, and enters the plot more actively than the first two. As a messenger of good news, he announces to the sister that the period of her oath is over and she can defend and vindicate herself: "Executioner, stop! And you, sister, speak up!" The seven years, seven months, seven weeks and seven hours is over. The three ravens turned into three deserving young men and the queen spoke up [...] She told them everything from the beginning to the end" [1]. The protagonist reported the evildoer and saved her life.

## 2. Conclusion

Using the example of the selected magical fairy tale "About three brothers who turned into ravens", we found that the metamorphic motif is an important and indispensable component of the *sujet* backstory with the ATU 451 motif *Sister looking for her brothers*. The transformation of the brothers into birds and/or other animals (e.g. in the Bulgarian version of "Forty brothers and their sister", the

brothers are turned into moles), serves as a plot-formative and dynamic motif, which is a crucial moment in building the plot. The poetic rendition of the transformation in folk tales correlates with the whole story and it is a potential space to build the desired atmosphere for the narrator. The transformation, which is a fair retribution for the moral crimes committed, and the liberation, i.e. reward, on the one hand reflects the value adjustment of the society the story belongs to, and on the other hand defines the ideological setting of the "world image" of magical folk tales.

This study was made possible thanks to the project APVV-17-0026 titled *Thematologic interpretation, analysis and systematization of archnarratives as semiotic models of the life-world and existential strategies*.

## References

- [1] Dobšinský, Pavol, *Prostonárodné slovenské rozprávky*, Bratislava, Tatran, 2017, 552 pp.
- [2] Eliade, Mircea, *Obrazy a symboly*, Brno, Computer Press, 2004, 212 pp.
- [3] Kyloušek, Petr, *Logika naratívnych možností, Znak, struktúra, vyprávění: výbor z prací francouzského strukturalizmu*, Brno, Host, 2002, 324 pp.
- [4] Lotman, Jurij, *Štruktúra umeleckého*. Bratislava, Tatran, 1990, 376 pp.
- [5] Propp, Vladimír, *Morfologie pohádky a jiné studie*, Praha, H&H, 1990, 400 pp.
- [6] Saunders, Nicholas, *Mýtická síla zvířat* Praha, Praha, Knižní klub, 1996, 184 pp.
- [7] Sax, Boria, *Vrána v našich životech, kultura a historii*, Praha, Grada, 2018, 192 pp.

## METHODS OF SOCIAL WORK WITH CLIENTS WITH OBSESSIVE-COMPULSIVE DISORDER

Michaela Šul'ová

Catholic University in Ružomberok

Hlavná 89, 041 21 Košice

+421 908 675 773

michaela.sulova@ku.sk

**Abstract:** *The paper deals with the issue of social work with people, who suffer from the obsessive-compulsive disorder. In the first section we explain the obsessive-compulsive disorder and describe behavioral manifestations. In the second section we analyze methods the social workers can use in their work with clients suffering from the obsessive-compulsive disorder.*

**Keywords:** *Obsessive-Compulsive Disorder, Client, Help, Social Work*

### 1. Introduction

The Obsessive-Compulsive Disorder (OCD) represents a combination of intrusive thoughts - obsessions and stereotypically or ritually repeating thoughts or acts - compulsions.

Obsessions are intrusive thoughts or ideas the person experiences as foreign and not corresponding to his true interests and wishes. They are forced into the person's mind automatically and independently of his or her will. Usually they include some dangers and potential damages, such as fear of infection (dirt, bacteria, etc.), fear that something important was not right (locking the doors, turning off gas, etc.) impulses for violent and aggressive behavior (killing own child), worry of losing something important (money, documents, etc.), or discomfort caused by asymmetry or disorder (irregular pictures on the walls, etc.). Obsessions lead to compulsions that reduce the anxiety they have caused to some extent [1,2,3].

Compulsions are activities or thoughts that are repeated stereotypically to prevent a supposed catastrophe. In many affected, these impulsive actions have a direct impact on the caused anxiety situation. For example, someone, who is afraid of infection, will constantly and repeatedly wash him or herself throughout the day. Another person, upon leaving his or her apartment, will check if he or she turned off electricity, gas and lock the apartment many times [2,3].

In obsessive-compulsive disorder the person is aware of the pointlessness of his or her compulsive behavior and obsessive thought. However, if he or she does not comply with the urge, he or she will get unbearable fear. There are extreme forms of this disease where the whole life is determined by the urge. The clients repeat some ritual for hours, they cannot work and in time the whole family participates on this ritual [4,5].

Obsessions and compulsions are common in people throughout the population and they are not considered a problem if they do not cause a feeling of discomfort and they do not interfere in normal life. However, if a person

has obsessions or compulsions that significantly interfere in his or her life, he or she should ask for help [3].

### 2. Diagnosing the Obsessive-Compulsive Disorder

Obsessive-Compulsive Disorder can be diagnosed based on its symptoms:

- Obsessions or compulsions are present for days at least for 2 weeks,
- Obsessions and compulsions are considered by the individual as his or her own thoughts and behavior,
- At least one obsession or compulsion must be present the individual opposes and considers it as inappropriate and absurd,
- The thought or action taken must be unpleasant for the person,
- The obsession or compulsion must be unpleasantly repeated [6].

The obsessive-compulsive disorder can be treated using medicaments - serotonin reuptake inhibitors and cognitive-behavioral psychotherapy [3].

### 3. Symptoms of the Obsessive-Compulsive Disorder

Basic obsession symptoms include: recurring thoughts, ideas or urges that are experienced as uncomfortable, unwanted, absurd or anxiety inducing. There is an effort to suppress or ignore them. They are perceived as a product of own mind and not something foreign, forced into the mind from the outside. Obsessions lead to an increase of anxiety the person tries to get rid of through some behavior or ritual - compulsion. Obsessions can emerge after different triggering stimuli, for example a handshake with a stranger, locking the apartment, sight of a sharp object, after reading an unacceptable word, looking at a person, etc. The person does not want or welcome obsessions; he or she is trying to oppose and get rid of them. Obsession is a passive automatic experience: it happens to the person all by itself. For example a person who worries about his or her health very much, an idea comes to mind that touching the door handle infected him or her. The unifying theme is the fear of potential threat and the need to prevent it [3].

Basic compulsion symptoms include: repeated, deliberate and purposeful action taken based on certain rules or in a certain stereotypical way. This action is aimed at reducing or preventing anxiety or the feared situation. This action does not have to be related to what it should prevent and thus it can have a purely “magical” meaning. Compulsions do not have to exclusively take the form of motoric action. Some compulsions are externally unnoticeable, because they are hidden, i.e. mental, such as quiet controlling or repeating nonsensical verses in own mind. Compulsive thoughts can sometimes have the same content as obsessive thoughts; they differ only in their order. The first thought is involuntary obsession and the subsequent ones are neutralizing [3].

Obsessive-compulsive difficulties are usually manifested in these ways:

- Compulsive need to repeat cleaning ritual, for example washing or changing clothes resulting from fear of filth and the related health threat,
- Compulsive need to control (switches, doors, windows, etc.) that leads to easement that everything is OK,
- Compulsive need for order, certain organization or acting that is manifested by constant adjustment and a tendency to act based on specific, in principle absurd, rules (in the sense that “if everything will be all right, nothing will happen”, for example, “if I will step only on black tiles “),
- Persistent thoughts of unacceptable nature (for example, aggression, self-harm, etc.) that constantly repeating themselves, whereby the person is trying to protect him or herself through rituals that lead to temporary relief [7].

For people with the obsessive-compulsive disorder it is typical that they deal with unpleasant thoughts, which leads to intense anxiety, tension or discomfort. Anxiety is the fundamental and dominating emotion, which is evoked by internal impulses. Therefore, they often avoid situations that induce threatening thoughts. They attempt to neutralize anxiety from worrying and the subsequent evasive behavior through repetitive acts or stereotypical thoughts. This gives rise to compulsion that reduces anxiety only temporarily. Soon, new anxiety comes, new need to reduce it, which gives rise to new compulsions. Obsessions cause anxiety; compulsions reduce it temporarily. Therefore we can describe compulsions as an active defense against anxiety [3,7].

Almost all people with the obsessive-compulsive disorder try to avoid situations that cause obsessive thoughts and subsequent anxiety in them, which they then have to neutralize through compulsions. This is the so-called avoidant behavior. Avoidant behavior is typically related to objects and situations that can be a potential trigger of obsessions or compulsions. For example, a person with obsessive fear of filth and bacteria that is accompanied by cleaning rituals, usually tries to avoid what he or she

considers as dirty or contagious. Assurance also serves to neutralize. It is an effort to avoid either the triggers of obsession or the imaginary catastrophic consequences. Assurance is done by, for example, have someone else do the activity (for example leaving the house with someone else) [3].

The majority of people suffering from the obsessive-compulsive disorder is aware of the absurdity and difficulty of their thoughts and rituals, that their behavior is irrational, but they are not able to not do them, because if they do not do them, they feel intense anxiety and fear of catastrophic consequences. However, they are unable to resist them, despite the fact that they significantly impact their daily activities. Sometimes they “morally” justify their behavior with “cleanliness”, a sense of order or an effort to prevent any likelihood whatsoever that something catastrophic could happen. However, the awareness of “irrationality” leads to the fact that they are ashamed of their behavior and they fear that others will consider them “crazy” [3,8].

#### 4. Means of Help

In this section we present selected methods of social work that can be used by social workers in their efforts to help clients suffering from the obsessive-compulsive disorder.

##### Exposure

Exposure is an effective method in the treatment of the obsessive-compulsive disorder. The client is exposed to a situation that induces anxiety in him or her and triggers his or her compulsive urge. Subsequently, the client should be prevented from doing his or her compulsive behavior. This gives the client a chance to learn that eventually, anxiety will subside on its own, even without the rituals. The basic idea is to withstand the growing fear without escaping the situation. During the exposure, the client records his or her subjectively experienced anxiety. The client has a chance to experience and learn that anxiety will eventually subside on its own, even without the rituals, and that the more often he or she exposes him or herself to the feared situation, the faster the anxiety will subside. At the same time the client is lead to a gradual reevaluation of his or her fears so that he or she will come to the realization that what he or she fears will probably never happen in real life [3]. For the exposure to effective, it is important for the client to bear the situation until the fear reaches its maximum and subsequently it will begin to subside and disappear. The client must experience this; therefore it is not desirable to help him or her reduce his or her fear in any way, for example by distracting his or her attention or facilitating escape [10].

The most commonly used is the graduated exposure with planned tasks with an increasing difficulty level. Flooding, which is another variant, is when the client is immediately confronted with the most feared situation to generate maximum fear, whereby the duration of this situation must last until the client is convinced that the fear will subside after the culmination [10].

### Stop Technique

Another method that can be used in work with a client with the obsessive-compulsive disorder is the so-called stop technique the social worker uses to help the client to stop unwanted thoughts. As soon as the client gets an obsessive thought, he should yell out “stop!”, which interrupts the thoughts. At the beginning, the social worker can ask the client to intentionally induce unpleasant thoughts and ideas that distress him or her. The client then delves into these thoughts and the worker then yells “stop!”. This usually interrupts the thoughts as well as the chain of thoughts and the client can focus his or her attention on something else, based on the instructions of the social worker. The procedure is repeated several times. The client then has to repeat the exercise on his or her own. He or she yells “Stop” out loud at first, then only in his or her mind [3,10].

### Distraction

Distraction is another effective method that can be used in work with a client with the obsessive-compulsive disorder. This method is based on the observation that obsessive thoughts usually enter the person’s mind when he or she is alone and not focused on anything. Therefore the client should attempt to distract him or herself when obsessive thoughts begin to bother him or her. One of the most effective ways of distracting attention is to seek out company and start talking to someone, or call someone or to start doing something [3].

### Psychoeducation

Psychoeducation can be defined as theoretical and practical education or raising or formation of the client and possibly his or her family as well. This education is focused on understanding the disorder and the treatment, with the goal of integrating the ill person into the society. According to the World Health Organization, therapeutic education of ill people is a continuous process that is an integral part of medical care and it is focused on the person. It contains controlled information and education activities, sensitization activities and psychosocial care related to the disease, treatment and facilities, as well as the behavior of the person in health and in sickness. The goal of the education is to help the person and his or her loved ones to understand the disorder and its treatment, work together with the health professionals, live as healthy as possible and to improve quality of life. The education of the ill person should lead to achieving and using resources necessary to optimally manage life with the disease [11]. Psychoeducation is an integral part of the treatment of every mental disorder. It can be individual or together with the family. The ill people are dependent on the experts, who should present them the relevant information in an understandable way. If the brochures are a source of general information, then psychoeducation is tailored to the client’s personal situation [12].

The type and intensity of the education must be adapted to the current period of the disease and the ability of the family and the client to understand the goals of the education. At the beginning of the mental disorder, at a

time of uncertainty, stress and anxiety, the clients and their relatives are especially sensitive to information on what will happen next, why is it happening, what is happening and what can be done about it. It is necessary to explain to the client that their behavior is normal given this type of disorder. The client and his or her family must be explained the system of psychiatric care and the options available to them [13].

### Work with the Family

Work with the family is the domain of the social worker’s work with a client with the obsessive-compulsive disorder, which is focused on stressors that can cause or intensify the symptoms. [9].

The goal of the social worker is to offer the family support and understanding. Help them to distinguish unsuitable behavior and support their effort in eliminating it. Explain to them that on one hand it is necessary to count with certain restrictions and to accept the ill without any illusions, but on the other hand not take all the responsibility way from the ill person. He or she must also follow certain rules [7].

### 5. Conclusion

The obsessive-compulsive disorder is one of many mental disorders the social workers can encounter in their practice. The clients may come from any of the social facilities and can be of any age. They do not have to come exclusively from social facilities for people with mental disorders. Therefore we see it as necessary for the social workers to know the symptoms and master specific methods of social work and be able, as part of social intervention” to help the clients with the obsessive-compulsive disorder as effectively as possible.

### References

- [1] PRAŠKO, J. et al. *Anxiety and Worries. How to Overcome Them*. Prague : Portal, 2012. 232 p. ISBN 978-80-7367-986-6.
- [2] RABOCH, J. – PAVLOVSKÝ, P. – JANOTOVÁ, D. *Psychiatry – Practice Minimum*. Prague: Triton, 2012. 239 p. ISBN 978-80-7387-582-4.
- [3] PRAŠKO, J. et al. *Obsessive-Compulsive Disorder and How to Protect Ourselves*. Prague : Portal, 2003. 120 p. ISBN 80-7178-810-4.
- [4] MAHROVÁ, G. et al. *Social Work with People with a Mental Disorder*. Prague : Grada, 2008. 176 p. ISBN 978-80-247-2138-5.
- [5] LÜTZ, M. *Who is Crazy? A Fun Introduction to Psychiatry and Psychotherapy*. Prague : Portal, 2017. 207 p. ISBN 978-80-262-1203-4.
- [6] DUŠEK, K. – VEČEŘOVÁ-PROCHÁZKOVÁ, A. *Diagnostics and Therapy of Mental Disorders*. Prague : Grada, 2017. 646 p. ISBN 978-80-247-4826-9.
- [7] VÁGNEROVÁ, M. *Psychopathology for Helping Professions*. Prague : Portal, 2012. 872 p. ISBN 978-80-262-0225-7.



- [8] RABOCH, J. et al. *Clinical Psychiatry in Daily Practice*. Prague : Galen, 2008. 158 p. ISBN 978-80-7262-586-4.
- [9] PROBSTOVÁ, V. – PĚČ, O. *Psychiatry for Social Workers. Selected Chapters*. Prague : Portal, 2014. 248 p. ISBN 978-80-262-0731-3.
- [10] KRATOCHVÍL, S. *Basics of Psychotherapy*. Prague : Portal, 2012. 408 p. ISBN 978-80-262-0302-5.
- [11] GAY, Ch. *Bipolar Disorder. Advice for Families and Loved Ones of People with Manic Depression*. Prague : Portal, 2010. 136 p. ISBN 978-80-7367-668-1.
- [12] MOTLOVÁ, L. – KOUKOLÍK, F. *Schizophrenia. Neurobiology, Clinical Picture, Therapy*. Prague : Galén, 2004. 437 p. ISBN 80-7262-277-3.
- [13] PEČEŇÁK, J. et al. *Chapters on Schizophrenia*. Martin : Osveta, 2005. 196 p. ISBN 80-8063-201-4.

## OIL PAINTING RESTORATION ON CANVAS: THE ISSUE OF COMPLIANCE WITH THE ETHICS CODE

Marie Bajnarová

University of Ostrava

Frani Sramka 3, Ostrava 709 00, Czech Republic  
marie.bajnarova@seznam.cz

**Abstract:** Restoration is a demanding professional intervention process leading to the restoration of the original form of a work of art. Restoration is subject to strict rules and procedures according to principles of restoration ethics. These ethics are a collection of specific procedures that respect the technical and artistic structure of the original work. The research proposal is focused on restoration ethics, i.e. the issue of adherence to the Code of Ethics during the conservation-restoration of works of art.

**Keywords:** restoration, conservation, oil painting, ethics code, art work.

### 1. Introduction

Over time, the artefact changes its structure, and it's the restorer's job to secure all the work of art's values. Therefore, restoration varies between two poles that arise from the character of the artwork. On one side stands the historical-documentary value, which is understood as a historical document and a source of knowledge for history, art history and society. And on the other side there is "the aesthetic value of the monument as a living work of art which, through the act of creation by its author, entered the world of human perception of (perhaps) beauty." [1]

We see the importance in the restoration work in maintaining the authenticity of the work of art. The restorer is supposed to treat the work of art with respect and humility, so in order to preserve the work's authenticity they must suppress their own artistic intervention, this is the only way they can "prolong" the work's life and the work can be presented again. "Retouching is not only a technical-conservative performance, such as the conservation of the underlay and the underlying layers, but it's associated with a variety of aesthetic and theoretic-reconstructive issues." [2] Slansky in his publication *Technique of Painting: Exploration and Restoration of pictures* presents a theoretical explanation of the principles of retouching, which are suitable for maintaining the authenticity of the picture, and he further discusses the technical aspect of retouching with regard to optical stability and easy removability of retouching.

Restoration must not adversely affect the meanings of a work of art. A work of art's aesthetic value usually requires modification of its appearance. During restoration, damaged places are usually filled with sealants, which carry restorative accessories of coloured layers, i.e. filling of damaged places of fine art works. There are still many discussions and uncertainties regarding the filling of damaged missing places on the body of a painting.

The research work should point out the issue of adherence to the Code of ethics during the preservation-restoration of artistic works of art. Research work will focus on the theory and practice of the Code of Ethics, which will

subsequently be applied to the concept of restoration intervention and subsequent practice.

### 2. Conservation and Restoration Methodology

Conservation-restoration is one of the most important activities for the care of collections, because it protects the physical nature of the object. However, this part of the work with the collection object belongs to the most demanding activities, from the professional as well as economic viewpoint. The demands on the care of collections are not only increased by the quality or number of collection items, but mainly by the continuous expansion of knowledge about the original technologies, environmental impact, new preservatives and procedures, etc.

The survey is followed by determining the progress of work and the selection of the appropriate work technology. It should always be borne in mind that the procedures set out do not renew the object, but above all eliminate the negative effects and prevent their further action. The restoration process itself consists of several stages:

1. Examining the object and determining the damage rate.
2. The restoration plan proposal with a precisely given intervention procedure, the means used, etc.
3. The restoration process itself.
4. Continuous and final photo documentation of the intervention including detailed restoration report.

The restorer should bear in mind that restoration is an intervention that to some extent reduces the historical value of the original work. For this reason, it's important to specify the conservation and restoration interventions and to carry them out only in justified cases, based on expert consultations. During the restoration intervention the original restoration plan must be followed. The entire process must be continuously and regularly documented, i.e. description and photo documentation. As for the restoration report, the report is divided into two basic parts.

1. The written part includes:
  - localisation and identification of a work of art,

- artefact data,
  - the reason for the restoration intervention,
  - a list of source materials (e.g. previous restoration reports, historical written and pictorial documents, expert opinions, etc.),
  - a description of the object's condition before restoration,
  - determining the manner and possibility of intervention,
  - determining the presumption of the intervention's durability and recommending the correct placement regime,
  - a list of pictorial representations,
  - creation date, list and signatures of all active participants of the restoration intervention.
2. The pictorial part contains:
- photo documentation of the original condition, the course of restoration, the condition after restoration, or special documentation (e.g. X-rays, etc.)

### 2.1. Code of Ethics: Conservator-Restorer

The Professional Code of Conservator-Restorer is an important document, which was adopted by the ICOM Conservation Commission at the Copenhagen meeting in 1984. This document has become the basic standard for professional conservators-restorers.

The code of ethics from top conservation centre Victoria & Albert Museum in London is very interesting, it is formulated into 16 points - questions that should be answered seriously before and during each conservation-restoration intervention on the collection object.

The structure and the main lines of the Document on the conservator-restorer profession were accepted by members of the Committee of Conservator-Restorers of the Association of Museums and Galleries of the Czech Republic at the plenary session on September 6<sup>th</sup>, 2007 in Znojmo. The Document text was revised in 2010, during which its main structure was changed. For this reason, the updated Document was submitted for consideration by the Commission held on September 7<sup>th</sup>, 2010 in Uherske Hradiste, where the Document was adopted.

The Code of Ethics is also a part of the Document and among other things, is based on the above-mentioned codes of ethics. The purpose of the document is to determine the basic objectives, principles and requirements relating to the conservator-restorer profession and to determine their role in the protection of cultural heritage in the Czech Republic's museums and galleries. The document was created to define and support the museum's approach to the protection of cultural heritage objects. This specific approach consists in the application of conservation, which allows the protection of the comprehensive value of cultural heritage objects.

In Czech lands, the profession of conservator-restorer working with museum collections hasn't been clearly

defined, therefore it is necessary in the interest of this profession to determine the field of conservator-restorer and to define it in relation to other fields.

According to the document on the conservator-restorer profession, the profession is characterised as follows. Conservator-Restorer (selected points of general professional principles):

- They must work according to the principles of the Code, regardless of the nature of the museum's collection object.
- They must respect the comprehensive value of the objects entrusted to their care.
- They have the right to refuse any requested action at any time which they believe is contrary to this Code.
- They may only carry out interventions which they are competent to carry out within their professional specialisation.
- They must strive to expand their knowledge and skills in order to improve the quality of their work.
- They work directly with cultural heritage items and are personally responsible to the owner/manager, cultural heritage and society.
- They have the right to all relevant information regarding the intervention provided by the owner or administrator of the item.
- The conservator-restorer is obliged to inform the owner or administrator of the museum's collection item about the interventions, to present all alternatives to them, and to defend the chosen procedure.
- In no case shall they conceal information relevant to the understanding of the intervention and shall disclose it to all interested parties.
- They should prefer preventive preservation over direct intervention on the object. If this intervention occurs, they should limit it to the strictly necessary measure.
- They should use procedures, devices and substances that, according to the current state of knowledge, do not damage the material of the object, human health and are friendly. The actual intervention and the material used should not limit any future intervention. Newly used material should be easily and completely removable.
- They shall not remove any part of the material from the museum's collection item unless this is necessary for its identification, protection or substantially reduces its documentary or aesthetic effectiveness. The removed parts must be documented, preserved and stored with the object.
- They shall aim for maximum clarity and durability of the documentation. This must also include the names of all those involved in the intervention. A copy of the documentation must be provided to the owner or administrator of the item and must remain accessible to all interested parties. Documentation remains the intellectual property of the conservator-restorer, and therefore has the right to be recognised as the author of the work.

- They may not impose the activity of another person on the results of their work, be it the interventions themselves or publications intended for the interested persons.
- They must be named as co-author when presenting objects and publishing the results of their studies they must not encourage the illegal management of cultural heritage; on the contrary, they must notify them to the competent authorities. [3]

### 3. Basis and Purpose of the Study

The author's work and experience to date have been taken into account in this thesis. As a beginner conservator-restorer of museum collections of paintings, the author encounters questions concerning the ethical approach to the collection artefacts, because in practice there are ambiguities, ambiguous starting points and contradictions that accompany this field.

The research work should present an overview of the concepts of conservation and restoration of works of art for the purpose of teaching aids, which will serve students of art or related fields (e.g. museology, art history, etc.).

### 4. Methodology of Research Work

The aim of the research work is to present the observance of rules and ethics during conservation-restoration of a painting. The thesis also outlines ethical attitudes to the protection of the monument and provides the reader with some degree of unification in the view of the issue. Furthermore, the thesis will deal with the concept of restoration intervention.

The work's methodology will be based on a specific approach to the elaboration of a chosen topic based on technology, history, aesthetics and ethics. The methods used broadly belong to the range of methods of text processing based on critical information acquisition and their comparison according to comparative approaches and also analytical procedures leading to synthesis projected into individual conclusions. The research work will be divided into two parts, i.e.:

#### 1. Theoretical part:

- The theoretical part will present the historical development of monument protection and related ideas that formulated different ethical attitudes to this issue. In this section it's necessary to define certain principles that are based on contemporary historical, scientific and aesthetic knowledge, as these principles were formulated in codes of ethics and serve as the basic principles of the restorer's approach to any intervention.

Keywords for the theoretical part:

- Code of Ethics,
- conservation-restoration of works of art,
- ethical principles in the protection of monuments,
- historical development of the approach to the protection of monuments,

- historical development of conservation - restoration of works of art,
- restoration history of paintings in the Czech Republic,
- materials and technology (i.e. sealants, painting, lacquers),
- possible failure factors and cracks,
- methods of painting and material research (i.e. physical and chemical methods, etc.),
- picture conservation-restoration (i.e. colour layer defects, retouching, paint defects, paint removal).

#### 2. Practical part:

- The practical part will present an example of a restored art work, which will point out the relativity or relevance of individual procedures, which will take into account the legitimacy of intervention in the values of the artefact. This workflow will justify opinions, partial conservation and restoration tasks.
- Practical part will be based on own practice methodically focused on conservation and restoration of artistic works of art.

The practical part of the research will include the following points, which will be in the context of specific cases of restored oil paintings:

- The history and origin of the restored collection of works.
- Interpretation of pictures to be preserved and restored.
- The restoration process itself (i.e. examining the object and determining the degree of damage; restoration plan proposal with a precisely given intervention procedure, means used, etc.; restoration process; continuous and final photo-documentation of the intervention including restoration report).
- Compliance with ethical principles in the context of practice / Evaluation.

When conducting the case studies, emphasis will be placed on the application of ethical principles during the intervention, i.e. application of ethical questions:

- Why does the intervention need to be carried out?
- How were all factors contributing to the identity and comprehensive value of the subject evaluated?
- What are the intervention options to achieve a satisfactory result with minimal intervention in the subject?
- What impact will the intervention have on the preservation of factors contributing to the object's identity and comprehensive value?
- Is there enough information and skills to design and implement the intervention?
- What are the advantages and disadvantages of the individual intervention steps and how will I evaluate them during the intervention?
- Is the intended intervention the best use of resources and is it justifiable?
- Do the established intervention procedures need to be adapted or is it necessary to develop new ones?

- How will it affect any future intervention?
- Are future uses and locations of the subject taken into account, and appropriate recommendations made?
- Will all interventions be fully documented in accordance with known and accepted standards?
- Will the information in the documentation be available and understandable to others?
- How will the success of the intervention be assessed and how will feedback from the participants be obtained? [4]

### References

- [1] NEJEDLY, V. Restoration of artworks: A few notes on the use and content of the term. [online]. 2019. [quot. 2019-10-10]. Available from WWW: [http://www.artefakt.cz/dokumenty/V.konf/V.sbornik\\_6-11.pdf](http://www.artefakt.cz/dokumenty/V.konf/V.sbornik_6-11.pdf)
- [2] SLANSKY, B. *Technique of painting. Part II, exploration and restoration of paintings*. Prague: State publishers of beautiful literature, music and art, 361 pp., 1956
- [3] Association of Museums and Galleries of the Czech Republic. Documentary about the conservator-restorer profession. [online]. 2019. [quot. 2019-10-10]. Available from WWW: <https://www.cz-museums.cz/web/amg/zakladni-dokumenty/dokument-o-profesi-konzervatora-restauratora>
- [4] Association of Museums and Galleries of the Czech Republic. Documentary about the conservator-restorer profession. [online]. 2019. [quot. 2019-10-10]. Available from: <https://www.cz-museums.cz/UserFiles/file/komise/krp/kodex.pdf>

## ANALYSIS OF ASSESSMENT CENTER METHODS

*Silvia Hovancová*

**Catholic University in Ružomberok**

Hrabovská cesta 1A  
Ružomberok, 034 01 Slovakia  
+421 908 353 705  
s.kasinakova@gmail.com

**Abstract:** *The method of employee selection, known as the assessment center, has been used for a long time, but is currently gaining a deeper awareness. At present, we find that this method is not used in appropriate situations or is incorrectly applied. The assessment center method is used to select new employees or to verify existing employees for further development. The article analyzes the methods and tools for determining the suitability of the candidates for the selected place. The aim was to understand the methodology suitable for implementation. The article provides a basic overview of the usefulness of the assessment center method for increasing the efficiency of the company as a whole and of the job seeker as an individual.*

**Keywords:** *assessment center, methods, validity, observation*

### 1. Introduction

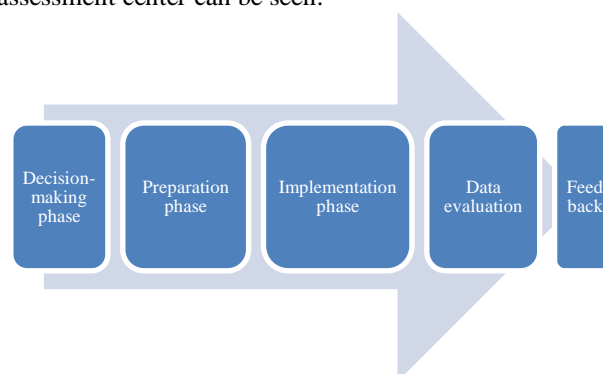
In the past, people realized that interviewing and asking questions is not enough to prove a suitable person at work, because everyone will claim their resistance to stress, but only practice can confirm the truth of such a statement. Assessment center method originated in the military area where after the First World War were selected officers of the German army according to the respective tasks. Americans used the assessment center method during World War II and society after 1945 [1]. In 1958, AT&T Michigan Bell applied assessment center methods in the economic field to the annual evaluation of candidates, developing the Early Identification Assessment Program (EIA), a special program applied within one day.

### 2. Assessment center

Over the years, the use of the assessment center method has been increasing not only as a tool for employee selection, but also to identify potential. This international enlargement has also affected Europe. According to Chadt and Pechová [2], the assessment center method is a tool for selecting employees to assess the current skills of candidates and to develop their skills in the future. However, the term assessment center is often associated with the concept of development center, which is similar, but the difference is that the development center deals with the development of candidates' personality. Assessment centers reveal current behavior as well as behavioral patterns commonly used by the candidate in various situations. On this basis, it can be said whether the candidate fits the position.

There are many questions whether the assessment center is a sufficiently valid method. Compared to other methods in the selection of candidates, the assessment center has a higher validity because all competencies of the candidates are assessed by several evaluators. However, validity cannot be expressed by an exact number due to different evaluators and methods. Therefore the assessment center method requires a high degree of preparation and implementation, which takes hours, sometimes even days [4].

In the picture no. 1, the procedure of creating an assessment center can be seen.



*Figure 1 Assessment center phases*

Pechová and Šišová [3] explain in their book that the assessment center method presents certain advantages but also disadvantages in the selection of job seekers. For this reason, assessment center needs to be carefully implemented to increase the validity of this method. The positive side is the versatility and complexity of the evaluation, as candidates are evaluated by several assessors in several situations. The advantages of assessment center include the duration where it is possible to assess changes in behavior over time. The assessment center method allows the candidates to be assessed at the same time and place in their interaction.

The disadvantages of the assessment center method include higher costs compared to other methods. Evaluators must spend a large amount of time to prepare and implement this method. When a higher position is filled, more time and a more demanding evaluation task are required to select the right employee. The selection of suitable staff requires a greater number of evaluators, who must use certain procedures for observation and reporting. Therefore it is difficult to manage the assessment center [5].

## 2.1 Assessment center methods

The assessment center method is not a single method, but includes a set of different methods.

*Table 1 Assessment center methods*

<i>Division of methods</i>	<i>Assessment center methods</i>
Individual methods	presentations, interview, moral dilemma, case studies, role-playing, knowledge exams and trade union exams
Group methods	monitoring performance, interpersonal behavior, cognitive characteristics, stress responses
Psychodiagnostic tests	performance tests, intelligence tests, personality questionnaires
Sociometric tests	classical sociometry, metaphorical sociometry, semantic selection test in sociometry

Individual methods can take place before all candidates or only before the evaluator. Direct attention is given to the candidate's characteristics, such as: stress resistance, expressive ability, communication skills, technical terminology, etc. Individual methods include a variety of moral dilemmas, role-playing, presentations, expert exams to identify skills and knowledges. Evaluators are often interested mainly in the process of solving individual tasks. Another individual method is an interview in the form of a standardized or partially standardized interview. Applicants can assert themselves differently in individual and group methods. The group method can be a model situation to determine intelligence, ability, knowledge. Group methods are also used to identify the ability to adapt in the social environment, the ability to communicate and promote their views. Compared to individual and group methods where candidates are observed by evaluators, psychodiagnostic tests are self-assessments. This compliance of self-knowledge and assessment by evaluators represents for us diagnostic information in the selection and development of candidates.

Psychodiagnostic tests measure a person's abilities, personality, and thought operations of a person. Among the best known performance tests are eg. Bourdon Test, Mirror Drawing, Intelligence Structure Test, Lucher test. The semantic selection test is projective test and very popular is the questionnaire Leary Interpersonal Diagnostics Test, FIRO B, Cattell's Personality Questionnaire, etc. Through sociometric methods we obtain the view of the applicants on themselves and other participants. Sociometry assesses interpersonal relationships and social attitudes in a group [6]. However, the most important method in the assessment center is observation.

## 2.2 Observation

Observation as one of the oldest psychological methods is known for its subjectivity, but the objectivity of this method can be achieved by a greater number of independent evaluators. The observations taking place in assessment center must follow certain rules, the important thing is that the situation is constant and the manipulation

of independent variables must not be missed. The observation is divided into three groups, nonverbal level, verbal level and actions. The observers should be well trained in observing and recording the results. In many cases, the evaluators are well trained, but still in the observation we find the perceptual mistakes of the observers often unconsciously. First of all, it is necessary to avoid the halo effect, ie the first impression. Another mistake is the effect of primarity, where, based on the first model situation, we overestimate the candidate in other situations. The central tendency concerns observers as well as evaluators, where we try to avoid extreme values and therefore we choose values closer to the center. In the attribution error, observers attribute the task to chance or to the outside environment [4].

## 3. Conclusion

The issue of personnel management represents an important element for the successful operation of the company. Time and financial investment in human resources ensures the success of the company, which is backed by the company's management and the relevant work team. Basic knowledge of the assessment center method is required to obtain good results. At present, however, we are confronted with the fact that companies do not meet the basic requirements in the selection process when developing this method. An important part is the exact adherence to the individual phases of the assessment center and the selection of suitable methods. The assessment center method is considered to be a demanding method in which the competences, the role of observers, the timetable, the feedback, etc. must be clearly defined. This method may also result in two suitable candidates for the job, or vice versa, neither candidate is a suitable candidate for the selected job. Such a finding is certainly better than if a company could pay in the future to fill a job position with inappropriate candidates. Based on the analysis we can say that the assessment center is a good method but mainly fair method of choosing suitable job seekers. The assessment center method better anticipates the performance and development of the future worker than the normal recruitment process. Managing and developing human resources has an important place in social work because the employee establishes relationships with co-workers and social service recipients.

## References

- [1] *Assessment center method*. 2019. 123test. Free psychological tests. Available online: <<https://www.123test.com/assessment-center-method/>>
- [2] CHADT, K. – PECHOVÁ, J. 2014. *Vzdělávání od průmyslového mistra k výrobnímu manažerovi*. Vyd. Praha: Press 21, 2014. ISBN 978-80-905181-6-2.
- [3] PECHOVÁ, J – ŠÍŠOVÁ, V. 2016. *Assessment Centrum. Moderní nástroje výběru zaměstnancu*. Vyd. Praha: Management Press, 2016. ISBN 978-80-7261-452-3, p. 27 – 68.
- [4] SLOVÁČKOVÁ, Z. – HORÁKOVÁ, P. – RENDOŠ, D. 2014. *Průvodce personální psychologií*. 1. vydanie. Vyd. Masarykova univerzita. 2014. ISBN 978-80-210-

6885-8. Available online: <[https://is.muni.cz/do/rect/el/estud/ff/js14/pers\\_psych/web/pages/07-assessment-centrum.html](https://is.muni.cz/do/rect/el/estud/ff/js14/pers_psych/web/pages/07-assessment-centrum.html)>

[5] TRIPATHI, Roma. 2016. *Assessment Centers: Benefits and Shortcomings*. International Journal of Emerging Research in Management & Techonology. Volume 5, Issue 2. ISN 2278-9359. Available online: <[https://www.researchgate.net/publication/303940100\\_Assessment\\_Centers\\_Benefits\\_and\\_Shortcomings](https://www.researchgate.net/publication/303940100_Assessment_Centers_Benefits_and_Shortcomings)>

[6] VÁLKOVÁ, P. 2009. *Návrh Assessment centra jako účinného nástroje výběru personálu ve firmě MOSER, a.s.* Brno: Vysoké učení technické v Brně, fakulta podnikatelská, 2009. 84 p. Vedoucí diplomové práce Ing. Zdeňka Konečná, Ph.D.



## Index of Author(s)

Adámik, Roman  
Antolová, Barbora  
Bajnarová, Marie  
Bališová, Jana  
Blašková, Martina  
Brožek, Katarzyna  
Broznanová Gregorová, Alžbeta  
Bubelíny, Oliver  
Burghart, Stephanie  
Čičvara, Michal  
Ďačová, Irina  
Danišová, Nikola  
Demjanovičová, Mária  
Doktorová, Dominika  
Duraj, Tomasz  
Faktorová, Danuša  
Greškovičová, Katarína  
Grešš Halasz, Beáta  
Hovancová, Silvia  
Hudáková, Anna  
Chlebanová, Lenka  
Chmelová, Daniela  
Kalivodová, Veronika  
Kaščáková, Mária  
Kobelová, Katarína  
Koch, Helge  
Koman, Gabriel  
Kršjaková, Zuzana  
Kubina, Milan  
Kubolek, Peter  
Legerská, Barbora  
Lipničanová, Sabina  
Longauerová, Romana  
Lukáčka, Peter  
Lukáčková, Zdenka  
Majerníková, Ludmila  
Mašát, Milan  
Mirdalíková, Ivana  
Munk, Rastislav  
Mydlová, Kristína  
Obročníková, Andrea  
Ondrejovič, Miroslav  
Parvi, Rafał  
Sakačová, Zuzana  
Semakhin, Andrey  
Schechowiz, Ralf  
Schlosserová, Zuzana  
Siekelová, Marika  
Smalik, Matej  
Soviár, Jakub  
Statkiene, Erika  
Štrbák Pandiová, Iveta  
Šulová, Michaela  
Šulyová, Dominika  
Tkáčová, Lubomíra  
Tumová, Dominika  
Tuzimek, Weronika  
Vancu, Eva  
Varmus, Michal  
Vojteková, Marta  
Weigold, Andrea

## Proceedings | Research Track

Copyright © 2019 CER Comparative European Research and the Authors.

Published in November, 2019 by Sciemcee Publishing, London.  
Proceedings document published in collaboration with SCIEEMCEE - Scientific  
Conference Platform.

The proceedings with all papers are available at [www.sciemcee.org](http://www.sciemcee.org).

**ISBN 978-1-9993071-5-8**

