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Ph.D. THESIS

CAREER DEVELOPMENT OF STUDENTS WHO HAVE CHOSEN HELPING PROFESSIONS IN THE 21ST CENTURY: CHARACTERISTICS, PREDICTORS AND INTERVENTION POSSIBILITIES

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CHAPTER I. THEORETICAL FRAMEWORK

1.1. Introduction

It is now undisputed that, in the 21st century, not only technological and economic changes can hardly be followed, but also human relationships, lifestyles and careers. Our careers have different characteristics than in the last century (Bierema, 1998). There is much more stimulus, more information dumping, and more opportunities for the labor market. High-intensity changes have also made individuals' career paths more complex and less traceable. Certain professions are becoming more and more specific, and individuals can access education and training almost anywhere geographically. Thus, in order to be able to find their way in an infinite range of opportunities, there is need for career orientation and career guidance for young people.

Nothing proves better the usefulness and need for career counseling among young people than the fact that university drop-out rates are very high, one of the reasons being the lack of career counseling. This is expressed by students leaving the program, i.e. they feel a great need for career orientation or career guidance (Csók et al., 2018).

Students who choose the helping profession are no different, that is, they have a high drop-out rate. In the academic year 2017-2018, 30% of first-year psychology students dropped out or changed profession according to data collected from the Department of Applied Psychology, Cluj-Napoca, Hungarian Line. Much of the research focuses on examining the phenomenon of burnout, which, as a mixture of overload and overwork, can force workers in the helping profession to leave. When examining burnout, it is popular to examine its antecedents and consequences (Köverová & Ráczová, 2017; Györffy, Birkás & Sándor, 2016), while less attention is paid to examining an individual's career development. Career development is an ongoing process that occurs in all areas of life. In other words, we develop in the community, in school, in our family, and the experiences we gain during our development shape our self. As a result, we create a lifestyle and step into a career called a job or a profession (Pietrofesa & Splete, 1975; Super, 1954). Career development means evolution and continuous activity during a person's career, which is shaped and determined by many personal, social, emotional and cognitive factors. Helping professionals are more likely to leave their careers or simply burn out during their career development. This can also be explained by the fact that they need to establish a personal relationship with the client during their work, which often causes them to become overly involved, which can impair the career development process. Studies that have focused on the career development of helping professionals have examined *nurses* (e.g. Chang, Chou, & Cheng, 2006; Donner & Wheeler, 2001), *physicians* (e.g. Stamm & Buddeberg-Fischer, 2011) and *social workers* (e.g. Rompf & Royse, 1994), a less researched field is the study of the career development of *psychology* and *special education* students.

Bearing in mind the enormous drop-out rate of psychologists and the fact that they also belong to the category of helping professionals, we considered that a study about psychology and special education students' career development would fill a gap. In addition, we found it useful to look at how we can help them in their career development by providing them with career counseling.

In order to take a comprehensive look at the topic, we first define the concepts of career and career development, and then introduce theories related to career, which consider career as a process. Subsequently, we place the students in time and space on the basis of theories, with an emphasis on helping career, including students in the field of psychology and special education. We then highlight the phenomenon of dropping out and its determinants. Finally, in the first

chapter we will talk about career counseling as preventer of drop-out and we will have a more detailed look into forms and effectiveness of career counseling.

Following the theoretical synthesis, the second chapter contains original research contributions. In the dissertation, we aimed to get a comprehensive picture of the characteristics and predictors that determine and influence a person's career development.

When examining career development, a central element is career adaptability, which is the guideline of Savickas's (2013) Career Construction Theory and is internationally accepted. Career adaptability is defined by Savickas (2005, p 51) as: "a psychosocial construct that denotes an individual's readiness and resources for coping with current and imminent vocational developmental tasks, occupational transitions, and personal traumas". Nevertheless, it is a less researched topic in Eastern Europe. Thus, considering the relevance of the dissertation, it contributes to the promotion of career adaptability concept and framework.

In the first study, we seek to answer the question of how the relationship between career adaptability and professional well-being is moderated by age, more specifically the career stage. In the next two studies (Study 2a and 2b), two tools will be adapted and validated, making career adaptability and career maturity measurement available to professionals.

In studies 3a and 3b, we examine predictors of career adaptability and the relationships of CA with perceived barriers and self-efficacy. Finally, in the last study, we attempt to increase students 'career adaptability through an online career intervention.

Overall, the dissertation revolves around the characteristics and determinants of young adults' career development through the prism of career adaptability, especially those who will enter the helping profession field. In addition, we are investigating the effectiveness of an online program that can help make the career development of students who choose the helping profession more balanced through the development of career adaptability, thus presumably contributing to the reduction of dropouts.

1.2.Relevance and Impact of the Research Topic

The career development of students who have chosen helping profession has not been examined so comprehensively and in depth. In addition, the topic of career adaptability is a less researched area in the context of Eastern Europe, so the dissertation definitely contributes to the enrichment of the topic of career development.

Career adaptability affects work and academic satisfaction, but moderating factors for this relationship are ambiguous. The aim of the first study is to investigate this relationship's moderators and mediators in a metaanalysis.

Only few instruments are available to professionals in their mother language related to career development. Therefore adapting and validating Career Maturity Inventory form C and Career Adapt-Abilities Scale extends the tools which can be used by career and school counselors.

The relationship between personality traits and career adaptability has also been researched (e.g .: Teixeira et al., 2012; van Vianen, Klehe, Koen & Dries, 2012), but the HEXACO personality test has not been examined. Study 3a. contributes to examining the six-dimensional personality test as a predictor of career adaptability.

The main goal of the Study 3b was to investigate wheter career adaptability predicts life satisfaction, and this relationship is mediated by perceived career barriers and coping efficacy. In this study the participants were students who have schosen helping profession, from Romania and

Hungary. The relevance of this study lies in examining how typical aspects of career development are presented in the Eastern European context.

In the last study (Study 4) an online career intervention program is testet among university students. The online platform is created specially for the study to develop students' career adaptability. In the 21st century's career counseling process tools need to be made available that keep pace with technological advances. In this sense, the existence and accessibility of online career related programs will slowly become natural.

From the above, it is outlined that the goal of the thesis is not to find out why students leave the university, but to identify the factors that shape and characterize their career development.

Investigating career adaptability has also come into focus because its existence provide the young adult with the ability to adapt appropriately to the situations and events that are constantly changing. The main goal of the dissertation is to promote conscious career construction among students, thereby indirectly preventing drop-out.

CHAPTER II. RESEARCH OBJECTIVES AND GENERAL METHODOLOGY

2.1. General Objectives

The general aim of the present thesis was to identify and summarize the determining and influencing factors of career adaptability among university students, with focus on to psychology and special education students

Our main aim is to gain a more comprehensive picture of the career development aspects and determinants of students choosing the helping profession through the prism of career adaptability. By gaining a better understanding of the drivers and characteristics of career development, we can help professionals' work (consultants, teachers, mental health professionals) more effectively. Last but not least, knowledge of the aspects and dynamics of career development can help to prevent university drop-outs. In addition, since we have been particularly focused on students choosing the helping profession, our findings can serve as a basis for prevention programs aimed at preventing drop-out as well as early burnout.

First of all, we looked at the relationship between career adaptability and satisfaction to see how these concepts relate to each other and what moderating factors influence the intensity of this relationship.

Secondly, we found it important to have a popular and internationally recognized tool which measures career adaptability and career maturity. To this end, the adaptation and validation of two devices are also objectives.

So for professionals to be able to adequately support the career development of university students, it is essential to uncover the predictive factors or characteristics that are most relevant to their career adaptability.

Last but not least, we are attempting to create an online tool that can stimulate users' career adaptability, this way putting the career counseling process online and/or simply complementing the traditional counseling process with an online tool.

2.2. Theoretical, Methodological and Practical Objectives of Research

The only constant concept in our careers is change itself. As age progresses, the individual undergoes some development that can be projected onto his or her career. This process of career development is shaped by both the individuals and the environmental factors. The ongoing restructuring of the world of training and work and the emergence of new challenges, trends and expectations during the university years are almost the most significant. With this in mind, a number of theoretical and methodological aims have been formulated concerning university students' career development. In order to achieve the aims, in Figure 5 we have presented the studies through which we have, more or less, accomplished them.

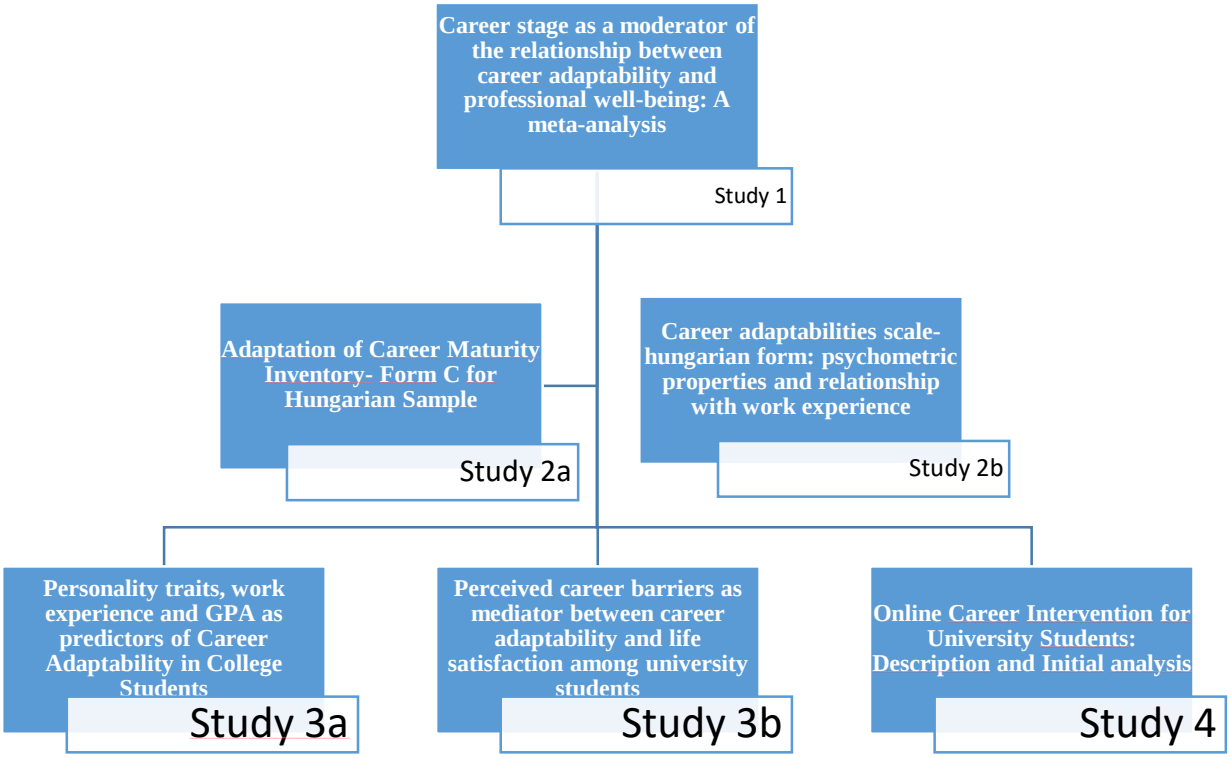


Figure 1. The Schematic structure of the Ph. D. project

Our general aim was to synthesize key career theories and characteristics through which university students' career development can be examined. In this way, we aim at exploring the career development aspects of those students who will or would like to work in the helping profession after completing a given training. This objective can be considered as a theoretical aim as several process-based career theories are synthesized. In addition to synthesizing, by choosing three theories (*Super's Life-Span, Life-Space Theory* (1980), *Social Cognitive Career Theory* (Lent, Brown, & Hackett, 1994, 2000), *Career Construction Theory*, Savickas, (2013)), we try to determine the factors that may be essential in examining the career development of a university student. Emphasis is placed on students who have chosen the helping profession. In addition, theories are supplemented with psychological and demographic characteristics that play an important role in the individual's career development.

In the first study, we attempt to examine the relationship between career adaptability and professional well-being, and the factors that moderate and mediate it. All this is examined in a meta-analysis to ensure that the results are reliable and valid.

In the second study, two tools that measure career maturity and career adaptability are adapted. By adapting and validating the questionnaires, we enrich the range of tools available in Hungarian and help the work of professionals. It is a contribution to the work of professionals with methodologically relevant and easy-to-use tools.

The third study examines the personality and cognitive factors that may predict career adaptability. In addition, we were also interested in how the relationship between career adaptability and satisfaction is affected by perceived barriers and career decision-making self-efficacy. With these aims, we would contribute to the complementation of theories, and, since we

are looking into the Eastern European context, not least, we could confirm the validity of the theories in this area.

In the last study, we aim at examining the potential impact of an online tool on career adaptability and satisfaction. In this study, we intended to make the tools and methods used in current career guidance available to young people on an online platform. Using the online program is expected to increase the career adaptability and satisfaction of users. From a practical point of view, it is very important to achieve this aim, as the number of accessible and reliable tools is very small, so the existence and safe use of the online platform can greatly assist the work of professionals both directly and indirectly.

Overall, each study contributes partially to the achievement of the theoretical aims, as each part seeks to synthesize the theoretical background. In addition, from a methodological point of view, the validation and adaptation of the questionnaires can be highlighted. Finally, from a practical point of view, each study has practical relevance as well, since all the results obtained and the end products (tools, programs) can be used or even applied by professionals.

CHAPTER III. ORIGINAL RESEARCH CONTRIBUTIONS

3.1. Study I. Career Stage as a Moderator of The Relationship Between Career Adaptability and Professional Well-Being: A Meta-Analysis [1]

3.1.1. Introduction

The concept of career adaptability (CA) can also be seen as an alternative to career maturity (Super & Knasel, 1981), since its structure and meaning are similar to the sub-units of CA: concern, curiosity, confidence and control, while the sub-units of career maturity are: concerns, curiosity, confidence and consultation (asking for advice). However, career adaptability has become more complex and up to date in today's career counseling. In the last few decades, dozens of studies have examined the validity and widespread usability of a scale for career adaptability (Savickas & Porfeli, 2012; Portfolio & Savickas, 2012; Dries et al., 2012; Han et al., 2012; Maree, 2012; Tak, 2012). The increase in CA studies is due to the work of Savickas (1997, 2005, 2013), and there is also a vital research by Savickas and Portfeli (2012), which shows that uncertain and confused career paths have become more common in the confusing labor market, so we need to pay attention to the variable character of a person's career.

Several meta-analyses were performed to examine the dimensions of career adaptability (Rudolph, Lavigne, Katz, & Zacher, 2017; Rudolf, Lavigne, & Zacher, 2017) where a conceptual framework based on the career construction model of adaptation (Savickas, 2005, 2013; Savickas & Porfeli, 2012) was tested.

Savickas' Career Construction Theory (CCT) (1997, 2005) serves as a model for understanding professional behavior in different lifecycles. It incorporates concepts and elements of such great theories as Super's rainbow model (1990) or Holland's theory (1997). Upgrading and updating the previously recognized theories, it presents three main elements within the CCT: professional personality, life themes and career adaptability (which is intended to examine and understand coping processes). So, CA answers how our professional behavior evolves, i.e. how a person builds their career (Savickas, 2005). Essentially, CA is a source of individual resources that are needed to cope with current and anticipated tasks, transitions, and traumas that individuals face in their profession. Essentially, we need the resources determined by career adaptability in situations where our social integration is changed to a greater or lesser extent (Savickas & Porfeli, 2012, p. 662).

Savickas's (2002, 2005) CCT's theory sets up an adaptation sequence that begins with adaptive readiness, followed by adaptive resources, then adaptive responses, and finally, with the results of adaptation. The above figure (Figure 6.) shows the mode in which adaptation process is structured and the location of certain variables in the adaptation cycle. It can be clearly seen in the figure that adaptation readiness essentially involves cognitive abilities, personality traits, self-esteem, self-evaluation and a tendency towards positive attitude. Thus, the source of adaptation is nothing but the willingness and openness of the individual to change. Adaptive resource is the ability to adapt to a career, which is the ability of an individual to cope with current or future changes (Savickas & Portfeli, 2012). Adaptation responses lie in career planning and exploration and self-efficacy, while adaptation results may include career identity, commitment, subjective well-being, work related stress, commitment to achievement, and performance, which is of paramount importance for our study, career, job and school satisfaction. In our meta-analysis, we have also included academic satisfaction here, as it also measures the satisfaction of the learning

community in a given learning environment, only among university students or college students (Chen & Lo, 2012).

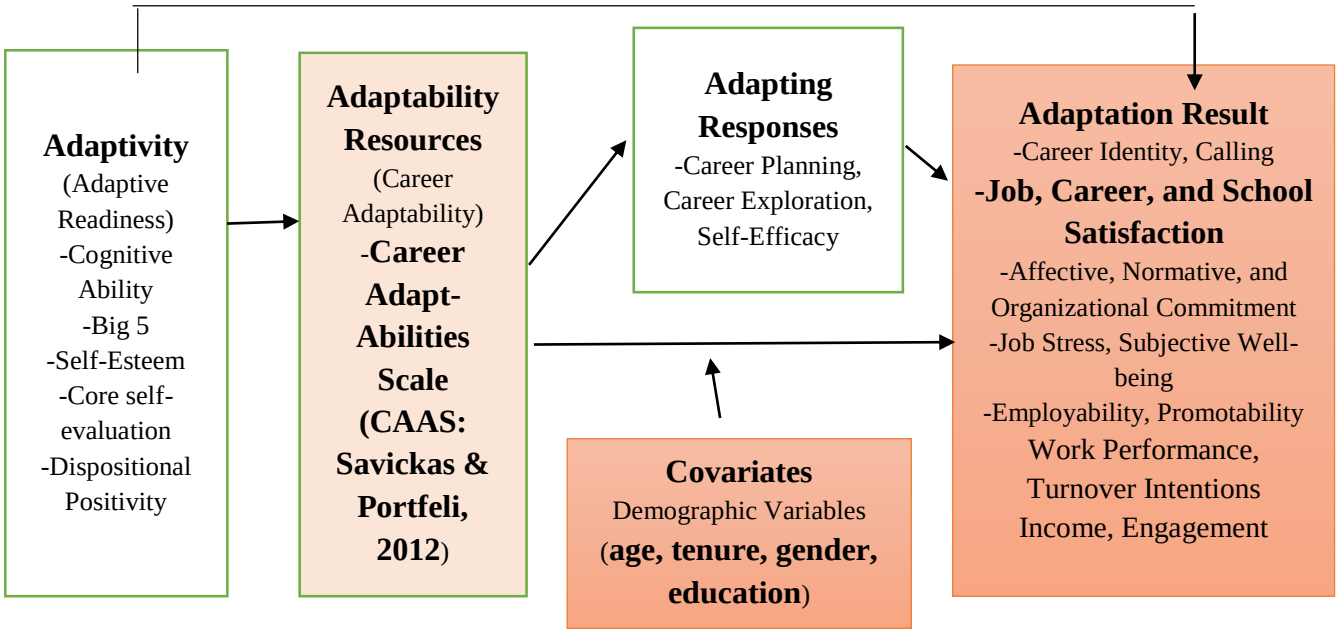


Figure 2. Conceptual framework based on the career construction model of adaptation (Savickas, 2005; Savickas & Portfeli, 2012; Savickas et al., 2009 in: Rudolph et al., 2017)

In the above figure (Figure 6.), we highlighted the variables that were researched in our study, i.e. those that are relevant to our meta-analysis. Thus, it is more transparent that in our study we examine how career adaptability (CA) as a source of adaptation is influenced by demographic variables concerning professional satisfaction (job satisfaction, career and school satisfaction, academic satisfaction).

Based on the results, Johnston's (2018) comprehensive research concluded that resources for adaptability are indeed psychosocial resources that contribute to the positive transformation and personal functioning of teenagers, young adults, adults and older workers.

What is relevant to our study is satisfaction, more precisely, career, work, school and university satisfaction as measured in the study papers. These four types of satisfaction are discussed below as the common concept of professional well-being.

Career Adapt-Abilities (4c), as an extremely important set of individual strengths, affects many work or career-related variables and outcomes. The degree of this effect may vary from mild to strong. The following variables may be affected by CA: commitment to work, job satisfaction, career anxiety, successful transitions, stress or even length of employment (eg, Brown, Bimrose, Barnes, & Hughes, 2012; Rossier, Zecca, Stauffer, Maggiori), & Dauwalder, 2012).

Job satisfaction can be defined as an attitude that includes an emotional and cognitive evaluation of the work performed and working conditions (Brief & Weiss, 2002). At the subjective judgment of the success of the career, job satisfaction plays a major role besides the payment received (Judge et al., 1995; Guan et al. 2015). Career satisfaction is also a predictor of career

success, as in this case the individual evaluates the development and progress achieved during his career (Greenhaus, Parasuraman, & Wormley, 1990)

Academic satisfaction is also a subjective evaluation, only in this case evaluation concerns learning experience. This state of satisfaction is also referred to as a psychological state, which results from the reinforcement of students' expectations regarding their academic reality (Chen & Lo, 2012). Student satisfaction is similar to that of workers, but here the evaluation of universities and colleagues is also mentioned (Wiers-Jenssen, Stensaker & Grogaard, 2002: 185). When we talk about academic or school satisfaction, classmates, and fellow students are evaluated, while in the case of employees, the colleagues.

Besides being an important part of overall quality of life (Rode, 2004), job satisfaction is also a fundamental part of professional well-being (Maggiori et al., 2013). Career satisfaction, academic satisfaction, and student satisfaction are also a key component of the quality of life we feel at professional level. Thus, academic and career satisfaction can also be seen as a subjective satisfaction indicator in the category of professional well-being.

Several studies have examined the relationship between different levels of satisfaction and CA (eg, Chan & May, 2015; Celik & Strome, 2017; Wilkins et al., 2014). The most striking conclusion from the observed and reported data is that there is a positive relationship between CA and professional well-being (PW). In fact, looking more closely at the nature of the relationship, we can say that CA positively predicts career satisfaction (Chan et al., 2016; Chan & Mai, 2015; Guan et al., 2015), CA positively correlates with academic satisfaction (Celik & Strome, 2017; Duffy, Douglass & Autin, 2015) and job satisfaction also positively correlates with CA (Fiori, Bollman & Rossier, 2015; Maggiori et al., 2013). So, overall, career adaptability and professional well-being positively correlate with each other.

All in all, we have come to the conclusion that it would be worth examining the strength of the relationship between professional well-being and CA, and to what extent and how the career sections are moderated.

The question may arise why it is important to explore the dynamics of the relationship between CA and PW. Firstly, we would like to get an answer concerning the extent that the strength of the relationship between CA and PW can vary. To do this, we can use existing factors (age, gender, culture, level of training) to determine to what extent they reduce or increase the strength of the examined constructs.

Secondly, it is important to explore the dynamics of the relationship between CA and PW, because the more we learn about how our career adaptability affects our professional well-being, the more we will be able to influence and develop its scale professionally. So, depending on whether CA may have less or greater influence on PW in relation with certain variables, we might be able to influence those variables. Moreover, awareness of moderating factors may be useful when, for example, we want to increase satisfaction, well-being, or improve career adaptability.

An earlier study showed that the career stage had a significant moderating effect on the relationship between performance and satisfaction. The result was that the career stage has an important moderating role here, too, as in the early stages there is a decline in satisfaction, while in the middle and late career stages there is an increase (Gould & Hawkins, 1978). In another study, the results showed that a career stage within a profession has an important moderating effect on job satisfaction, since satisfaction increased with age (Stumpf & Rabinowitz, 1981).

Since, career adaptability is determined by age, job tenure and gender (Savickas, 2005; Savickas & Portfeli, 2012; Savickas et al., 2009), in addition to examining their moderating effect,

as career stages have played an important role in many satisfaction surveys the question has come up whether relationship between career adaptability and professional well-being can be influenced by the career phase. In addition, due to the frequent changes that are still characteristic of career stages, we considered it worthwhile to examine its possible moderating effect.

3.1.2. Objectives

Career adaptability affects professional well-being, but moderating factors for this relationship are not clear. The aim of our study is to collect research into the relationship between career adaptability and professional well-being (PW). Summarizing these studies, the following goals have been formulated:

1. Estimation of the total effect size between career adaptability and professional well-being, besides estimating effect size between career adaptability's subscales (concern, confidence, control, curiosity) and professional well-being.
2. Identification of possible moderator variables of effect sizes that could explain the relationship between CA and PW (career status, cultures).
3. To examine the moderating effect of career stage on the relationship between career adaptability and professional well-being.

3.1.3. Methods

3.1.3.1. Literature search

Studies have been identified through a systematic search of articles in English, we conducted an initial search using ScienceDirect, ProQuest Dissertation and Thesis, PsycInfo, PsycArticles electronic databases. Search items included the following combination of keywords: career adaptability or satisfaction or career satisfaction or job satisfaction or school satisfaction or academic satisfaction or professional well-being or career success. We used as a starting point Savickas's conceptual framework based on the career construction model of adaptation (Savickas, 2005, 2013; Savickas & Portfeli, 2012), then we decided that we would include only those studies which measured career adaptability with the CAAS by Savickas and Portfeli (2012). That is why we included studies only after 2012 and our search ended in May, 2018.

3.1.3.2. Selection of studies

The inclusion criteria were: (a) studies written in English; (b) studies investigating the association between career adaptability and job, career, academic or school satisfaction; (c) studies where career adaptability was measured with CAAS (Career Adapt-Abilities Scale, Savickas & Portfeli, 2012), so another criterion was that the studies had to be published after 2012; (d) studies where job, career, academic or school satisfaction are measured; (e) the study provides sufficient data regarding the effect size.

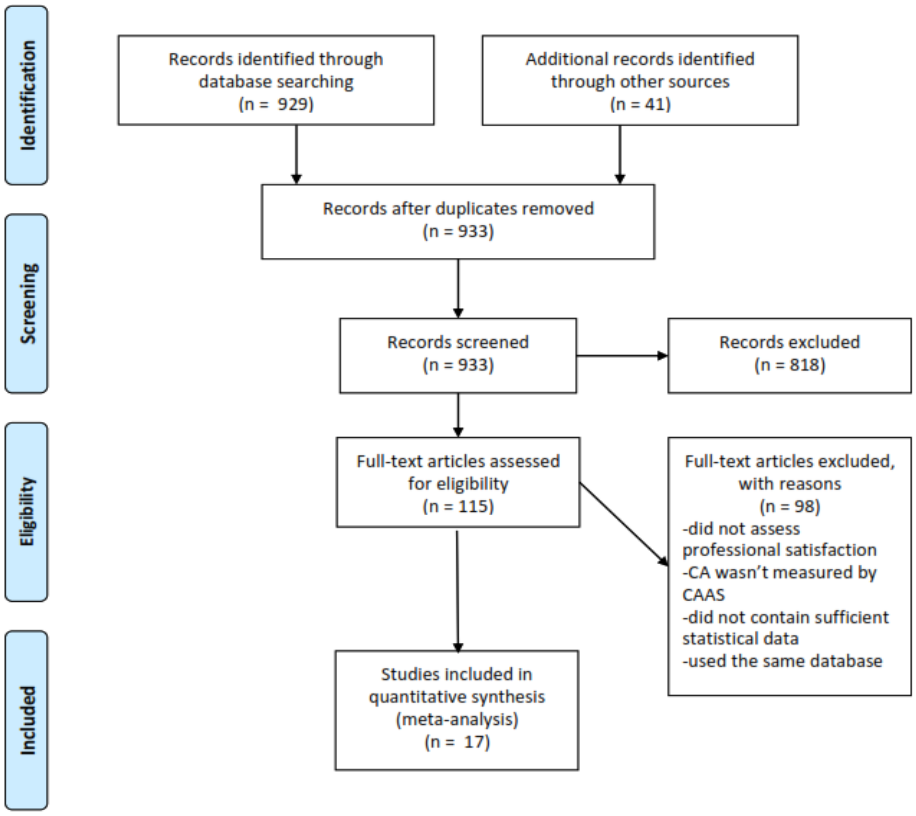


Figure 3. *The PRISMA diagram*

3.1.3.3. Study coding

The following study characteristics were coded: identification data (author, year of publication), sample size, mean age of participants, gender distribution (the percentage of male participants), data needed for computing an effect size (all the included studies reported the correlational coefficient between career adaptability and professional well-being), career stage (early, middle, late), career status (employee or student), country where the study was conducted (therefore we coded the culture: Western or Eastern), educational level (the percentage of BsC level) and job tenure (in years). In every study, career adaptability was measured by CAAS, and professional well-being by job, career, and school satisfaction (see Table 1.).

Table 1
Coding categories for the investigated variables

Domain	Measure
Career Adaptability	CAAS
Job, career and school satisfaction	CSS, JS, MSQ,RFS, AS, SS1, SS2, JS2

Notes. CAAS= Career Adapt-Abilities Scale (Savickas & Portfeli, 2012); CSS=Career Satisfaction Scale (Greenhaus, Parasuraman, & Wormley, 1990); JS=Job Satisfaction- Michigan Organizational Assessment Questionnaire (Camman, Fichman, Jenkins, & Klesh, 1983); MSQ=Job Satisfaction - Minnesota Satisfaction Questionnaire (Weiss, Dawis, England, & Lofquist, 1967); RFS=Retention factor satisfaction (Döckel, 2003); AS=Academic Satisfaction (Lent, Singley, Sheu, Schmidt, & Schmidt, 2007); SS=My life as a student (Soresi & Nota, 2003); SS2=Students Satisfaction (Ingusci et al., 2016); JS2=Job satisfaction (Judge, Locke, Durham, &Kluger, 1998)

Two studies did not report the average age of their sample, only 9 studies reported the sample's average job tenure and only 12 studies reported the academic level (the percentage of BsC level). To determine the career stage, we made three categories regarding the age: early career stage (up to 29 years), mid career stage (30-39), and late career stage (40+ years). In 13 studies we succeeded to identify at least one stage in percentage.

In all of the studies, we found data on the relationship between professional well-being and CA, in 15 studies we found the correlation coefficient for the CAAS sub-units (concern, confidence, control, curiosity), while in two studies only the sum and professional well-being correlation values were presented. This is only relevant if we want to examine the moderating factors for the sub-units.

3.1.3.4. Data analysis

Data analysis was conducted using the Comprehensive Meta-Analysis software (version 2. and 3.) (Borenstein, Hedges, Higgins, & Rothstein, 2009). We used correlation coefficients (r), in order to calculate the mean effect size, which were reported in all the included studies and which can serve as effect size estimates (Borenstein et al., 2009). Interpretation of results was based on Cohen's guidelines: an effect sizes of r =-+.10 to -+.29 indicates small (weak), r=-+.30 to -+.49 indicates medium (moderate) and r=-+.5 to -+.1 indicates large (strong) effect sizes (Cohen, 1988).

For heterogeneity testing of the effect sizes Q and I2 statistics was used. Q statistics test/show whether heterogeneity is statistically significant, with the null hypothesis that all studies share a common effect size (Borenstein et al., 2006). For publication bias Fail-safe N was used (Rosenthal, 1991).

3.1.4. Results

3.1.4.1. Study characteristics

To estimate the combined/overall effect of career adaptability on professional satisfaction we obtained 17 effect sizes from the 17 included studies, but for the analysis of differential association between subscales (concern, confidence, control, curiosity) and professional well-being we had data only from 15 studies. The studies included 11236 high school, college students and employees and unemployed, with mean ages between 16.15-46.67 years. Across the studies the gender distribution seems equal, the mean percent of men is 51.16%. Among the studies, there is a great variance regarding the combination of the measure construct. The sample of the studies does not represent mostly westernized countries; more than one third of the studies was conducted in Asian countries.

3.1.4.2. Mean effect size analysis

Combined effect sizes of career adaptability were calculated using correlational coefficients. The overall effect sizes of their association was medium and significant, r=.30, p=.000 (95% CI: .25-.36). The heterogeneity was high Q (16) =149,25, p<.000. The value of the I2-statistics shows that 89 % of the observed variance is due to real differences in effect sizes. The high resolution plot in Figure 8. comprises the individual effect size values and 95% CI.

To investigate the subscales association with professional well-being we calculated separate effect sizes to the concern, confidence, control and curiosity subscales as well (see Table 3).

Table 2
Effect sizes for career adaptability and its subscales

Adaptability Resource	Adaptation results	k	r	CI	Q	p	I2
concern	Professional well-being	15	.32***	[.25-.38]	155.93	<.000	91.02
confidence	Professional well-being	15	.31***	[.26-.36]	96.87	<.000	85.54
control	Professional well-being	15	.30***	[.25-.36]	105.77	<.000	86.76
curiosity	Professional well-being	15	.28***	[.22-.35]	143.53	<.000	90.24
Career Adaptability	Professional well-being	17	.30***	[25-.36]	149.25	<.000	89.00

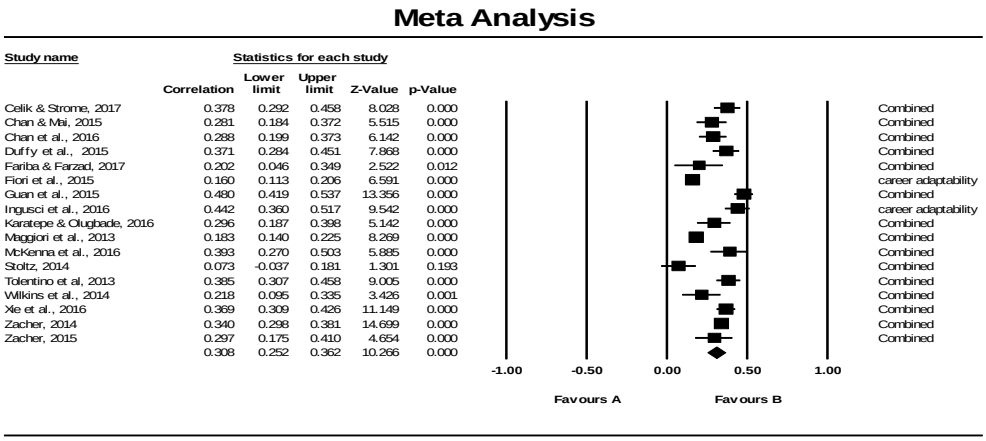


Figure 4. Effect sizes and corresponding forest plot

3.1.4.3. Moderator analysis and meta regression

We conducted moderator analysis in order to investigate whether the moderators are able to explain the high heterogeneity. We were also curious whether the effect size increased or decreased in relation with career status and culture. We examined whether the effect of career

adaptability on professional well-being varies in accordance with the different variables: career status (student, employee), culture (western, eastern)

First of all, we performed a moderator analysis with the categorical variable: career status, which did not prove to be significant (Table 4.). We also analyzed whether culture is a categorical variable (eastern vs. western) as a moderator, that moderator was not significant either (p=.284).

Table 3
Effect sizes for the moderator categories

Moderator	Category	k	R	CI	Qb	p
Career Status	Employee	12	.30	[.23-.36]	1.09	.29
	Student	4	.36	[.27-43]		
Culture	Eastern	7	.36	[.20-.48]	1.14	.28
	Western	8	.26	[.16-.44]		

We also did meta-regression in order to investigate whether the continuous variables have a moderating effect on the relationship of career adaptability and professional well-being.

Results of meta-regression analyses indicate that age (Q=149.22, df=14, p=.000), career stage (early in %) (Q=60.21, df=10, p=.000), career stage (middle %) (Q=49.05, df=6, p=.000), career stage (late in %) (Q=62.79, df=11, p=.000), education level (Bsc in %) (Q=28.28, df=10, p=.001) and job tenure (in years) (Q=39.94, df=8, p=.000) were significant predictors of effect size.

Figure 9.a

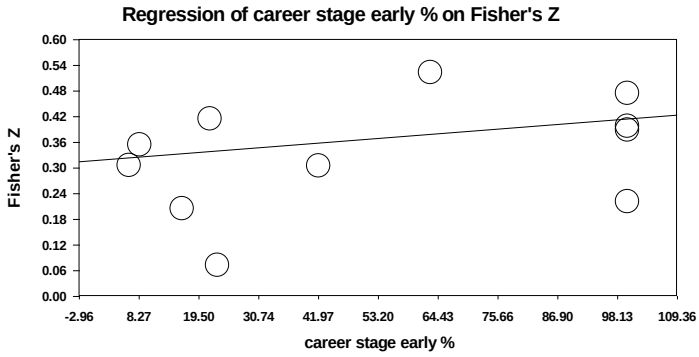


Figure 9.b

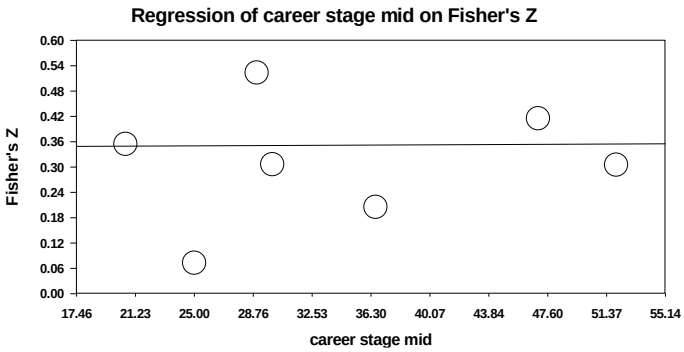


Figure 9.c

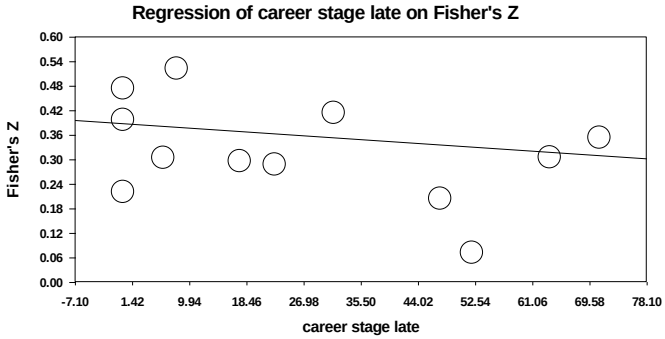


Figure 9.d

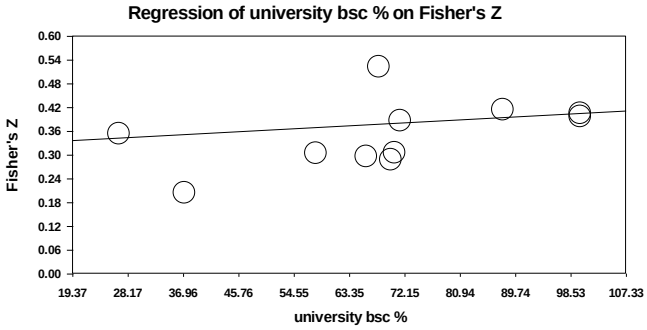


Figure 9.e

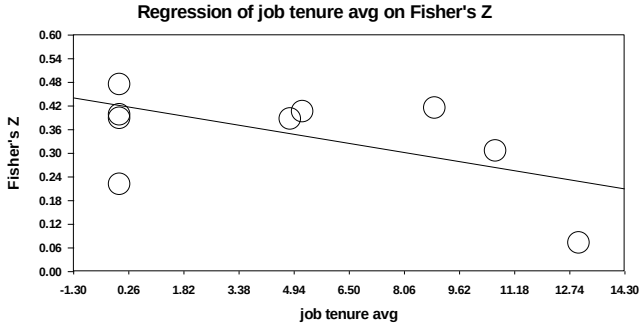


Figure 9.f

Figure 5. a-f Significant Interaction Terms of Career Adaptability Professional Well-being Relationship as moderated by Age (9.a), Early Career Stage (9.b), Mid Career Stage (9.c), Late Career Stage (9.d), Education Level (9.e) and Job Tenure (9.f).

3.1.4.4. Publication bias

In order to investigate the presence of publication bias, in the first place, we visually inspected the funnel plot (Figure 10.), which showed a little asymmetry. Conforming to Rosenthal's fail-safe N procedure, 3928 studies would be needed in order that the p value should become nonsignificant. The trim-and-fill procedure showed no missing studies. It is important to note that Eger's regression intercept was not significant (p=.56, two tailed) suggesting that smaller studies were not overrepresented.

3.2.5. Discussion and Conclusions

By developing career adaptability, the professional well-being of students and employees can be increased, thus reducing unjustified job changes and dropouts.

The purpose of our meta-analysis was to examine the impact of career adaptation on professional well-being (job satisfaction, career and school satisfaction, and academic satisfaction). The results show that the extent of the effect between the two variables is medium and positive (r = .30). In addition, we have also looked at the relationship between career sub-scales and professional well-being. The results showed that, apart from the curiosity sub-scale, where there is a weak relationship, concern, confidence and control sub-scales are medium and positive for professional well-being as well. These results support the results of previous studies (Zacher, 2015; Zacher, 2014), and even suggest that job satisfaction, career and school satisfaction and academic satisfaction can be referred to as professional well-being, as all four are constructs expressing satisfaction during different stages of our career.

When we examined the moderating effect of categorical variables on the relationship between career adaptability and professional well-being, employee status (employee or student) did not prove to be a moderating factor. One explanation for this, might be that there were fewer studies (only 4) in which the participants were students than those with employee status (12 studies). On the other hand, the characteristics of career stages are not only determined by age, but also by their role and job tenure in the given work. As a result, in one of the studies where the satisfaction of doctors was examined in different career stages, the result was that the participants were the most dissatisfied in the early and middle stages (Dyrbye et al., 2013).

Since all the data were available, we examined whether culture (Eastern and Western) could moderate the relationship between CA and PW. Our results showed that culture has no moderating effect between the two variables, but based on the data it can be said that the relationship between CA and PW is somewhat lower than in Western society. The non-significant difference was expected from the fact that today CAAS is independent from culture (Savickas & Portfeli, 2012), so, this result is not surprising.

The interpretation of the results of regression analysis seemed awkward, as few studies examined the moderating effect of career stage on the relationship between career adaptability and professional well-being. Figure 4.a shows that the relationship between CA and PW decreases as the average age increases. In Stumpf & Rabinowitz's (1981) study, only job satisfaction increased with age. However, our results can be explained by the fact that theories explaining career stages (Super, 1990; Hall, 1978) define a less varied and challenging task as the age progresses, so even if there is adaptability, there is no area where it could be exploited. Thus, the relationship between the two factors is weakened. Figure 9.b shows the percentage of early career participants on the

horizontal axis. This is the career stage, where the individuals' abilities are discovered, where they can make job changes more often and they develop the most, in terms of their career (Super, 1957, 1990). So it is not surprising that the relationship between CA and PW increases in case of younger people and individuals in their early-career stages. The same growing, albeit milder, trend is seen for middle career stage (Figure 9.c), too; growth is less spectacular, probably because there are fewer challenges at this stage, but enough to moderate the relationship between CA and PW so as to stimulate growth.

Figure 9.d shows the moderating effect of the late career stage on the relationship between CA and PW. We can see that the greater the number of participants present from the late stage, the more the strength of the relationship is reduced.

Analyzing one of the decisive factors of the career stage, we have come to the conclusion that the relationship between CA and PW is reduced by job tenure which can also be explained by the fact that the more time a person spends at a given workplace, the less challenging the job is for him/her. So adaptability is not updated and the variables that we consider relevant fade out. However, in order to support this conclusion, it is recommended to study papers where the exact job would be specified in addition to job tenure, as job tenure does not mean that the job cannot change within a given company.

All in all, we have achieved results that are well supported by career stage theories, as in the course of our career our tasks can simplify and become less diversified, and therefore not meaningful to the challenge. However, the older age group, i.e. people in the late career stage, is, of course, less able to invest energy. In addition, we would suggest a study to examine the impact of career stages with a more detailed division, as age can distort, considering that there are more and more frequent job changes, career changes, and the age of career start-ups is also changeable, it can happen either in the early stage or in the middle stage.

3.2. Study 2 Adaptation And Validation of Career Maturity Inventory-Form C and Career Adapt-Abilities Scale For Hungarian Sample

There are only a few instruments related to career among the Hungarian sample. Moreover, instruments that assess career maturity and career adaptability are not available in Hungarian language. That is why the main purpose of the study (Study 2a) was to translate and adapt Career Maturity Inventory form C for Hungarian students from Transylvania. In addition, the effects of gender and age on career maturity were examined.

3.2.1. Study 2a. Adaptation Of Career Maturity Inventory-Form C For Hungarian Sample Living In Transylvania[2]

3.2.1.1. Introduction

Career maturity has been an important construct in vocational development theory and practice. The Career Maturity Inventory (CMI) was constructed in 1973 with a model of career maturity proposed by Crites. In 1978, he revised the test to provide a more specific diagnosis (Crites, 1978). The CMI was revised again in 1995 in order to be made more user friendly (Crites & Savickas, 1996), and in 2011 Savickas and Portfeli (2011) developed the CMI into Form C, creating an adaptability form, which applies aspects from Savickas' (2005) career construction theory. Being career mature means that an individual is able to accomplish the tasks that are appropriate for his or her age and stage of development (Brown & Lent, 2005). Career maturity can be conceived as the extent to which an individual has acquired the necessary knowledge and skills to make a realistic career choice. An individual's readiness to make a well-informed, age-appropriate career decision and cope with career development tasks (Savickas, 1984) is essential.

The main purpose of this study was to adapt the Career Maturity Inventory-Form C (CMI-C) for Hungarian high school and university students from Transylvania. The novelty of the study was the fact, that the inventory was also applied to university students. The instrument is widely used among high school students. According to data collected from National Alliance of Student Organizations in Romania (ANOSR, Alianța Națională a Organizațiilor Studențești din România), in 2014, 41% of university students quit their studies before graduating because they thought the specialization was not suitable for them. Therefore, the immature attitude towards career choice is overly observed in universities, too.

3.2.1.2. Materials and methods

3.2.1.2.1. Participants

691 students participated in the study, 491 of which were university students (71%) and 200 high school students (29%). Gender distribution of the sample was 203 males (29.4%) and 488 females (70.6%). Age of the participants ranged from 15 to 26 years (M=19.38 SD=2.05). All participants were Hungarian students from Transylvania.

This study was published: Veres, A., Farcas, Zs, Petric, E. & Szamosközi, I. (2017, August 24-30). Adaptation of Career Maturity Inventory – Form C for Hungarian Sample Living in Transylvania, In A. Editor, & B. Editor. *4th International Multidisciplinary Scientific Conference on Social Sciences and Arts SGEM 2017*. 4th International Multidisciplinary Scientific Conference on Social Sciences & Arts SGEM: Section Psychology and Psichiatry, Bulgaria (19-26). STEF92 TECHNOLOGY Ltd

3.2.1.2.2. Measures

Demographic data form

Demographic data (age, gender, location, school profile), information regarding parents' highest educational degree, experience at work and academic achievement (latest high school score, Baccalaureate score or GPA) were collected based on the Demographic data form.

Career Maturity Inventory Form C

In order to collect information about career maturity, students filled out the Career Maturity Inventory Form C revised by Savickas and Portfeli (2011). CMI Form C consists of 24 statements about choosing the kind of work or job one will probably do when they finish school or university. The students had to indicate whether or not they agreed with the statements. The instrument is made up of four subscales, each consisting of 6 statements, and produces five different scores:

- Concern (1, 5, 9, 13, 17, 21): the extent to which an individual is oriented towards and involved in the process of making career decisions. The first step in the career decision-making process is to become aware of the choices that one must make in the immediate and intermediate future.
- Curiosity (2, 6, 10, 14, 18, 22): extent to which an individual explores the world of work and seeks information about occupations and their requirements.
- Confidence (3, 7, 11, 15, 19, 23): extent to which an individual has faith in her or his ability to make wise career decisions and realistic occupational choices.
- Consultation (4, 8, 12, 16, 20, 24): extent to which an individual seeks advice from others in making career decisions and occupational choices.
- CCC score for career maturity is based on the 18 items of the concern, curiosity and confidence scale.

3.2.1.2.3. Procedure

The main purpose of the study was to establish the aspect validity and analyze the reliability and construct validity of CMI-C on Hungarian sample of Transylvania. After the translations and modifications made in the inventory, university students filled out the CMI-C voluntarily before the seminars; the assessment was paper-pencil. High school students also filled out the inventory voluntarily, but they received it on an online platform. We tested the psychometric properties of the instrument, calculating internal consistency, evaluating descriptive analysis and empirical testing of the construct's a fit to the theoretical model. Data was processed in SPSS and Amos 18.

3.2.1.3. Results

Face Validity

Establishing the aspect validity of CMI-C means that our adopted inventory will measure the same construct as it appears in the original English form and it also refers to the relevance of the inventory as it appears to participants (Holden, 2010). Face validity being an important feature of any psychological or educational test (Nevo, 1985), we covered the Guidelines for Cross-Cultural Adaptation Process as we followed the 5 well defined stages (Beaton, Bombardier, Guillemin, & Ferraz, 2000). Firstly, two independent bilingual translators made the Hungarian version with a report, during the first synthesis we made some changes and resolved the discrepancies. After the back translation, a bilingual psychologist and

an expert psychologist reached consensus on ambiguities. Finally, a pre-final version was tested in a pilot study (N=150).

Construct validity

We used hierarchical Confirmatory Factor Analysis (CFA) with item loadings on concern, consultation, curiosity and confidence and the four construct loadings on readiness. This model was created with precaution (Savickas & Portfeli, 2011), that is why we tested, whether the Transylvanian form in Hungarian fits this model, therefore it is valid to use. After running the CFA, two items were excluded from the concern scale because 2 items demonstrated insufficient loadings (e.g.>.2). Similar results have emerged in the previous study regarding control or consultant scale. Despite the fact that Consultant's construct factor loading is lower (.32), it can be useful, because high scores on the consultation scale mean that the individual consults family and friends about career choices, in an interdependent rational style. Low scores mean that the individual prefers to make career choices in an independent relational style. The hierarchical model was recomputed lacking the items with weak loadings and the resulting model demonstrated adequate fitness (goodness-of-fit index [GFI]=0.91; standardized root mean square residual [SRMR]=.023; root mean square error of approximation [RMSEA]=.058).

Originally, the CMI Form C was made to measure readiness. Therefore readiness was measured by four main items: concern, curiosity, confidence and control. To investigate construct validity of CMI, we used CFA with items loading on concern, curiosity, confidence or control and the four construct loading on readiness (Figure 11.).

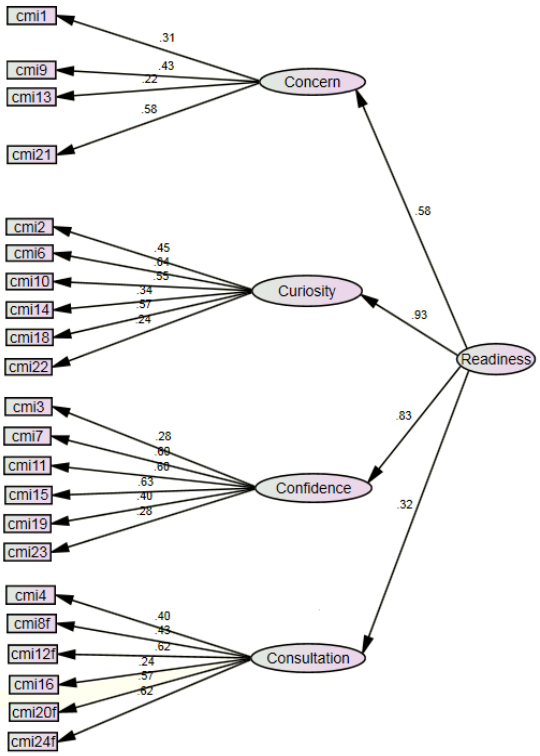


Figure 6. Measurement model of concern, control, curiosity, and confidence

Descriptive characteristics and reliability of the CMI-C

In order to detect the correlations between the scales, the Pearson correlation analysis was conducted. We found significant correlation between every subscale. CCC (Readiness) correlated highly with concern (.53), curiosity (.85) and confidence (.86), which supports the 3 subscale format of the inventory (Table 5.).

Coefficient alpha for the CCC (Concern, Curiosity and Confidence, 16 items) was .74. The subscales internal consistency analysis ranged from weak to good: concern attained Cronbach's alpha of .51, consultation .57, curiosity .65, and confidence .66. Acceptable correlation coefficient (r=.76) deriving from the split-half method also confirms the reliability of the CCC (16 items).

Table 4
Item and Scale Means and Standard Deviations for Males and Females

			Concern	Curiosity	Confidence	Consultation	CCC
Sex	Male	M	3.81	3.88	3.75	2.55	10.78
		N	203	203	203	203	203
		SD	0.97	1.54	1.49	1.43	3.05
	Female	M	4.21	3.53	3.51	2.35	10.43
		N	448	448	448	448	448
		SD	0.83	1.83	1.77	1.51	3.57
	ANOVA	f value	9.82	5.59	2.69	2.37	1.47
		p value	.00	.01	.10	.12	.22

The mean scores for the scales and their items by sex appear in Table 6. There were no significant differences in CCC between female and male participants, but the concern and curiosity scales showed that women had higher level of concern than men, and male participants had a higher level of curiosity than female participants.

Figure 12. showed that there are differences in age. Supporting the findings, age is a predictor in career maturity (Creed & Patton, 2003), where the older the person is the higher the career maturity level will be. In this sample we can observe that the CCC level improves mostly with age. This fact strengthens instrument reliability.

3.2.1.4. Discussion and conclusion

The main goal of the current study was to evaluate the quantitative indices of validity and reliability concerning CMI-Form C validated in Hungarian high school and university students from Transylvania. Confirmatory Factor Analysis results showed similar loadings as previous studies (Savickas & Portfeli, 2011) in spite of the fact that two items were excluded. Content validity was also proved by the correlations among items and scales/dimensions. The mean values are similar to previous studies, and they ascend with age. The Cronbach's alpha values were not as good as we expected, but the values were satisfactory (α =.51-.74).

Measuring the CCC and its dimensions, it was clear that there are differences between a high school student's readiness and a university student's readiness. But there was a decline at the age of 23-24 which can be explained by higher level of indecision due to the finishing of their studies. But further investigations are recommended. As expected and supported by other studies

(Dodd, Odom, & Boleman, 2014; Savickas, 2005) consultation is declined with the age, which means that the older population does not seek information as much as their younger counterparts.

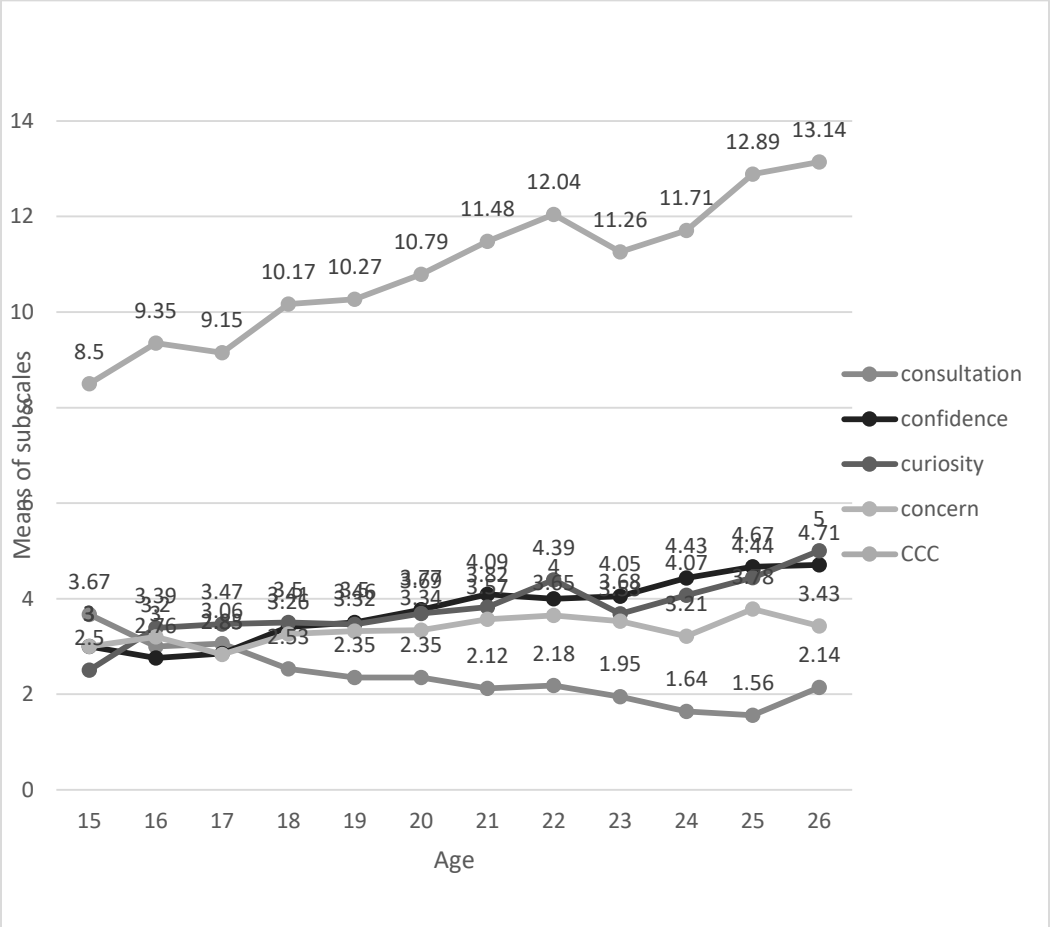


Figure 7. CMI-C Subscales' means based on age

Overall, in CCC there was no significant difference between males and females, but similarly to the previous studies (Dodd, Odom, & Boleman, 2014; Savickas & Portfeli, 2011) male participants had higher scores on readiness than females. Based on the sub-scale of concern, females tend to be more concerned about their careers than males, on the other hand males had significantly higher score on curiosity, which means that they explore the world of work and seek information about occupation more frequently than females. The demand for consultation is higher for males, but this difference is not significant. The fact that the need for consultation varies, depends on whether the individuals make career choices in an independent or an interdependent relational style (Savickas, 2005).

The most important practical implication of our findings is that Hungarian practitioners (career counsellors) should use this inventory in case they intend to investigate the readiness of a student. Despite the recommendations, the Hungarian form of Career Maturity Inventory Form C conceived in Transylvania has some limitations. From the concern subscale two items were excluded, and the Consultation dimension also has some limitations, due to career choice style. Overall, this inventory has been adapted to measure career maturity and readiness among minority sample. Measuring the four dimensions (concern, curiosity, confidence, consultation) Hungarian

career counsellors will have the opportunity to assess those elements. Another novelty is that the instrument was adapted to university students, too.

According to the statistical analysis, the scale can be considered a valid and reliable instrument for practitioners, presenting good psychometric criteria and factorial structure among the examined sample.

3.2.2. Study 2b. Career Adapt-Abilities Scale - Hungarian Form: Psychometric Properties and Relationship to Work Experience[3]

3.2.2.1. Introduction

The Career Adapt-Abilities Scale (CAAS) is a widespread instrument, is already adopted in more than 13 countries and tested for its reliability and validity (Savickas & Portfeli, 2012). Career adapt-ability is "the readiness to cope with the predictable tasks of preparing for and participating in the work role and with the unpredictable adjustments promoted by changes in work and working conditions" (p. 254) (Savickas, 1997). Savickas (2005) implies the concept of adaptation in his career construction theory, where the human development is considered to be driven by adaptation to a social environment with the goal of person-environment integration. Career adaptability is especially important in Romania, among Hungarian students from Transylvania, because of the language differences –especially at young people– which has a great effect on their career orientation and adaptability. For example if a minority person is looking for a job or is faced with university choice and do not speak the Romanian language very well, his or her opportunities reduces. Only 24.5% of the Hungarian population goes to Romanian faculties, 68.5% to Hungarian and 7% choses English or German faculties (Veres & Papp, 2015).

Another reason why career adapt-abilities scale should be useful is because in 2014 students who left the faculty, 41% of them said that their choice was wrong, and 35% identified financial difficulties (reported by ANOSR - National Alliance of Student Organizations in Romania). These data clearly show that, students need career guidance or counselling, which would be incomplete or not as satisfactory without CAAS.

The CAAS-International Version 2.0 was examined, and the reliabilities of the subscales range from acceptable to excellent, and the internal consistency estimates for the CAAS total score were excellent across 13 countries (Savickas & Portfeli, 2012). The main aim of this study is to compare the international data with Transylvanian Hungarian data. Also, the study highlights the importance of work experience in career adaptability. Portuguese students displayed higher scores on subscales of control and curiosity, in CAAS (*Monteiro & Almeida, 2015*). Another relevant dimension is the understanding of what type of experience can differentiate students in terms of their career adapt-ability. That is why this study analyzed differences in career adaptability between students who reported (i) having working experiences; or (ii) not having work experience at all; and if they had experience, they had to choose from the following: (i.1.) having volunteering experiences; (i.2.) having summer job experience; and (i.3.) having a student working status (active worker). CAAS measures concern, control, curiosity and confidence which are viewed as a self-regulation skills that can be used to cope with life challenges (Savickas & Portfeli, 2012), that is why career adapt-abilities can be strongly related with work experience.

[3] This study was published: Veres, A., Farcas, Zs, Petric, E. & Szamosközi, I. (2017, August 24-30). Career Adapt-Abilites Scale-Transylvanian Hungarian Form: Psychometric Properties and Relationship to Work Experience, In A. Editor, & B. Editor. *4th International Multidisciplinary Scientific Conference on Social Sciences and Arts SGEM 2017*. 4th International Multidisciplinary Scientific Conference on Social Sciences & Arts SGEM: Section Psychology and Psichiatry, Bulgaria (51-58). STEF92 TECHNOLOGY Ltd

3.2.2.2. Materials and methods

Participants

The sample of the study consisted of 694 participants, 203 high school students (29.3%) and 491 university students (70.7%). Gender distribution of the sample was 203 male (29.3%) and 491 female (70.7%). Mean age was 19.37 (SD=2.05), it ranged from 15 to 26 years. All participants voluntarily completed the CAAS Hungarian Form, Demographic Data Form, and it is important to mention, that the students' mother language were Hungarian, due to the fact that they are Romanian citizens.

Demographic data form

Demographical data (age, gender, location, school profile), information regarding parents' highest education degree and experience in work and academic achievement were collected based on the Demographic data form. The fillers had a question about work experience if they had any *("Do you have any work experiences in the world of work?" – "No, I have never worked before." "Yes, I have."*) The next question referred to the type of work experience which the participant had (*Experience in volunteering; Summer job experience; Student worker status*).

Career Adapt-Abilites Scale

After collecting the demographic data, the participants filled out the CAAS Hungarian Form in order to measure concern, control, curiosity, confidence, and in total career adaptability. The CAAS-International contains 24 items which combine to form a total score that indicates career adaptability (Savickas & Portfeli, 2012). The CAAS Hungarian Form has only 23 items, due to one missing item, which wasn't satisfying the procedure of validation. The scale is divided into four subscales that measure the adaptability resources of concern (6 items), control (6 items), curiosity (5 items), and confidence (6 items). Participants responded to each item choosing a scale from 1 (not strong) to 5 (strongest).

Procedure

The main purpose of the study was to establish the aspect validity and analyze the reliability and construct validity of CAAS Hungarian Form, and also to investigate the relationship between career adaptability and work experience. After the university students filled out the scale voluntarily before the seminars, assessment was paper-pencil. High school students also voluntarily filled out the inventory, but they received it on an online platform. We tested the psychometric properties of the instrument, calculating internal consistency, evaluating descriptive analysis and empirical testing of construct's fit to theoretical model. Data was processed in SPSS 20 and Amos 18 software.

3.2.2.3. Results

Face Validity

Establishing the aspect validity of CAAS Hungarian Form means that the translated scale will measure the same construct as it is in the original CAAS-International Form. Face validity being an important feature of any psychological or educational test (*Holden, 2010*), we did the Guidelines for Cross-Cultural Adaptation Process as we followed the 5 well defined stages (Beaton, Bombardier, Guillemin, & Ferraz, 2000). At first step, two independent bilingual translators made the Hungarian version with a report, during the first synthesis we brought some modifications and resolved the discrepancies. After the back translation, a bilingual psychologist and an expert psychologist reached consensus on ambiguities. After all, a pre-final version was tested in a focus group (N=8).

Construct validity

The CAAS Hungarian Form item means and standard deviations suggest that the typical response was in the range of strong (3) to strongest (5). Skewness and kurtosis values for the CAAS Hungarian items ranged from (-1.01 to .13) and (-1.08 to .197) respectively. Only 2 out of 23 items had skewness or kurtosis values greater than one in absolute value, representing that the majority of items conform to the assumptions of confirmatory factor analysis for Transylvanian Hungarian sample. Scale means and standard deviations for the CAAS Hungarian appear in Table 7. Skewness and kurtosis values for CAAS Hungarian subscales ranged from (-.326 to .08) and (-.62 to -.05) respectively, suggesting that the items conform to the assumptions of correlation-based statistics for this sample. Moreover, the four subscales correlated from .72 to .82 to the adaptability score.

Using the confirmatory factor analysis it was found that the measurement model for the CAAS Hungarian was slightly different from the international model, because one item was excluded (curiosity #5). Still, confirmatory factor analysis (CFA) showed that the data fit well the theoretical model. The fit indices were RMSEA=.078 and SRMR=.097, which conform to established joint fit criteria (Hu & Bentler, 1999). These findings were quite similar to the fit indices for the CAAS-International model, where RMSEA=.053 and SRMR=.039 (Savickas & Portfeli, 2012). In Table 7. The standardized loadings suggest that all items are good indicators of the second order construct, which are in turn strong indicators of the third order adaptability construct.

Comparison of Hungarian factor model to international factor model

Comparing the CAAS- Hungarian Form hierarchical factor model to the model for the CAAS-International indicated that the loadings of first-order items in the second-order factors of adaptability were quite similar. The most important difference was for curiosity #5 (Probing deeply into questions I have) which presented weaker loadings in the Transylvanian Hungarian data, therefore one item was excluded. Similar results were find in the Brazilian data, (Teixeira, Bardagi, Lassance, Magalhaes, & Duarte, 2012) for the second order constructs where the differences in loadings were small. In the same way, confidence showed the greatest difference in loading between the Hungarian (.83) and international samples (.90). The loading for Hungarian concern

was .71 compared to .78 for International Form. The loading for International control was .86 in contrast to .88, which is slightly greater. The Hungarian curiosity loading was .91 compared to .88for the International Form. The mean scores for each subscale were slightly higher for the International Form compared to the Hungarian From: Hungarian concern 3.79, International concern 3.82; Hungarian control 3.81, International control 3.92; Hungarian curiosity 3.64, International curiosity 3.73; Hungarian confidence 3.66, International confidence 3.87;

Table 5

Career Adapt-Abilities Scale: items, standardized loading, descriptive statistics, and internal consistency reliabilities.

Construct	Item (First-order indicators)	Mean	SD	Loading	α
Concern	1. Thinking about what my future will be like.	4.31	.88	.57	.75
	2. Realizing that today's choices shape my future	4.02	.94	.66	
	3. Preparing for the future	3.82	1.01	.82	
	4. Becoming aware of the educational and career choices that I must make	3.90	.98	.73	
	5. Planning how to achieve my goals	3.45	1.07	.66	
	6. Concerned about my career	3.25	1.22	.48	
Control	1. Keeping upbeat	3.47	1.08	.50	.78
	2. Making decisions by myself	3.57	.97	.58	
	3. Taking responsibility for my actions	4.01	.87	.62	
	4. Sticking up for my beliefs	3.95	.95	.68	
	5. Counting on myself	3.94	.96	.72	
	6. Doing what's right for me	3.94	.92	.60	
Curiosity	1. Exploring my surroundings	3.55	.97	.51	.70
	2. Looking for opportunities to grow as a person	3.67	.96	.73	
	3. Investigating options before making a choice	3.62	1.05	.52	
	4. Observing different ways of doing things	3.53	.97	.59	
	5. Probing deeply into questions I have *				
	6. Becoming curious about new opportunities	3.82	.92	.54	
Confidence	1. Performing tasks efficiently	3.48	.89	.68	.83
	2. Taking care to do things well	3.88	.90	.59	
	3. Learning new skills	3.60	.93	.61	
	4. Working up to my ability	3.72	.96	.72	
	5. Overcoming obstacles	3.58	.90	.74	
	6. Solving problems	3.76	.89	.62	
Construct	Construct (second-order indicators)	Mean	SD	Loading	α
Adaptability	1. Concern	3.79	.68	.71	.89
	2. Control	3.81	.66	.80	
	3. Curiosity	3.64	.63	.91	
	4. Confidence	3.66	.67	.83	

*Note: All of the loading are statistically significant at α =0.01.

Reliability

The total score for the CAAS-International Form has reported reliability of .92, while the subscale scores are, 83 for concern, ,74 for control, ,79 for curiosity and ,85 for confidence (Savickas & Portfeli, 2012). The reliabilities of the CAAS- Hungarian Form are very similar to

the international sample. The Cronbach′s alpha values on the global score of the scale is .89, subscale scores are .75 for concern, .78 for control, .70 for curiosity and .83 for confidence.

Differential studies

In the following, some differential studies for CAAS- Hungarian Form are presented in career adaptability subscales and in total scale, contrasting groups with work experience, with student worker status, with summer job experience, and with experience in volunteering. To investigate the differences, four Independent T-tests were conducted. Effect size were evaluated using Cohen's criteria, where> small=0.20; medium=0.50; and large=0.80. The results are shown in Table 8, means marked with (*) had a significance difference between the given groups. Students who reported having already had work experience differed from their peers with no experience on the subscale of control (t=-3.357; df=694; p=.001; Cohen's d=.30) and confidence (t=-3.525; df=694; p=.001; Cohen's d=.32). There was also a significant difference between students with worker status or no worker status almost on all subscales. Student workers scored significantly higher than regular students for adaptability (t=3.90; df=694; p=.000; Cohen's d=.49).

Table 6

Means and standard deviations for CAAS- HU Form considering work experience, experience in volunteering, summer job experience and student worker status.

Variable		Concern		Control		Curiosity		Confidence		CAAS-TOTAL	
		M	SD	M	SD	M	SD	M	SD	M	SD
Work experience	Yes (n=516)	3.79	.69	3.86*	.66	3.67	64	3.72*	68	3.76	.52
	No (=178)	3.78	.65	3.66	.67	3.56	.61	3.51	.63	3.63	.50
Student worker status	Yes (n=68)	3.96	.70	4.02*	.66	3.86*	.70	3.98*	.72	3.96*	.54
	No (n626)	3.77	.68	3.78	.66	3.61	.62	3.63	.66	3.70	.51
Summer job experience	Yes (n=447)	3.81	.70	3.87	.66	3.69	.62	3.67	.68	3.76	.51
	No (n=247)	3.77	.68	3.77	.66	3.61	.63	3.66	.67	3.70	.52
Experience in volunteering	Yes (n=125)	3.86	.68	3.90	.69	3.74	.61	3.69	.72	3.80	.51
	No (n=4)	3.77	.68	3.79	.66	3.61	.63	3.66	.66	3.71	.51

*p < .01

3.2.2.4. Discussion and Conclusion

Based on the results, the most important finding is that the CAAS- Hungarian performs similar to the CAAS-International in terms of reliability and factor structure. The results showed that the total scale and four subscale of the CAAS- Hungarian Form each demonstrate sufficient to good internal consistency estimates and a coherent hierarchical structure that fits the theoretical model. In addition, CAAS- Hungarian Form performs quite similar to the CAAS-International form in terms of psychometric characteristics and factor structure, even though an item was excluded from the curiosity subscale.

The relationship between work experience and adaptability has brought the expected results, as all subscales are higher for students who have some work experience or are already working. The greater difference is between students who are working during their studies, and those who are not, accordingly only between them was find significant difference for the total score of the scale. Ignoring the type of work experience, if a student had any experience in the world of work their control and confidence subscale were significantly higher compared to students who have not got any experience. These findings supports that somehow work experience strengthens or increases the level of career adaptability, but in order to specify these findings, further investigations are recommended.

In the face of the results, the statistical analyzes written in this paper, the data shows that CAAS- Hungarian Form to be a forceful and valid measure to study career adaptability among high school and university students. The results of the study are very satisfactory in terms of reliability and factor structure, as has been reported previously with the CAAS-International Form. One of the limitation of the study is the sample, because all participants were high school or university students. We would suggest that the following studies should include a higher age group in the research and with or without higher education.

Finding support that there is clearly a relationship between work experience and career adaptability. The most significant differences were found between students with any experience in work and with no experience at all. One possible explanation could be that student workers are generally associated with thoughtfulness, whereas work experience tends to integrate more exploratory and sporadic attitudes (Monteiro & Almeida, 2015). In order to determine the nature and the strength/intensity of the relationship the next researches could be more precise and accurate from the perspective of the questions related to work experiences.

On the whole, CAAS- Hungarians form can be further improved, but its current form can be used to measure career adaptability resources among high school and university students.

3.2. Study 3. Predictors of Career Adaptability and Its Determining Factors among University Students

Career adaptability is becoming a more and more important psychosocial construct in career counseling. It refers to the capability to adapt and mange career tasks and challenges. In this light the main goal of the third study was to investigate the effects of socio-demographic characteristics, work experience, GPA, HEXACO-60, life satisfaction, perceived career barriers, and coping efficacy on career adaptability, and its subscales (concerns, control, curiosity, confidence).

3.3.1. STUDY 3A. Personality Traits, Work Experience and GPA as Predictors of Career Adaptability in College Students[4]

3.3.1.1. Introduction

As a result of the rapid economic and technological development, the world of work and the working environment are constantly changing. With the emergence of new services and jobs, the individual needs multi-faceted career skills to be able to prevail. Nowadays, career paths are much more varied and global, and even the concept of boundaryless career appears (Biemanna, Zacherb & Feldmanc, 2012; Sullivan & Arthur, 2006). Of course, these changes need to be adapted to by the individual, so the greatest demand in the job market is for people with good career adaptability skills (Ebnehi, Rashid & Bakar, 2016).

Career construction theory refers to two main self-regulatory concepts that play a role in problem-solving and, during career-development, in person-environment integration. The first is the concept of career adaptability, which means that a person is willing to commit himself to the process of person-environment integration, and it also is a motivational force capable of encouraging an individual to pursue career-building tasks. Another important element of the career building theory is adaptive abilities, which are essential for solving career transition situations (Savickas & Portfeli, 2012). These skills are explained in detail in career adaptability / adaptability (Savickas, 1997, Savickas & Portfeli, 2012). Many studies have shown that career adaptability has a positive impact on career outcomes (Pouyaud, Vignoli, Dosnon, & Lallemand, 2012; Rossier, Zecca, Stauffer, Major, & Dauwalder, 2012).

Few studies have examined the relationship between GPA and career adaptability. Negru-Subtirica & Pop (2016), in their longitudinal research, found that GPA predicted career concerns, career control and career self-confidence variables positively. However, in changes in the curiosity variables GPA does not indicate a significant prediction. If learning performance is perceived as solid knowledge that can serve as a basis for good adaptation ability, we can consider it as a predictor of career adaptability.

In his studies with high school students, Hirschi (2009a) concluded that the parents' level of education has no effect on a child's career adaptability development. Nonetheless, we believe that in the case of college students the parents' educational level may have an impact on career adaptability.

[4] This study was published: Veres, A. & Szamosközi, I. (2017). Personality traits, work experience and GPA as predictors of Career Adaptability in College Students. *Transylvanian Journal of Psychology, 18*(2), 97-115.

As far as work experience is concerned, studies show that work experience is closely related to career adaptability. That is, those students who already have summer work experience or are employed while studying, have a higher career adaptability level than those who have never had a job during their lifetime (Monteiro, & Almeida, 2015; Veres, Farcas, Petric & Szamosközi , 2017).

Several studies have examined the relationship between career adaptability and personality *(Zecca*, Györkös, Becker, Massoudi, de Bruin, & Rossier, 2015; Nilforooshan & Salimi, 2016*).* Most studies specifically focused on career adaptability and five personality dimensions, more specifically neuroticism, conscientiousness, extraversion, friendliness, and openness. This five factor model measures the system of validated and widely accepted characteristics (McCrae & Costa, 1987). Studies on the relationship between the five personality dimensions and career adaptability show that career adaptability positively correlates with extraversion, openness and conscientiousness, and negatively with neuroticism (Teixeira et al., 2012; van Vianen, Klehe, Koen & Dries, 2012; Li et al., 2015; Zacher, 2014, Guan et al., 2017).

Since the HEXACO personality test measures one more dimension and is proven to be a good alternative to the five factor models (Ashton & Lee, 2007), we considered it reasonable to examine the relationship between career adaptability and the six personality dimensions, moreover, we would also determine how strong the prediction power of the personality factors are.

Overall, the purpose of our study is to find out what are the key features that can be key predictors of career adaptability. We wish to examine how much socio-demographic characteristics, GPA, work experience and personality are predicting career adaptability.

3.3.1.2. Method and procedure

Participants

The sample of the study consisted of 328 university students from the Babes-Bolyai University. The average age of the participants was 19,33 (SD=,98). Most of the students were female (76,5%), and almost half of the sample is came from rural (43%).

Instruments

All participants voluntarily completed the CAAS- Hungarian Form, HEXACO and Demographic Data Form.

Demographic data form

Demographic data (age, gender, location, school profile), information regarding parents' highest education degree, work experience and academic achievement were collected based on the Demographic data form. The fillers had a question about work experience whether they had any *("Do you have any work experiences in the world of work?" – "No, I have never worked before." "Yes, I have."*) The next question referred to the type of work experience which the participant had (*Experience in volunteering; Summer-job experience; Student worker status*).

HEXACO-60 – Personality test

Ashton and Lee (2009) developed a shorter version of the HECAXO-PI-R in response to demand for an instrument that would be suitable when the assessment time is short. HEXACO-60

has six scales, each scale contains 10 items. The personality test measures the following dimensions (Ashton & Lee, 2009; Ashton & Lee, 2007; Ashton, Lee, & De Vries, 2014): Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, Openness to experience. Each dimension has subscales, they are presented in Table 10. In our research we used the Hungarian version. The Cronbach alpha estimates were in range of .72-.80 (Table 11)

Table 7
The facet-level scales of each personality dimension (Ashton & Lee, 2009)

Honesty-Humility	Sincerity, Fairness, Greed Avoidance, Modesty
Emotionality	Fearfulness, Anxiety, Dependence, Sentimentality
Extraversion	Social Self-Esteem, Social Boldness, Sociability, Liveliness
Agreeableness	Forgivingness, Gentleness, Flexibility, Patience
Conscientiousness	Organization, Diligence, Perfectionism, Prudence
Openness to experience	Aesthetic Appreciation, Inquisitiveness, Creativity, Unconventionality

Data Processing

After collecting the data, we introduced them into the database. To test the relations between the mentioned factors, calculations using SPSS 20.0 (Statistical Package for the Social Sciences) were made.

3.3.1.3. Results

The means, standard deviations, Cronbach alpha estimates, and correlations between the measurements are presented in Table 11. Career adaptability was significantly correlated with gender($r=-.13$, $p < .05$), work experience ($r= .16$ $p < .01$) and father's educational level ($r=.-12$, $p < .05$). There were several significant correlations between the HEXACO personality dimensions and overall career adaptability, as well. Emotionality negatively correlated with career adaptability, but Extraversion, Conscientiousness and Openness to Experience had positive significant correlations with career adaptability. Concern subscale negatively correlated with Honesty-Humility and positively with Emotionality, Extraversion and Conscientiousness. Control and Confidence significantly correlated with Extraversion, Conscientiousness and Openness to Experience, and they also correlated negatively with Emotionality. Curiosity correlated with Extraversion, Conscientiousness and Openness to Experience.

Table 8
Means (M), Standard deviations (SD), inter-correlations among variables, and reliability coefficients

		Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	Gender																			
2.	Age	19.33	1.21	-.07	-															
Adaptability																				
3.	Concern	3.83	0.68	-.00	.10	(.76)														
4.	Control	3.85	0.70	-.14**	.09	.31**	(.80)													
5.	Curiosity	3.69	0.63	-.15**	.09	.51**	.46**	(.68)												
6.	Confidence	3.66	0.69	-.13*	.00	.40**	.62**	.57**	(.84)											
7.	Adaptability	3.76	0.52	-.13*	.09	.71**	.77**	.80**	.83**	(.89)										
HEXACO																				
8.	Honesty-Humility	3.42	0.67	.18**	-.00	-.11*	-.06	-.08	-.04	-.09	(.74)									
9.	Emotionality	3.29	0.68	.36**	-.18**	.15**	-.31**	-.08	-.15**	-.13*	.03	(.77)								
10.	Extraversion	3.50	0.67	-12*	-.12*	.12*	.44**	.19**	.36**	.36**	-.12*	-.24**	(.80)							
11.	Agreeableness	2.96	0.62	.01	.09	-.05	-.08	.024	-.02	-.04	.20**	.02	-.03	(.72)						
12.	Conscientiousness	3.38	0.58	-.01	-.01	.34**	.18**	.33**	.43**	.41**	.13*	.02	.15**	.05	(.72)					
13.	Openness to Experience	3.61	0.63	-.11*	-.11*	.09	.18**	.30**	.11*	.21**	.04	-.21**	.15**	-.03	.04	(.73)				
14.	Work experience	-	--	-.07	.13*	.06	.13**	.12*	.17**	.16**	-.11*	-.12*	.24**	.04	.06	.15**	-			
15.	GPA	8.08	.98	.09	-.24**	.09	-.01	.09	.13*	.09	.12*	.20**	.01	.11**	.25**	.14**	-.01	-		
16.	Father educational level	-	-	--	-	-.16**	-.03	-.11*	-.09	-.12*	.01	-.11*	.02	.07	.06	.08	.00	.05	-	
17.	Mother Educational level	-	-	-	-	-.07	.07	-.03	-.05	-.03	.03	-.10	.13*	.11*	.03	.12*	-.05	.09	.47**	-

The results of hierarchical multiple regression analyses indicate that the examined variables succeed in accounting for up 53 % of the total variance of career adaptability (Step 3, Table 12). Career adaptability was significantly predicted in Step 3 by fathers educational level (β=-.26, p<.05), Humility-Honesty (β=-.25 p<.01), Emotionality (β=-.15, p<.05), Extraversion (β=.21 p<.05), Agreeableness (β=.17 p<.05) and Conscientiousness (β=.47 p<.001).

We did regression analyses for predicting each subscales of career adaptability, and the results show that Concern was significantly predicted in Step3 (Table 13) by Humility-Honesty (b=-.37. p<.05), Agreeableness (b=.17. p<.05), and Conscientiousness (b=.37. p<.01). Control was significantly predicted in Step3 (Table 14) by Emotionality (b=-.33. p<.01) and Conscientiousness (b=.36. p<.01). Curiosity was significantly predicted in Step3 (Table 15) by Humility-Honesty (b=-.33. p<.01), Agreeableness (b=.30. p<.01), and Conscientiousness (b=.35. p<.01). Confidence was significantly predicted in Step3 (Table 16) by Emotionality (b=-.26. p<.001) and Conscientiousness (b=.78. p<.001). Taking into account every dimension of career adaptability, overall variables explain from 16 % (Concern) up to 56 % (Confidence) of the outcome variance (Tables 13-16).

3.3.1.4. Discussions and conclusions

The main goal of the study was to prove that the HEXACO-60 Personality test can be used as an alternative assessment tool instead of Big 5. Results show us, that Emotionality, Extraversion, Conscientiousness and Openness to Experience are significantly correlated with the overall career adaptability. These findings are similar to the investigations where career adaptability was correlated with the Big 5 dimensions (Teixeira et al., 2012; van Vianen et al., 2012; Li et al., 2015; Zacher, 2014, Guan et. al. 2017).

It is important to mention that Extraversion, Openness to experience and Conscientiousness can be measured with the Big5 as well, and also have similar label. After all, we can definitely declare that the HEXACO-60 is a useful assessment tool when it comes to exploring someone's personality in order to use the results with career adaptability. We expected that all three dimensions will be predictors of career adaptability, but only Conscientiousness and Extraversion predicted significantly the overall career adaptability. It is interesting that Humility-Honesty dimension predicts negatively career adaptability, just like Emotionality, which makes sense if we take into consideration that individuals who gain high scores on Humility-Honesty scale are uninterested in lavish wealth and luxuries, and they also feel no special entitlement to elevated social status (Ashton, Lee & de Vries 2014).

Taking into account that the existence of work experience makes someone more knowledgeable and confident when it comes to career adaptability, we have assumed that work experience can be a predictor of career adaptability. However, our assumptions did not proved right because work experience is not a significant predictor for career adaptability, even though the two variables and even the subunits correlated. The situation with the GPA variables is similar, although they correlate with the career adaptability, they do not indicate it.

All in all, the HEXACO-60 personality test is a useful and viable tool for counselors. We would suggest further investigations in order to look at the larger and more varied populations of Humility-Honesty and Emotionality dimensions whether they predict career adaptability negatively in all cases. Still we recommend consultants who want to detect the relationship between career adaptability and personality traits in order to carry out more extensive counseling, to use the HEXACO-60 personality test.

3.3.1. Study 3b. Perceived Career Barriers as Mediator between Career Adaptability and Life Satisfaction among University Students

3.3.1.1. Introduction

Enrollment in undergraduate education is gaining in popularity, as proved by the number of enrolled undergraduate students (EUROSTAT, 2019) which has risen significantly in Europe over the past 5 years; and so is the case of students enrolled at the Faculty of Psychology and Education in Cluj-Napoca. Along with the larger number of students, the rate of drop-out students has also increased. As much as 30-45 per cent of the enrolled students drop out already in the first year (Data collected from the Department of the Applied Psychology, Cluj-Napoca), with both full-time and distance learning students included.

There are several models for the study of dropout rates, one of the most detailed and involving psychological factors is the dropout model of Bean and Metzner (1985), which includes: background variables, organizational variables specific to higher education, study-related factors (counseling, skills development, university resources, absenteeism, legal certainty, integration aspirations), social factors (close friends, professional culture, university group identification, social integration), environmental variables (parental support, financial status, family obligations), examination of psychological processes (self-efficacy, self-development, self-confidence, self-control, learning strategies, motivation, stress, alienation, perseverance) (Bean 1980; Bean & Metzner, 1985).

In order to reduce early dropout, it is essential to examine that what kind of career development traits the currently active students have. By investigating the early career path characteristics of university students, we can be more effective in preventing high drop-out rates. Taking into account the factors discussed in the dropout model and the characteristics of career development, the following were examined: the relationship between widespread career adaptability and life satisfaction and the perceived barriers with potentially mediating effects.

The relationship between career adaptability and life satisfaction

Studies that have investigated the relationship between career adaptability and career satisfaction (CS) have led to the result that CA positively predicts CS (Chan et al., 2016; Chan & Mai, 2015; Guan et al., 2015, Ginerva et al., 2018; Karatepe and Olygbade, 2017; Xie et al., 2016; Zacher, 2014) as well as job satisfaction or academic satisfaction (Fiori, Bollman & Rossier 2015; Han and Rojewski, 2015; Rezapour and Ardabili, 2017; Celik and Srome, 2017; Duffy et al, 2015).

In addition to the correlation between CA and LS (Magiorri et al., 2013), numerous studies have shown that the more adaptive the individual is towards his career, the more satisfied with his life he is (Wilkins et al., 2014; Ramos & Lopez, 2018; Santelli et al., 2017; Santelli et al., 2014; Buyukoze-Kavas et al., 2015; Zhan & Lin, 2016); yet, there were results where only certain subscales of CAAS, such as control, confidence, concern were predictive for life satisfaction (Konstam et al, 2015;). Hirschi's (2009b) longitudinal research also showed that higher CA has increased life satisfaction with students over time. With this in mind, the relationship between CA and LS among university students has not yet been clarified, let alone the Eastern European context, where the predictor of satisfaction proves to be a very exciting topic.

In our research, we examine the relationship between subjective well-being and CA, as they do not yet have a job they can be satisfied or dissatisfied with, and they are at the beginning of their careers. In addition to examining the relationship between CA and LS, we were interested in how this relationship is affected by perceived barriers and how they can effectively be dealt with.

Perceived career barriers and coping efficacy for perceived career barriers as mediators

Barriers to career development may include individuals or environmental events or conditions that make it difficult for an individual to build a career. Individuals may be faced with different types of barriers at different stages of their career development, so we can speak of a temporal dimension in the perception of barriers, too, which determines whether the barrier is related to the past, present, or future. In the framework of the SCCT (Social Cognitive Career Theory), the factors related to the past are mostly based on learning experiences and self-efficacy; the factors related to present, focus on achievement of goals, while the expectations of the results relate to future (Lent et al, 2000). There are many reasons why students may leave their studies. The leading reason for leaving the university is the desire to work instead, or finding the studies uninteresting. Also the degree of difficulty of their studies, family reasons and financial and health problems are the leading cause of leaving their studies (EUROSTAT, 2018).

Although PCB (perceived career barriers) are mostly researched in women and minorities, as they detect more barriers (Luzzo and McWhirter, 2001), rapid changes and developments on a global scale expose all individuals to ongoing problems and barriers which they may not be able to cope with. These barriers can be interpreted subjectively, that is, what represents a barrier for an individual, may not be one for another.

Luzzo and McWhirter (2001) formulates two types of barriers, one related to learning, the other to career. Both are current in the life of students, as they are continuously trained, and at the same time they are in one of the most active career building stages. In addition to the perceived barriers, an indicator has been identified that shows the level of coping with barriers (CWB-coping with barriers).

To overcome the barriers associated with the above-mentioned fast-paced change, adaptability is essential; with its help, the individual overcomes the perceived barriers more easily. Therefore, we are not looking at the impact of the decision-making process on the perceived barriers, but we are interested in how the relationship between adaptability and satisfaction is influenced by the barriers and the disposition to overcome them.

Our career adaptability, if high, we are able to approach new tasks with curiosity and interest (Savickas, 2013), and in order to control we also need adaptation, since the continuous changes must be applied to our own life-course. Both career exploring and planning are influenced by the perceived barriers (Lent, Brown, & Hackett, 1994, 1996; McWhirter, 1997; McWhirter, Hackett, & Bandalos, 1998; Swanson et al. , 1996; Swanson & Woitke, 1997).

In their study, Luzzo and Hutcheson (1996), found a negative correlation between career maturity and barriers related to future. Similar results were obtained when students' career development was examined. Those who had to face a significant number of barriers were hampered by the perceived barriers in achieving the goals set in their career (Luzzo, 1993, 1995; McWhirter, 1997; Swanson, Daniels, and Tokar, 1996). The relationship between CA and PCB was studied in teenagers as well, and it was concluded that students with lower CA perceived more barriers than students with higher adaptability levels (Soresi, Nota, and Ferrari, 2012).

All in all, it can be stated that the perceived barriers in the career may have a negative impact on career attitude and behavior (Albert & Luzzo, 1999; Leal-Muniz & Constantine, 2005) or on their self beliefs (Albert & Luzzo, 1999; Betz, 2001).

Considering all the above, we came to the conclusion that besides examining the relationship between career adaptability and life satisfaction, we should also look at how perceived career barriers and coping with barriers can affect the existing relationship. In the light of this, the following hypotheses were set up:

Hypothesis 1.: Career Adaptability relates to life satisfaction through perceived career barriers:

Hypothesis 1a.: Career adaptability relates negatively to perceived career barriers.

Hypothesis 1b.: Perceived career barriers mediates the link between career adaptability and life satisfaction.

Hypothesis 2: Career Adaptability relates to life satisfaction through coping efficacy for perceived career barriers:

Hypothesis 2a.: Career adaptability relates positively to coping efficacy for perceived career barriers. (Figure 13.)

Hypothesis 2b.: Coping efficacy for perceived career barriers mediates the link between career adaptability and life satisfaction. (Figure 14.)

Conceptual framework with perceived career barriers as mediator

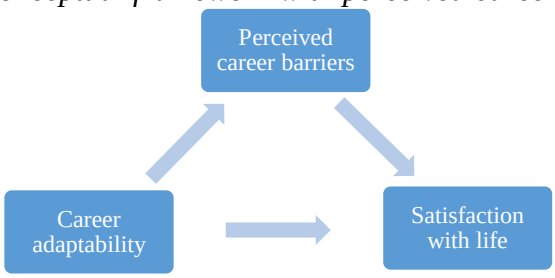


Figure 8. Conceptual framework with perceived career barriers as mediator

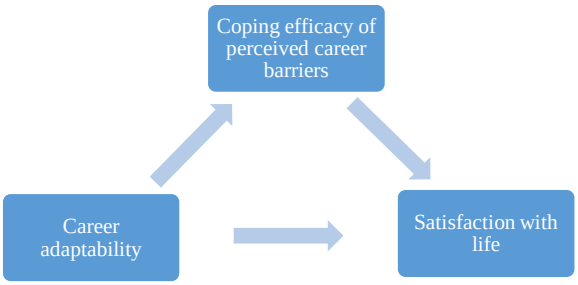


Figure 9. Conceptual framework with coping efficacy of perceived career barriers as mediator

3.3.1.3. Methodology

Sample and procedure

The sample of the study consisted of 562 participants (10.8 % male, mean age 24.99; SD=8.17), the main criteria was that the respondents had to be students at psychology or special education faculty, thus 386 (68.7%) psychology students and 176 special education students (31.3%)) took part in the study. Data were collected from Romania and Hungary as well, data collection lasted for two semesters in 2018, from February to May and from September to October. All respondents voluntarily completed the paper and pencil questionnaire during the class.

Measurement

Career Adaptability Scale (Savickas & Portfeli, 2012)

Life satisfaction

Life satisfaction was measured by Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). The scale consisted of 5 items measured on a 7-point Likert-type ranging from 1-strongly disagree to 7-strongly agree. The lowest score a respondent can reach is 5, while the highest score is 35, the higher the score, the more satisfied the individual is with their life. Several studies confirm the validity and reliability of the questionnaire (Lucas, Diener, Suh, & 1996; Pavot, Diener, Colvin, & Sandvik, 1991). In this sample the internal consistency coefficient was found to be $\alpha = .84$.

Perception of barriers (POB) and coping with barriers (CWB)

Perception of barriers and coping efficacy related to barriers was measured through the use of Perceived Barriers Scale (PBS) developed by Luzzo and McWhirter (2001). The POB scale had 32 items measuring perceived education and career barriers as well. Likert type item responses to POB scale range from 5-strongly agree to 1-strongly disagree, higher scores indicate the perception of more career barriers. CWB scale 32 items measure the coping efficacy or the students' level of confidence in overcoming education and career barriers. Likert type item responses to CWB scale range from 5-highly confident to 1-not at all confident, higher scores reflect greater confidence in students' ability to cope with barriers (Luzzo and McWhirter, 2001). In this sample the internal consistency coefficient was found to be for PCB $\alpha = .90$ and for CWB $\alpha = 97$.

3.3.1.4. Results

In order to test the hypotheses, mediation analyses were performed using SPSS and PROCESS statistical tool developed by Hayes (2013). Before testing the hypotheses, descriptive statistics and intercorrelations between the study variables were calculated (see Table 17).

Table 9
Descriptive statistics and correlations among study variables

		Mean	SD	1	2	3	4	5	6	7	8
1.	CAAS	3.91	0.51	(.89)							
2.	Concern	3.99	0.63	.70**	(.72)						
3.	Control	4.01	0.66	.81**	.35**	(.81)					
4.	Curiosity	3.84	0.62	.81**	.47**	.53**	(.70)				
5.	Confidence	3.79	0.66	.86**	.44**	.69**	.59**	(.85)			
6.	CWB	3.96	0.57	.22**	.05	.26**	.13**	.26**	(.97)		
7.	PCB	1.67	0.48	-.18**	-.01	-.24**	-.09*	-.22**	-.22**	(.90)	
8.	SWL	5.27	1.09	.37**	.07	.42**	.25**	.40**	.40**	-.35**	(.84)

Note. CAAS= Career Adapt/Abilities Scale, CWB= Coping With Barriers, PCB= Perceived Career Barriers, SWL=Satisfaction With Life.

*p <.05.

**p<.001.

The Cronbach alpha for the CAAS was 0.89, for CWB was 0.97, for PCB was 0.90, and for SWL was 0.84, indicating strong reliability and internal consistency.

Regression analysis was used to test the mediation effect among the variables following the steps suggested by Judd and Kenny (1981). First regression was run between CAAS (independent variable) and PCB (mediator).

In Model 1, the direct path from independent variables to the mediator was estimated. The mediator, PCB was set as independent variable, CAAS were set as predictor. In Model 2, hierarchical regression analysis was run, therefore the direct paths from independent variables to the outcome variable, controlling for the mediator, were estimated. The mediator (PCB) was added to the above mentioned predictor variable list and life satisfaction was set as the outcome. Table 18 provides the standardized (Beta) estimates for each regression model.

Regression analysis was also used to test the mediation effect of coping efficacy for perceived career barriers.

In Model 1a the direct path from independent variables to the mediator was estimated. The mediator, CWB was set as independent variable, CAAS were set as predictor. In Model 2a, hierarchical regression analysis was run, therefore the direct paths from independet variables to the outcome variable, controlling for the mediator, were estimated. The mediator (CWB) was added to the above mentioned predictor variable list and life satisfaction was set as the outcome. Table 19 provides the standardized (Beta) estimates for each regression model.

Results show that CA is negatively associated with PCB and positively with CWB, these findings support Hypothesis 1a and 2a.

Moreover, to test the mediation effect declared in Hypothesis 1b and 2b, indirect effects of CA to LS through PCB (H 1b) and CEPCB (H2b) were estimated using PROCESS. In order to do this, mediation analysis was performed, where life satisfaction was set as the outcome-dependent variable and CA was, in turn, set as independent variable-predictor. Variable Variables like age and gender were added to the covariates list. Following the four steps established by Baron and Kenny (1986), Judd and Kenny (1981), steps were performed with three regression equations, establishing a variable mediates the relation between a predictor variable and an outcome variable.

Results show that PCB and CEPCB significantly mediated the relationship between CA and LS, because the bootstrap CI was above zero while controlling for demographic variables. The total effect of CA on LS was significant (c=0.7386, CI =0.5540–0.9231, t=7.8661, P<0.000).

The indirect effects and 95% bias corrected confidence intervals were estimated using 1000 bootstrap samples. A significant indirect effect was indicated by the confidence interval not including the zero value. According to the results, PCB and CWB mediated the relationship between CA and LS (unstandardized indirect effect for PCB: .091, 95%, CI = [.0400; .1585], CWB: .039, 95%, CI = [.0069; .0921]). The direct path between CA and LS remained significant after including the mediators (PCB and CWB) indicating partial mediation. Therefore, Hypotheses 1 and 2 were supported.

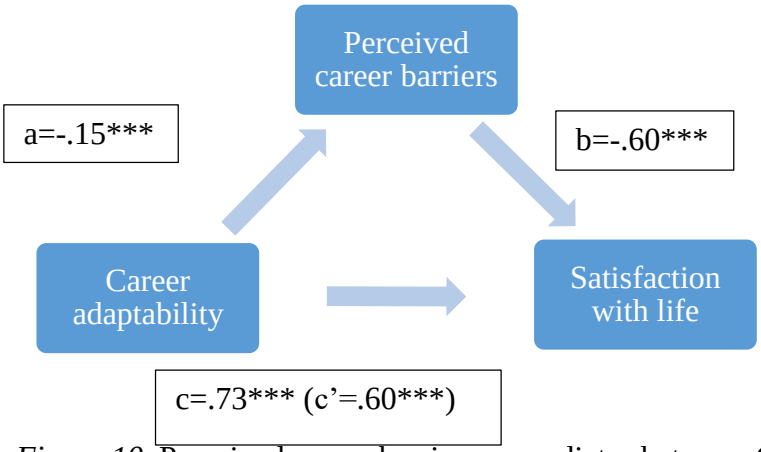


Figure 10 Perceived career barriers as mediator between CA and LS

PCB as mediator between CAAS and LS Note: The coefficient .73*** represents the strength of linear association between CA and LS when PCB is controlled by including it as another predictor of LS; the coefficient .60*** represents the linear association between CA and LS when PCB is not statistically controlled (Figure 15.).

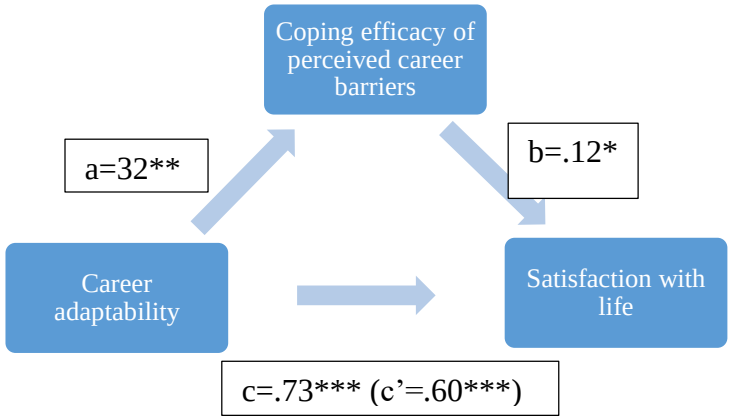


Figure 11 Coping efficacy of perceived career barriers as mediator between CA and LS

CWB as mediator between CAAS and LS Note: The coefficient .73*** represents the strength of linear association between CA and LS when CWB is controlled by including it as another predictor of LS; the coefficient .60*** represents the linear association between CA and LS when CWB is not statistically controlled (Figure 16.).

3.3.1.5. Discussion and conclusions

The results support the well-conceived picture of previous research that career adaptability predicts subjective well-being and, in our case, life satisfaction. Our novelty is that the group we have been researching is from Eastern European countries, they come from Romania and Hungary, specifically from the Faculty of Psychology and Education. It is important to emphasize this because many studies examine the career development of nurses (Yonder, 1995; Chang, Chou, & Cheng, 2006; Donner & Wheeler, 2001), doctors (Stamm & Buddeberg-Fischer, 2011) or social workers, but the career development of psychology and special education students is a less researched area, despite the fact that they as well work with people and there is a great risk of burnout after being employed.

One of the main goals of the research was to investigate our hypotheses that CA predicts LS, and this relationship is mediated by PCB and CWB, to provide useful information for career counselling offices and university centers in order to reduce dropout rate. As it turned out, the level of adaptability also promotes the increase of life satisfaction, that is, to be more satisfied, (i.e. to create a certain level of well-being for ourselves), it is advisable to increase their career adaptability.

The fact that the relationship between CA and LS is negatively mediated by PCB and positively by CWB suggests career advisors that it is worthwhile to clear the barriers in university students' career development, but if they do not have the opportunity to do so, the increase and improvement of their self-efficacy can be of help because it positively mediates the relationship between CA and LS (Duffy, Douglass, & Autin, 2015)).

Another aspect of dropouts may be the fact that the rate of emigration from Eastern Europe also has a major impact on the career development of young people ready to get employment. The picture that they see has a paradoxical effect on them, because one third of workers work abroad, while there is a huge labor shortage in the country (Romania). Many explain this contradiction that foreign wages are more satisfactory. So, it is no surprise that individuals are engaged in foreign work to create a better quality of life.

In other respects, this research is also useful in highlighting that the extent to which barriers are overcome can also affect our quality of life. Thus, it is worth emphasizing the importance of for example the mindfulness as a coping mechanism for university students, as it is useful for uncertain employees as well (Jacobs & Blustein, 2011).

3.3.1.6. Limitations

In order to confront students with fewer barriers, it is advisable to clarify the barriers in the coming years, to elucidate whether lack of finances and lack of support from family or university are the existing barriers or they are internal barriers; as such, they can more accurately be remedied. Another limitation of the research is that we have not been able to reach out to students who have already left the faculty, so their coping self-efficacy and their perceived barriers could not be revealed.

3.3. Study 4. Online Career Intervention For University Students

3.4.1. Introduction

Information and communication technology (ICT) is now available in almost every area of life. Career counseling is no exception, as in recent decades ways of incorporating ICT into career counseling have been increasingly explored (ex. Whiston, Brecheisen, & Stephens, 2003; Whiston, Li, Mitts, & Wright, 2017; Barbour, Lahiri, Toker, & Harrison, 2015; Gati, Kleiman, Saka, & Zakai, 2003).

Several studies have shown that users are interested in developing their career-related competencies on an online platform (e.g.: Gati, Kleiman, Saka, & Zakai, 2003; Tannous, 2017), in addition, it is satisfying for users and they are curious about the opportunities offered by computers and programs. These programs seem to be useful in a certain way. As soon as computers or software were used in counseling sessions, studies appeared examining the impact of these new tools, often compared to traditional face-to-face career counseling. The following is an overview of the types of interventions that have been used in some way to promote career development.

An online career guidance program for career maturity has been successful with high school students; those who have participated in online intervention have shown significant growth in their career maturity level (Tjalla, Herdi & Kustandi, 2018). An earlier study was similarly successful where it was found that online narrative based on career interventions was effective in career counseling, as participants exhibited less career indecision and more career certainty (Severy, 2008).

To facilitate occupational exploration and career decision making there was another successful internet-delivered career development intervention, called Career HOPES, where the participants in the treatment group showed greater scores in career decidedness than the control group (Herman, 2010). More recent research shows that career and self-construction helped high school students manage their career-related transitions (Cook & Maree, 2016).

In their research, Nota, Santilli, & Soresi (2015) investigated how effective an online career intervention, based on life design principles, can be. Primary school students participated in the study and they formed a group of online and traditional career intervention. Pre-test and post-test measurements were compared and concluded that students who received online intervention had a higher level of career adaptability and life satisfaction.

Another study where the aim was to improve career development, the impact of an online career intervention was investigated. Some of the research participants received face-to-face counseling and another group, online career counseling. The results showed that both online and face-to-face interventions increased students' career development levels compared to the control group (Pordelan, Sadeghi, Abedi, & Kaedi, 2019). So there was no difference between the two modalities.

Nevertheless, one of the meta-analyses that investigated the treatment modalities in career counseling concluded that the use of a computer system supplemented by the presence of a counselor face-to-face was more effective than the computer-based exercises and tasks alone (Whiston, Brecheisen, & Stephens, 2003). In the most recent meta-analysis similar results were found, where the effectiveness of career choice interventions was investigated. It has been found that the effectiveness of computer intervention alone or predominantly computer-based intervention was much lower than that of traditional intervention (Whiston, Li, Mitts, & Wright, 2017).

Balanced career development involves the fact that in difficult times, the individual can adequately solve his or her career problems. The reasons for large university drop-out rates may be due to several reasons, such as the inability to decide or lack of information (Crisan, Pavelea, & Ghimbulut, 2014). Therefore, it is worth examining and discussing career development in the context of dropping out. In Romania, the drop-out rate of students enrolled in university is very high (EUROSTAT, 2018), meaning that they do not complete their Bachelor's Degree (BsC). The same is true for university students who choose helping professions, as in this case there is also an enormous proportion of students who do not finish their studies (Data collected from Department of Applied Psychology, Cluj-Napoca). There are several reasons for the high drop-out rates, which can be well explained by the career barrier model (Gati, Krausz, & Osipow, 1996). There may be a lack of motivation and general inability to make decisions, so the choice of degree will only be a minor bad or a decision suggested by the environment. Another reason may be inadequate information and inconsistent information about the faculty, which causes the student not to get what he/she expected, which will make it easier for him/her to leave the program or freeze it. All this was well supported by a study conducted at Babes-Bolyai University in 2014, confirming that students have little information about job opportunities, expectations are not in line with their knowledge and abilities, and they do not have a coherent plan. In addition, they face many obstacles in their career decision-making process as well (Crisan, Pavelea, & Ghimbulut, 2014).

Several studies show that CA (and LS) can be improved by traditional 6-week interventions (Janeiro, Mota and Ribas, 2014), or by a one-day intense training (Koen, Klehe, & Van Vianen, 2012), or by 3 sessions of online intervention (Nota, Santilli & Soresi, 2015).

Based on preliminary research, we focused on the career development outputs of career adaptability and career satisfaction. To make the intervention online, we have created a website (www.karrier-labor.ro) where the students can spend one and a half hours each week on career-related tasks for four weeks. To sum up, we are attempting to increase the career adaptability of college students through the use of an online program developed by specialists.

3.4.2. The purpose of the study

In this study, we developed an intervention that combines elements of self-knowledge with elements of career construction intervention, all in favor of a clearer insight (Brown & Krane, 2000; Barclay & Stoltz, 2016) and better management of career transition (Savickas & Portfeli, 2012).

Our main aim was to effectively improve career adaptability as an adaptability resource, which will be revealed in the students' career paths, taking into consideration that professions and job requirements are constantly changing.

On the other hand, another goal was to test the effectiveness of an online career intervention and the extent to which such interfaces are needed when it comes to career construction.

Objectives

Creating and developing an online platform that promotes career development

H1. Compared to a control group, the experimental group will show an increase in career adaptability (in terms of career concern, control, curiosity, and confidence), immediately after the intervention and six months later.

H2. Compared to a control group, the experimental group will show an increase in career satisfaction immediately after the intervention and six months later.

3.4.3. Methods

Design and procedure

The purpose of the longitudinal field quasi-experimental study was to examine the extent to which the use of an online career program affects the career development of students. More specifically, individuals in the study were compared across career adaptability and career satisfaction. The two groups we compared were those who participated in a four-week online career intervention (training group) and those who did not (control group). The pre-test was taken during the seminars a few days before the intervention (Time 1), while the post-test data was collected right after the intervention (Time 2) and the follow-up data were gathered through e-mail six months after the intervention (Time 3). Both experimental and control groups were recruited from the Faculty of Psychology and Education. The experimental group consisted of students who met each week at a given seminar. Although the two groups were not randomized, there was no significant difference between the control group and the experimental group at the pre-test. The participants volunteered and used their data anonymously, and signed a consent statement.

Participants

A total of 132 university students from the bachelor program took part in the study, from which 49.2% (n=65) formed the training group and 50.8% (n=67) formed the control group. All the students completed the pre-training measurement (Time1) and the post-training measurement (Time 2), and only 92 students (69.69%) completed the follow-up measurement six months later (Time 3). From these students, 50 participants (54.3%) formed the control group and 42 participants (45.7%) formed the experimental group. The final sample that had participated in the follow up as well, consisted of 81 women (88%) and 11 men (12%) with a mean age of 21.2 (SD=1,98) years. All participants were from the Faculty of Psychology and Educational Sciences and from the Faculty of Sociology and Social Work.

3.4.4. Career intervention-training process

The structure of the online platform was specially designed for this study (Figure 17.). The structure and process of the follow-up modules were based on the combination of theoretical work by Brown and Krane (2000), The Life Design Group Guide by Barclay and Stoltz (2016) and suggestions from career counselors. We also took into consideration, that online self-assessment, which is the main part of the intervention, should include not only scoring but also an individual interpretation of the scores, and if it is the case, recommendations for future actions.

The modules were completed during seminars, 30-40 minutes/module, one module/week.

After a student had registered to the website, they received a confirmation email and they could easily start the program following the instructions. Table 1. presents the structure of the online intervention.

Each student from the experimental group participated in a four-week online program with activities related to their career development. Firstly, we have introduced the site where they registered with their email address and agreed to their data being used anonymously. After the registration the first module started, where two tests were completed and then interpreted. In the first module, participants completed a 60-item version of the HEXACO Personality Test to find out which personality type fits them the most (Honesty-Humility, Emotionality, Extraversion, Agreeableness (versus Anger), Conscientiousness, Openness to Experience). The results were sent via email and they could be analyzed and interpreted. After the HEXACO, they filled out the RIASEC inquiry questionnaire, which revealed the interests that can be matched to a certain job or career based on their personality. The aim of this module was to explore personality traits and career interests, through which the participant develops his/her self-knowledge.

The second module was accessible after seven days. In this module, a goal-setting exercise was undertaken to formulate the short, medium, and long-term goals of the participant for certain areas of life. They also received summary feedback via email.

The third module was also completed one week later; in this part of the program future career expectations were clarified and tasks like categorization and prioritization of value systems were completed. In the last module, the participant had to prioritize his or her work-related values and then make a summary of the role models and activities he/she likes. After completing the four modules, they received a summary email giving feedback on the exercises and giving them the opportunity to participate in additional exercises if they wanted to.

If there was any question about the results, a career counselor was available online to answer. All the results of each module were emailed despite the fact that they had received every information on their profile as well. The participants also received reminder emails informing them of their remaining time to complete the respective module, hoping that these reminders will promote a high participation rate in the research.

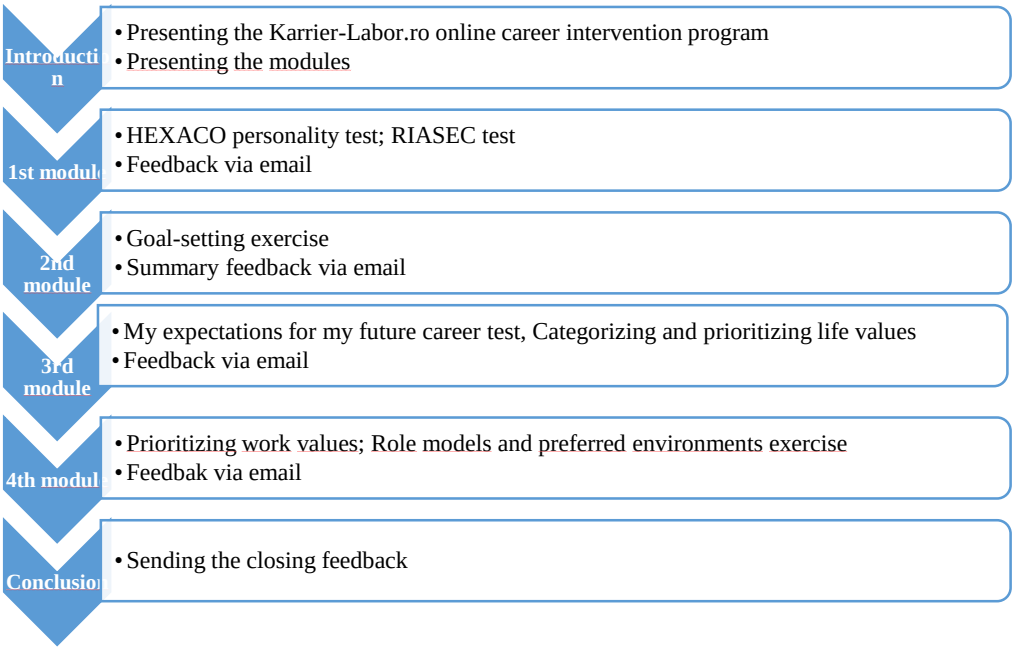


Figure 12. *The structure of the online intervention*

3.4.5. Measures

Career Adaptability

After collecting the demographic data, the participants filled out the CAAS- Hungarian Form (Veres, Farcas, Petric, & Szamosközi, 2017) in order to measure concern, control, curiosity, confidence, and in total, career adaptability. The CAAS-International contains 24 items that are combined to form a total score that indicates career adaptability (Savickas &Portfeli, 2012). The CAAS- Hungarian Form has only 23 items, due to one missing item, which did not satisfy the procedure of validation. The scale is divided into four subscales that measure the adaptability resources of concern (6 items), control (6 items), curiosity (5 items), and confidence (6 items). Participants responded to each item choosing a scale from 1 (not strong) to 5 (strongest).

Career Satisfaction

Career satisfaction was measured with a five-item scale developed by Greenhaus, Parasuraman, & Wormley (1990). On our sample reliability it was good (α=.86).

Social Validity

Four questions were asked in the experimental group after the intervention, at post-test (Time2). With these four questions, we aimed to explore how useful the program was to the users. The first three questions were the following: *How useful was it to solve online tasks and fill out questionnaires? How useful do you find the emails sent with the results? How useful were the reminders?* The following answers were given to choose from: *Very useful, Useful, Rather useful, Rather not useful, Not useful, Not useful at all*. In the fourth question we asked which modality is more preferred (*Would you prefer the online tasks and questionnaires or the paper-pencil form?*) There were four answers: Paper pencil form, Online form, Indifferent, Other.

3.4.6. Results

Repeated measures ANOVAs (Time1, Time2)

No differences were found between the two groups on career concern ($F(1,130)=.51$, $p=.47$), career control ($F(1,130)=.00$, $p=.98$), career curiosity ($F(1,130)=.00$, $p=.97$) and career confidence ($F(1,130)=.77$, $p=.38$), overall career adaptability ($F(1,130)=.26$, $p=.61$), career cooperation ($F(1,130)=1.1$, $p=.29$), career satisfaction ($F(1,130)=.52$, $p=.46$), life satisfaction ($F(1,130)=.77$, $p=.38$).

Repeated measures analyses of variance (ANOVAs) were conducted to determine whether the development of each dimension of career adaptability was significant and could be ascribed to the training, with the career adaptability measures at each measurement point (pre-training, post-training) as the within-subjects variable and condition as the between-subjects variable.

The interaction condition×time was significant for career adaptability (F(1, 130)=12.02, p=.001, η^2_p =.08; see Fig. 18a), career control (F(1, 130)=4.53, p=.03, η^2_p =.03;see Fig. 18c) and career curiosity (F(1, 130)=16.59, p=.00, η^2_p =.11;see Fig. 18d), career confidence (F(1, 130)=5,73, p=.01, η^2_p =.04; see Fig. 18e), career cooperation (F(1, 130)=11,87, p=.00, η^2_p =.08; see Fig. 18f); was not significant for career concern (F(1, 130)=3.32, p=.07, η^2_p =.02; see Fig. 18b)

No other significant effects emerged for Career Satisfaction.

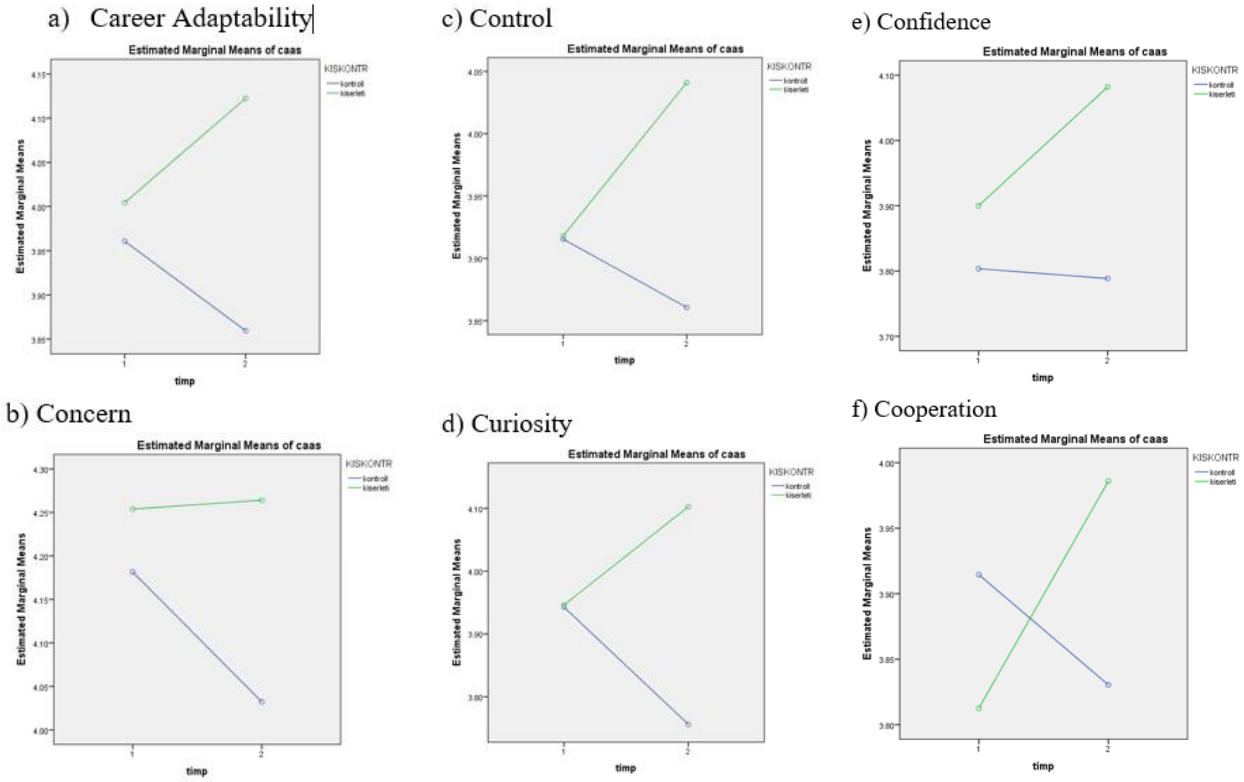


Figure 13. a–f. Graphic representation of the dimensions of career adaptability+cooperation at pre-training and post-training measurement for the training group and the control group.

Repeated measures ANOVAs (Time1, Time2, Time3)

To make sure that the experimental group and the control group would be comparable, we checked whether the groups differed. No differences were found between the two groups on career concern (F(1,90)=.76, p=.38), career control (F(1,90)=.03, p=.85), career curiosity (F(1,90)=2.4, p=.12) and career confidence (F(1,90)=.28, p=.59), overall career adaptability (F(1,90)=.08, p=.77), career satisfaction (F(1,90)=.76, p=.38).

To test the first hypothesis that, compared to the control group, the experimental group will show an increase in career adaptability right after the intervention and six months later. Table 2 displays the means and standard deviations for overall career adaptability and for each dimension

of it, and for career satisfaction. Figure 19. a-f shows the graphic representations of these means. From the figures, we can read that the experimental group scored higher on every dimension at the posttest (Time 2) than at the pretest (Time1). Also, figures indicate that the experimental group scored higher on control, curiosity and confidence at the posttest measurement (Time 2) and at the follow-up measurement (Time 3) than at the pretest measurement (Time 1)

Table 10

Values of the dimensions of career adaptability, overall career adaptability and career satisfaction at pretest, posttest and follow-up measurement for the control group and the experimental group

Dimension	Group	Pre-test (T1)		Post-test (T2)		Follow-up (T3)	
		M	SD	M	SD	M	SD
Career Adaptability	Control	4.01	.47	3.85	.59	4.02	.48
	Experiment	3.98	.47	4.10	.46	4.05	.48
Career concern	Control	4.26	.50	4.02	.64	4.21	.53
	Experiment	4.26	.61	4.28	.58	4.21	.60
Career control	Control	3.95	.66	3.86	.69	4.04	.60
	Experiment	3.92	.65	4.05	.60	4.07	.62
Career curiosity	Control	4.02	.50	3.79	.65	3.95	.59
	Experiment	3.85	.51	4.00	.55	3.97	.56
Career confidence	Control	3.80	.65	3.74	.72	3.86	.61
	Experiment	3.87	.58	4.07	.59	3.95	.66
Career satisfaction	Control	4.00	.57	3.87	.68	3.79	.84
	Experiment	3.89	.65	3.89	.74	3.80	.67

N Experiment=42 N Control=50

Repeated measures analyses of variance (ANOVAs) were conducted in order to determine whether the development of each dimension of career adaptability and career satisfaction was significant and could be ascribed to the intervention.

Results showed that the interaction condition×time was significant for career adaptability ($F(2, 180)=5.87$, $p=.00$, $\eta^2_p =.06$; see Fig. 3a), career curiosity ($F(2, 180)=5.35$, $p=.00$, $\eta^2_p =.05$; see Fig. 3d), career confidence ($F(2, 180)=3,12$, $p=.04$, $\eta^2_p =.03$; see Fig. 3e); and was not significant for career concern ($F(1, 171.83)=3.95$, $p=.05$, $\eta^2_p =.04$; see Fig. 3b), career control ($F(2, 180)=2.37$, $p=.09$, $\eta^2_p =.02$; see Fig. 3c) and career satisfaction ($F(2, 180)=.56$, $p=.57$, $\eta^2_p =.00$; see Fig. 3f).

The results show that career adaptability started to increase in the experimental group and to decrease in the control group, but in the long run, the growth in the experimental group decreased. The situation is similar in the concern and curiosity and confidence subscales, but in the case of career control, there is a long-term increase in the experimental group. In terms of career satisfaction, this value started to increase slightly in the experimental group, but unfortunately, in the long run, there was no significant increase in career satisfaction.

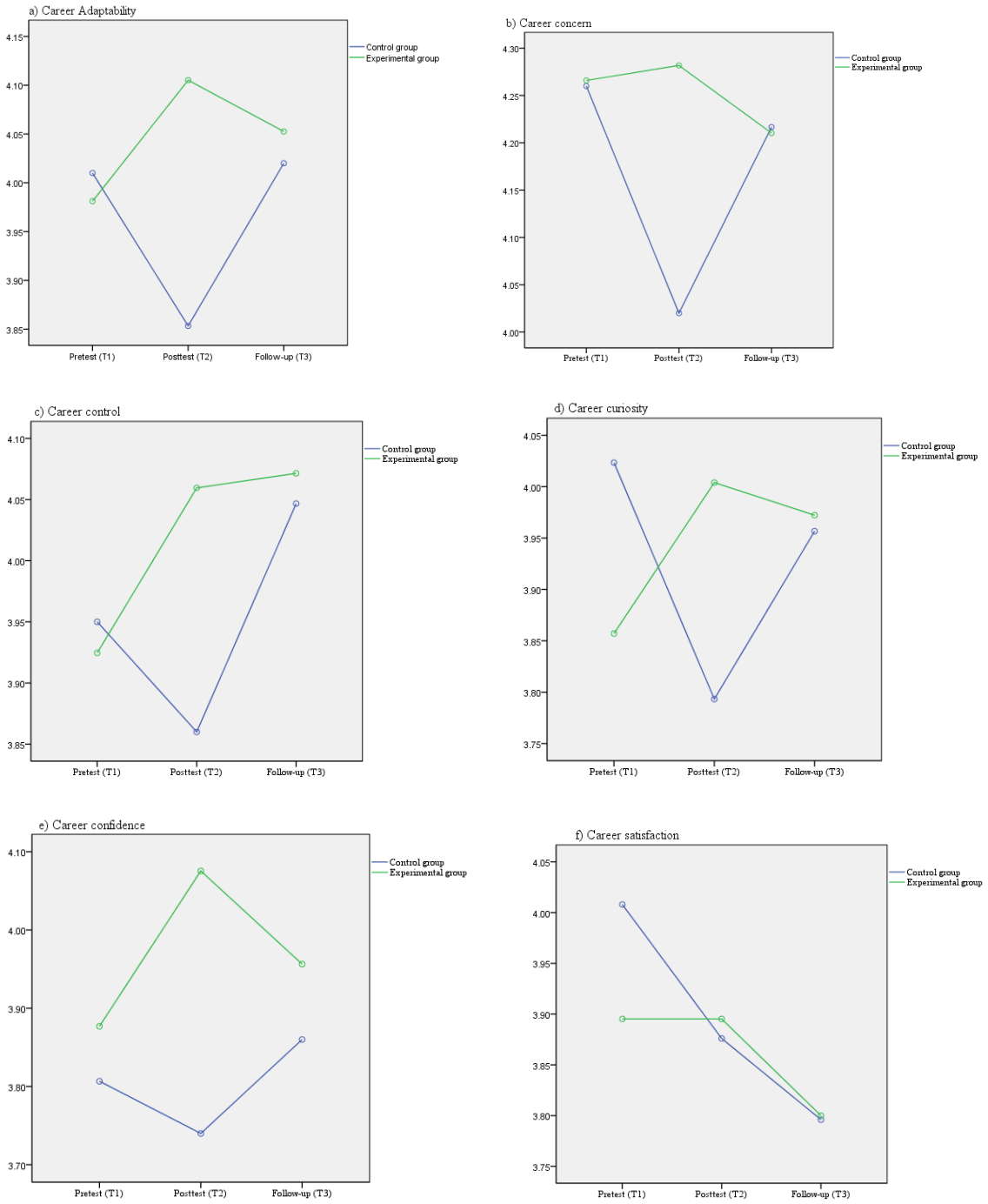


Figure 14.. a–f. *Graphic representation of the dimensions of career adaptability+cooperation at pre-training and post-training measurement for the training group and the control group.*

The subjective usefulness of the program as perceived by the students

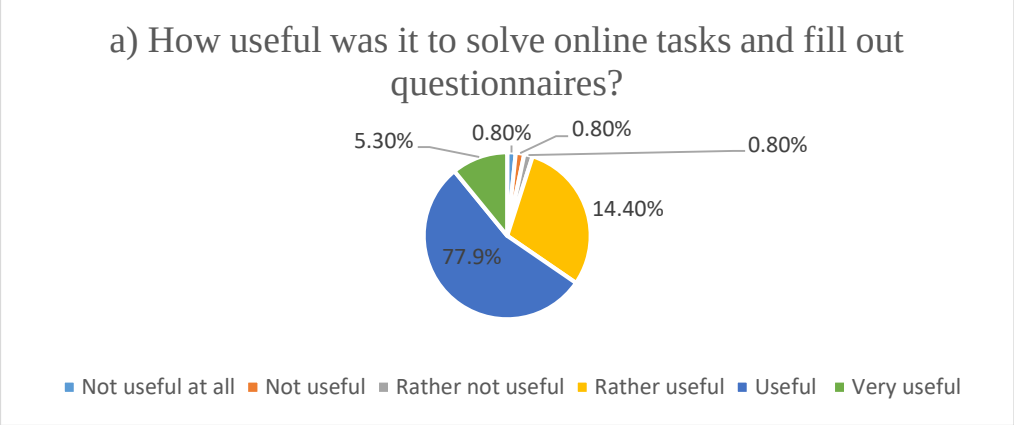
During the post-test (Time2), which had a total of 65 participants, each participant completed a questionnaire aimed at finding out how useful the online interface was. As the career intervention program is still in an experimental phase, we were curious about the program and the usefulness of its elements.

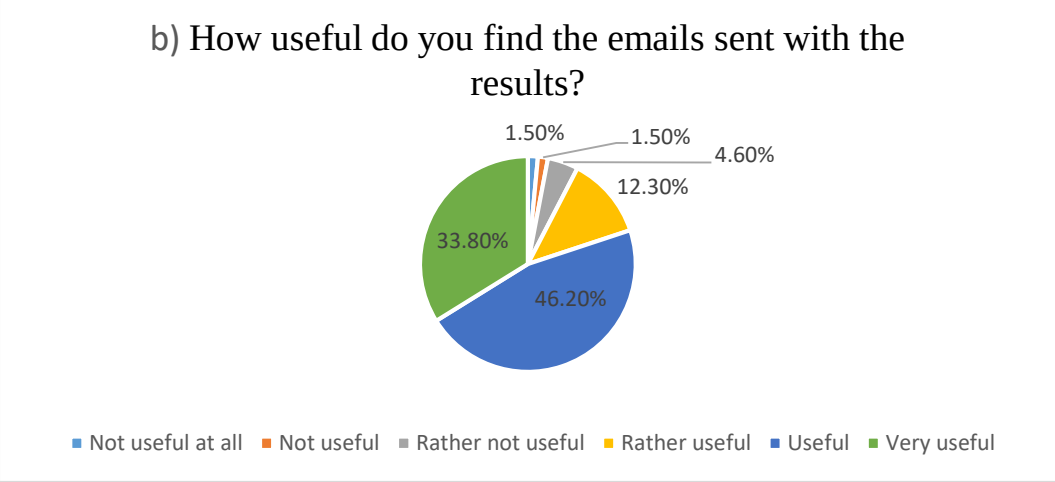
To the question of "How useful was it to solve online tasks and fill out questionnaires?" the answers were the following (Figure a): 77.9% found it very useful, 14.4% found it useful, 5.3% found it more useful, and 0.8% found it less useful, 0.8% did not find it useful and 0.8% did not find it useful at all.

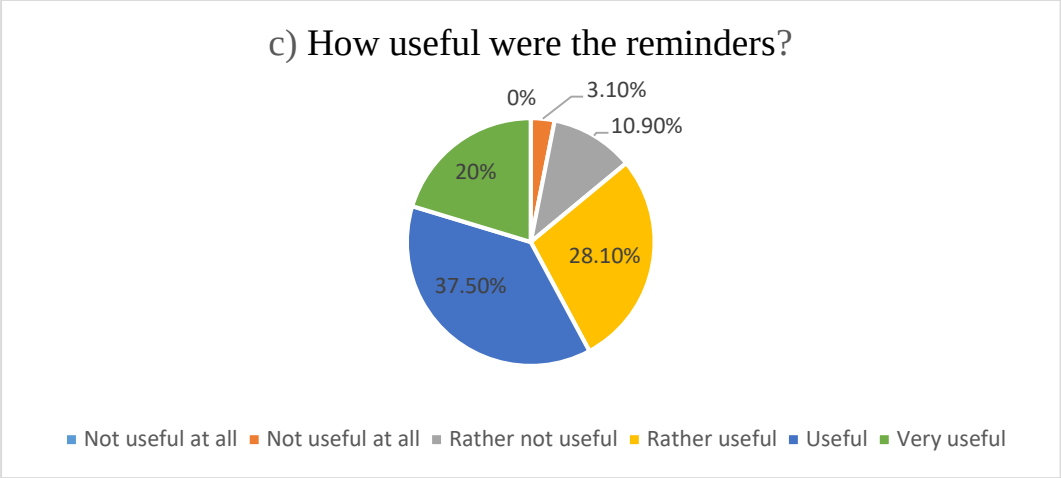
We were also curious to what extent the results sent via e-mail were useful, as the results could be viewed on the page profile as well. Despite that, one third (33.8%) of the participants found the e-mails very useful, 46.2% useful, 12.3% more useful, while the remaining 7.6% thought that the emails containing the result were not very important.

We were also curious about the usefulness of the reminders that we received via email. So when we asked how useful the reminders were, we got the following results: 20% responded that they were very helpful, 37.5% said that they were useful, 28.1% rather useful, and the remaining 14% did not find the reminders useful.

Finally, we asked about their preference regarding the modality for completing the tasks and the questionnaires, and it turned out that no one prefers just paper-pencil form, 9.4% of the participants answered that the form does not matter for them, but the majority (90.6%) preferred the online version of the tasks and questionnaires.







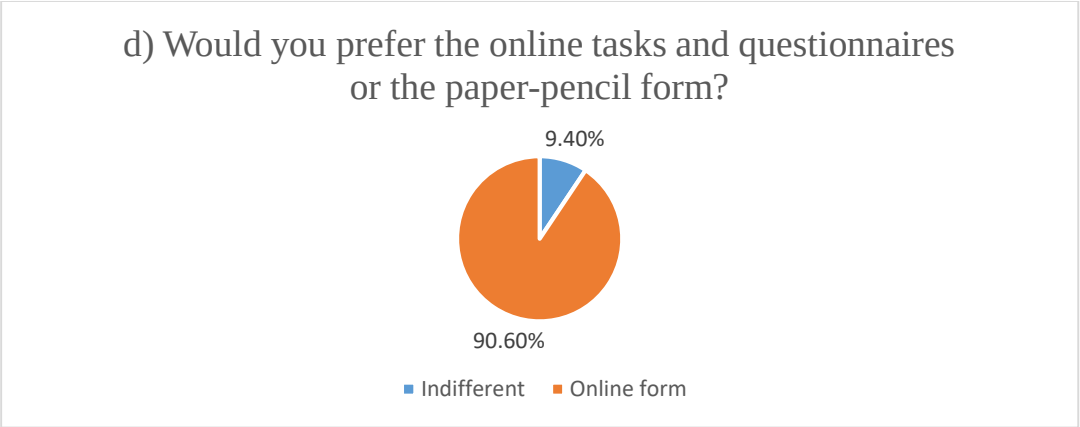


Figure 15. a-d Questions regarding the usefulness of the online program

3.4.7. Conclusions

We can affirm that the website karrier-labor.ro can help students who need self-knowledge in order to create a more flexible attitude towards career development and construction. In addition, clarifying their goals and values can stimulate their career adaptability. Developing the level of career adaptability has shown strong growth in the short term, so we recommend to students who are engaged in a long term future career development and this program adds to their personal development.

As for the importance of career adaptability, there is no doubt that in individuals' lives this ability is essential for a balanced and upward career development, and for a satisfying life and career (Chan & Mai, 2015; Chan, Mai, Kuok, & Kong, 2016; Ingusci, Palma, DeGiuseppe, & Iacca,2016; Maggiori, Johnston, Krings, Massoudi, & Rossier, 2013; Rudolph, Lavigne, & Zacher, 2017). One of the aims of our research was to examine how this essential ability could be developed and enhanced. Similar to previous researches, this was partly successful (Koen, Klehe, & Van Vianen, 2012). However, when we look closely, there are differences between the results, as we have found that overall career adaptability can be improved, including curiosity and confidence, while other researchers found that confidence did not develop (Koen, Klehe, & Van Vianen, 2012). Although the modality of intervention is different here, this is one of the studies where follow-up is also included in the research. In another study, which also involved computer-intervention, three scales of career adaptability (concern, control, confidence) were managed to be

improved, but these were only post-intervention measurements (Hummel, Boyle, Einarsdóttir, Pétursdóttir & Graur, 2017). In contrast, our results show that just after the intervention, only the subscale of concern did not increase, whereas the rest did (control, curiosity, confidence).

Despite the fact that computer-based career interventions are less effective than the traditional face-to-face career guidance (Whiston, Li, Mitts, & Wright, 2017), using contemporary digital technology in career interventions offers the possibilities for better engaging youth in developing their careers (Nota, Santilli, & Soresi, 2015). Last but not least, it may be more cost-effective in the long run.

What is still very important, is user experience. Many programs attempted to reach students through computer programs in the field of career development and examine this from the students' point of view, ie. the degree to which they are satisfied with these programs (eg. Barbour, Lahiri, Toker, & Harrison, 2015; Gati, Kleiman, Saka, & Zakai, 2003). All this is important because designing an online interface requires a lot of testing to be operational and sustainable in the long term.

Concerning the perceived effectiveness of the program, it is clear that students favor the online form of intervention. This result encourages career counselors to invest in online programs (software). These online programs can be useful on their own or even help or just facilitate traditional career counseling. As far as satisfaction is concerned, users reported that it was helpful to share results via e-mail and the reminders were also useful.

Even the relatively low drop-out rate proves the success of the program. While in Herman's (2009) study, which was also a 4-week online intervention and examined its effectiveness, the drop-out rate was 80%, whereas in the current study, the drop-out rate was only 30.31%. This low drop-out rate can be explained not only by the popularity of online interfaces but the frequent e-mail reminders may also have contributed.

Overall, we have succeeded in creating a platform that can provide a good starting point for young people who want to improve their career adaptability and develop their future careers. Fact is that the program alone does not provide the same level of career counseling as the traditional one, but it can more easily attract and launch the aspirations of career building in uncertain young people.

3.4.8. Limitations and further developments

One limitation was that the experimental and control groups were chosen arbitrarily/were not randomized, so the research followed a quasi-experimental design. In the following, it would be worthwhile to include students from other faculties to get the chance to examine whether the chosen faculty influences the extent of career adaptability development.

In addition, as technology and advisory elements evolve, it is important to make the program more appealing, spectacular and interactive, thus increasing its future effectiveness.

CHAPTER 4. GENERAL CONCLUSIONS AND FUTURE DIRECTIONS

This thesis aimed to empirically investigate the characteristics and predictors of students' career development emphasizing career adaptability. Theoretical, methodological advances and practical implications of this thesis are outlined below.

4.1. Theoretical Implications

The thesis provided answers to questions related to the career development aspects of young adults. Specifically, we sought and answered questions about the extent to which career adaptability is related to professional satisfaction, and what the factors that may influence this relationship are. First, in Study 1, we find that the relationship between career adaptability and professional satisfaction is positive and moderate, which is consistent with the findings of previous studies and with the Career Construction Model of Adaptation (Savickas, 2013). The results show that the extent of the effect between CA and PW is medium and positive. Apart from the curiosity sub-scale, where there is a weak relationship, other sub-scales, concern, confidence and control, are medium and positive for professional well-being as well. These results support the results of previous studies (Zacher, 2014, 2015). We were also curious as to whether and to what extent the strength of this relationship is influenced by certain factors. Culture and career status did not appear to be a significant moderator, but age, career stage, education level, and job tenure are significant moderators in examining the strength of the relationship between career adaptability and professional satisfaction. The most prominent result of moderator analysis is that the relationship between career adaptability and professional well-being decreases with age, but when we looked at career stages as a moderator, it is clear that the relationship between adaptability and professional well-being increases until the age 40. These results can be useful in organizations, as the older age group needs to be paid more attention to, since in certain cases the loss of adaptability may lead to a deterioration of the quality of life. In addition, what adds to the strength of the relationship being discussed, is education level. This result suggests that lifelong learning has a positive impact on our career development in terms of well-being.

4.2. Methodological Advances and Practical Implications

From a methodological point of view, we have succeeded in adding to the tools used in career counseling, as two tools have been adapted and validated. Career Maturity Inventory Form C and CAAS questionnaires were adapted and validated in Hungarian language. These can be accessed and used by researchers, school psychologists, and counselors to ease and/or facilitate their work.

The most important practical implication of our findings is that Hungarian practitioners (career counsellors) should use CMI Form-C in case they intend to investigate the readiness of a student. Despite the recommendations, the Hungarian form of Career Maturity Inventory Form C conceived in Transylvania has some limitations. But according to the statistical analysis, the scale can be considered a valid and reliable instrument for practitioners, presenting good psychometric criteria and factorial structure among the examined sample.

CAAS- Hungarian Form proved to be a forceful and valid measure to study career adaptability among high school and university students. The results of the study are very satisfactory in terms of reliability and factor structure, as has been reported previously with the CAAS-International Form (Savickas & Portfeli, 2012).

Another novelty of the thesis, which broadens and supplements the literature and provides a broader insight into the predictors of career adaptability, is the findings of the third study, which concluded that the HEXACO personality test can be used to predict career adaptability in a similar way to the Big five personality test. Another important finding is that GPA as a cognitive factor did not predict career adaptability, just as work experience did not either. Thus, it is rather the personality factors that can determine the extent of career adaptability.

In the third study (Study 3B), we found that in the case of students choosing the helping profession career adaptability is also a predictor of life satisfaction. In addition, we explored the extent to which and how this relationship is influenced by factors in career development, such as perceived barriers and self-efficacy in overcoming barriers. PCB negatively mediated the relationship, while CWB mediated it positively. These results also contribute to the work of professionals as they will know what to focus on in their sessions. It is recommended to identify and clarify the perceived barriers while continuously improving self-efficacy.

In the fourth study, using the findings and theories of previous studies, an online platform was created to promote and enhance professional well-being and career adaptability. By using the online program, we contribute to the career development of young people who wish to develop their career adaptability based on self-awareness techniques. The online platform can be used on its own, but it can also greatly helps the work of the counselors, as it contains several career-related questionnaires and practices. The website *karrier-labor.ro* can help students who need self-knowledge to create a more flexible attitude towards career development and construction. In addition, clarifying their goals and values can stimulate their career adaptability. Developing the level of career adaptability has shown strong growth in the short term. Is recommended for students who are actively investing in their own career and self-development.

All in all, it can be said that the thesis significantly enriches the literature that concerns the career development of university students choosing the helping profession while placing all this in an Eastern European context. It has succeeded in highlighting the importance of such factors (career maturity, career adaptability, perceived career barriers) that have not yet been discussed in the Eastern European context as far as career development is concerned. In addition, our aim to adapt tools to Hungarian language so that they could be used by practitioners has also been met. Perhaps the most spectacular and rewarding benefit of the thesis is the online platform, which is aimed at developing young people's career-related abilities on a strong professional basis and free of charge.

4.3. Limitations and Further Directions

Each study had its own limitations and potential for further development, which entitle us to talk about limitations.

First, a more detailed picture than meta-analysis could have been obtained if we had data that indicated performance (e.g. GPA) or cognitive functions (e.g. IQ). Furthermore, if data related to age were presented in more detail and in more studies, we could compare life stages along with criteria that may even predict well-being indicators.

As for the two validated devices, it would be worth validating them on a larger population. This is especially true for CAAS, as here the older age group was not represented in great numbers during the adaptation process.

Similarly, a broader and more diverse population would be worth examining as predictors of career adaptability, whether personality factors would predict career adaptability to a similar degree, as well as, work experience and GPA (or performance measured in other ways) would or would not predict it.

In Study 3B, we would like to highlight two important factors that we wish to investigate in the future. The first is to clarify the perceived barriers. The relationship between CA and LS is negatively affected by the PCB, but we do not know the extent to which different types of barriers mediate this relationship negatively. Another important factor that has not been investigated, and in a longitudinal study may be subject of examination, is the investigation of coping self-efficacy in students who have already dropped out of the university.

Tthe last study, which examines the effectiveness of the online program, has many limitations and shortcomings. In particular, the program interface and the dissemination of results could be more attractive and interactive for users. In addition, we are planning to add elements that can improve the career adaptability of our users in the long run. Next to this, it would be worth testing it with high school students and other undergraduate students in order to make it more widely available.

All in all, in order to get a clearer and more accurate picture of the career development of students choosing the helping profession, it would be worth extending research to other countries and even comparing specific helping professions (e.g. psychologist, special education teacher, mental health care professional, nurse, etc.). In addition, the impact of different career development prevention programs both on burnout and on drop-out rates would be worth investigating in longitudinal research

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