

ÉVA FRUZZSINA LUKÁCS

The Connection of Career Decision and Identity Development Types of Career Indecision from the Perspective of Identity Statuses

Doctoral (PhD) thesis booklet

Supervisor: Laura Szabó, associate professor, ELTE PPK
Department of Developmental and Clinical Child Psychology
Doctoral School: Eötvös Loránd Science University, Faculty of Education and
Psychology, Doctoral School of Psychology
Head of School: Prof. Dr. György Hunyadi, PhD, Dsc
Doctoral program: Socialisation és Social Processes Doctoral Program
Head of program: Prof. Dr. György Hunyadi, PhD, Dsc

PhD Committee

Chairman: dr. Klára Faragó, PhD, ELTE PPK
Department of Economic and Ecological Psychology
Secretary: Dr. Mónika Szabó, assistant professor, ELTE PPK
Centre for Intercultural Psychology and Education
Members: Sándor Rózsa, PhD, ELTE PPK
Department of Personality and Health Psychology
Dr. Lan Anh Nguyen Luu, associate professor, ELTE PPK
Centre for Intercultural Psychology and Education
Dr. Ildikó Takács, associate professor, BME
Department of Ergonomics and Psychology
Readers: Dr. István Kiss, assistant professor, SZTE
Department of Psychology of Councelling
Dr. Éva Szabó, associate professor, ELTE PPK
Department of Psychology
July 2012

Introduction

The question of career choice is extremely important for students involved in secondary as well as higher education, since they are preparing for their future in the world of work during these years by taking part in education and in other activities (e. g. part-time jobs, voluntary work) (e. g. Super, 1959). Choosing the most suitable profession for a person is not always uncomplicated. Therefore, the obligation to help career choice is included in the central regulations of public education¹. The National Core Curriculum 110/2012. (VI. 4.) Decree lists career orientation as an emphasized development task. Unfortunately, however, it provides neither the possibility to deal with it on specific lessons, nor resources to finance the activity. The Act CCIV of 2011 on National Higher Education states the obligation to offer study and career counselling for students, and it also declares that these services have to be provided free of charge. However, in spite of the fact that in the past few years the amount of theoretical knowledge in career orientation as well as its methodological background have been enriched (e. g. the improvements of the TÁMOP 2.2.2. programme) we know very little about how much high school and university students are affected by problems connected with career choice, or what causes lie behind the indecision taking place before career choice; what occurrences it is accompanied by. The conceptual framework of lifelong guidance (Borbély, 2009) includes a wide range of counselling activities. Simultaneously, the number of professionals conducting counselling has grown, although it still does not reach the figure necessary for covering the Hungarian population (approx. 3000 people; estimated value; Borbély, 2009). Professionals entitled to conduct counselling activity are very different regarding their qualifications and competencies. On behalf of separating competency-limits, it is also important to be aware of the characteristics of students entitled to take part in counselling. The recommendations of Wieggersma (1992), which define the form as well as the goal of consulting suited to the nature of the problem and the features of the client, are still to be followed. The certain consulting levels can be well-connected to the professionals with the appropriate qualifications (Karner, 2010). So that the tasks ahead in public education can be accomplished properly, we have to explore the characteristics of the high school and university population with respect to career indecision as well as their other features. The quality of the service can be improved if we have certain means at our disposal with the help

¹ Thanks to the gradual change of perspective which took place during the past decades and which does not consider career choice as a single, irreversible process, today we talk about career orientation and not career choice. The goal of career orientation is the preparation of career decision (Szilágyi, 2005).

of which we can link the clients to the appropriate counselling level, moreover, we can measure the efficiency of the service.

Theoretical background of the research

During the planning of my research, I have examined the literature of career indecision and identity. Career indecision is a developmental characteristic which individuals go through before making a decision while looking for the option best-suited for them (Feldman, 2003). Since career indecision is a multidimensional problem, the range of examined factors is fairly wide. Among the examined variables we can find both cognitive (e. g. lack of desired job, deficiencies in self-knowledge, career self-efficacy, etc.) and emotional components (e. g. anxiety, ambivalence, loss of control, etc.). In the literature of career indecision, they distinguish various types according to the causes behind the indecision. In their general writing, Kelly and Pulver (2003) state the three types which appear in the literature of career indecision regardless of the measuring tool.

The types are the following:

1. The group of “the self-confident committed” (Wanberg and Muchinsky, 1992), “the committed” (Savickas and Jarjoura, 1991), “the ready to decide” (Cohen et al., 1995) or “the uncommitted extraverted” (Kelly and Pulver, 2003). Individuals belonging to this type can be characterized by low career indecision, and a low or medium degree of choice anxiety, they possess enough career information, and their career identity has developed. According to their characteristics, individuals in this group are not expected to need career consulting. If they lack career information, the information available during informational counselling is sufficient for answering their questions.
2. “The self-confident but uninformed” (Larson et al., 1988, cited Kelly and Pulver, 2003), “the developmentally undecided” (Cohen et al., 1995), “the well-adapting but in need for information” (Lucas, 1993), “the deciding with growing exploration” (Savickas and Jarjoura, 1991), or “the well-adapting information-seeker” (Kelly and Pulver, 2003) type. The individuals in this group are in great need for career information and they have not started planning their career. They are characterized by a low level of anxiety; they are goal-oriented with mature identity. Lucas (1993) argues that for them informational counselling is the suitable form of consulting.

3. The group of “the choice anxious indecisive” (Wanberg and Muchinsky, 1992), “the avoider without a plan” (Larson et al., 1988), “the chronic indecisive” (Cohen et al., 1995), “the unable to decide” (Chartrand et al., 1994) or “the indecisive, neurotic information-seeker” (Kelly and Pulver, 2003). The individuals falling in this group feel strong anxiety, are in great need for career information, they have no self-confidence in decision making, have low self-esteem and low career identity. For them, besides providing information, the improvement of decision making and problem solving skills, as well as increasing self-esteem can be the keys to a future successful career decision.

I find the examination of self-identity important concerning the problem raised here, because – not necessarily using this concept, but – most of the big national and foreign theories of career choice deal with its significance (e. g. Super, 1959 – the concept of self-definition). Furthermore, Cohen et al. (1995), Lucas (1997), Guay and colleagues (1995), as well as Vondracek and colleagues (1995) have proved empirically the connection between career indecision and identity. The new trend in identity research, following in the footsteps of Erikson (1963 / 2002) and Marcia (1967), has made new dimensions of identity measurable, and has, with their help, discovered new identity statuses. From these results I find the achievements of Luyckx and his colleagues (2005, 2008) extremely important, who, with the introduction of the identity dimension of ruminative exploration, have made the activity of exploration similar to rumination measurable, which leads to a person not committing to any examined alternative, but always starting the exploration process over again. This identity dimension and the ruminative moratorium identity status, bearing the name of the variable, is accompanied by demonstrably negative behavioural and psychological correlations (e. g. Schwartz et al., 2011). Since the exploration process is necessary for making the career decision as well, - similarly to the examination of other identity contents – the relationship of ruminative exploration and the identity statuses connected to it with the different types of career indecision is particularly interesting to me. Furthermore, in the characterization of types I find the examination of time orientation and school motivation important. The ability to plan for the future is of great significance from the perspective of both identity formation and career choice (Zimbardo and Boyd, 1999), moreover, as it was also stated in the theories of Super and Ginzberg (cited Herr and Cramer, 1993), the highest school qualification is of determining effect, it influences career choice greatly.

The level of school motivation has a decisive impact on the continuation of studies and the achieved results (Vallerand et al., 1993).

Aim:

The aim of my studies is to reveal the cognitive and emotional factors of career indecision, as well as to define types considering the characteristics of career indecision among samples of high school and university students. In the university student sample (2nd study) I only studied females, since many researches suggest that career indecision is more prominent among women (Chartrand et al., 1990; Lewis and Savickas, 1995, cited Chartrand et al., 1996). I wish to define the nature of the relationship between career indecision and identity formation, furthermore, to describe the different types of career indecision according to identity resolution, to the time orientation characteristic of them and to school motivation. I will also examine if the types of career indecision can be connected to any identity status. Apart from all this, my aim is to validate some new measuring tools on Hungarian sample which are suitable for measuring career indecision and identity dimensions created recently (particularly ruminative exploration). By comparing the female respondents in the two studied samples on identity statuses I will empirically examine Kroger's (2003) idea about identity as a structural soft-stage model².

Hypotheses:³

1. The following measuring tools measure reliably on Hungarian samples too, and they appear with a factorial structure similar to their original factorial structure: Ego Development Scale (Ochse and Plug, 1986), Identity Dimensions Scale (Luyckx et al., 2008), and Career Factors Inventory (Chartrand et al., 1990).⁴
2. In the samples we can distinguish more career indecision types, and we can certainly find the three types described in literature (Kelly and Pulver, 2003). There are going to be remarkable differences between the career choice types on the scales of identity, time orientation and school motivation.
3. Identity variables predict the cognitive and emotional factors of career indecision.

² Kroger (2003) assumes that the developmental order of identity statuses shows certain regularities. With the passing of time, both the longitudinal and the cross-sectional studies will contain a greater number of people with achieved identity and in moratorium, and the number of people with foreclosure and diffuse identity decreases or does not change.

³ In my paper I have formulated assumptions in connection with identity statuses appearing on the samples.

⁴ I have validated the inventories with data of 1056 people. The samples contained the data of further 121 adults and 33 male university students.

4. Female university students are characterized by a lower level of career indecision (Feldman, 2003); and they achieve lower results on informational factors (Chartrand and Nutter, 1996) than female high school students; also there are more female university students with achieved identity and in moratorium, and the number of those with diffuse identity and foreclosure decreases, or at least does not change compared to female high school students (Kroger, 2003).

Method:

Sample:

683 high school students took part in the first study. According to gender there were 285 males (41,5 %), 388 females (56,6 %), and 10 individuals (1,9 %) did not give their gender. Their average age is 16,943 years (SD = 1,24 years). As for their residence 281 individuals are from Budapest (41%), 48 people are from a county seat (7 %), 168 individuals live in a city (24,5 %), 173 in a village (25,3 %); 16 respondents did not answer the question about their residence (2,2 %). Regarding the type of their school, 506 individuals are grammar school students (74,1 %), 175 students go to a secondary school (25,6 %), 2 people did not provide the type of their school (0,3 %).

219 female university students answered the inventories in the second study. Their average age was 24,06 years⁵ (SD = 7,11 years). Regarding their chief place of residence 92 of them live in Budapest (42,01 %), 21 people in county seats (9,6 %), 68 individuals in cities (31,1 %), 37 in villages (16,89 %), 1 person did not supply their chief place of residence (0,4 %).

Tools:

Measuring identity

Ego Development Scale (EDS; Ochse and Plug, 1986)-
a tool for measuring the resolution of Erikson's stages

Dimensions of Identity Development Scale (DIDS; Luyckx et al., 2008)- five identity dimensions (exploration in breadth, exploration in depth, ruminative exploration, commitment, identification with commitment)

⁵ The standard deviation of age is approximate because 25 respondents are over 30 years old (11,4 %). Since their results did not significantly differ from their younger fellow-students, I did not exclude them from the analysis.

Measuring career indecision

Career Factors Inventory (CFI; Chartrand et al., 1990)-
two cognitive (need for self knowledge and need for information)
and two emotional (career choice anxiety and generalized
indecisiveness) factors

Measuring time orientation

Zimbardo Time Perspective Inventory (ZTPI; Zimbardo and Boyd,
1999; Orosz, 2012) - five time orientations (past positive, past
negative, present hedonistic, present fatalistic, future)

Measuring school motivation

Academic Motivation Scale (Vallerand et al., 1992, 1993)-
three types of motivation on Hungarian scale (intrinsic motivation
to know, extrinsic motivation external regulation, amotivation;
Orosz and Farkas, 2011)

Self-esteem

Rosenberg Self-Esteem Scale (Rosenberg et al., 1965)

Results:⁶

My **first hypothesis** proved to be partially true. The EDS (Ochse and Plug, 1986) is not suitable for measuring Erikson's first seven stages, however, during the exploratory factor analysis I managed to distinguish the factors connected to the positive and negative outcome of identity crisis. By considering only the results of high school students, the model fit is weaker ($\chi^2/ df = 2,349$; RMSEA = 0,045; CI = 0,032- 0,057; CFI = 0,96, TLI = 0,93), but acceptable, than on the sample of female university students ($\chi^2/ df = 1,038$; RMSEA = 0,013; CI = 0,000- 0,049; CFI = 0,99, TLI = 0,99). Identity synthesis and the reliability of the identity confusion factor on the high school student sample is under the limiting value (Cronbach $\alpha = 0,65$; Cronbach $\alpha = 0,66$), while on the female university student sample it is appropriate (Cronbach $\alpha = 0,76$; Cronbach $\alpha = 0,73$). As for the DIDS (Luyckx et al., 2008) I have succeeded in distinguishing the three original factors: commitment, exploration and ruminative exploration. On the high school student sample the model fit of the CFA model is better ($\chi^2/ df = 3,688$; RMSEA = 0,063; CI = 0,054- 0,073; CFI = 0,96, TLI = 0,95) than on the sample of female university students ($\chi^2/ df = 2,203$; RMSEA = 0,075; CI = 0,056- 0,094;

⁶ I have conducted the analysis of data with the SPSS 19, and the AMOS 18 programme packets.

CFI = 0,95, TLI = 0,94). The reliability of the scales was appropriate on both samples (1st sample: commitment- Cronbach α = 0,86; exploration- Cronbach α = 0,80; ruminative exploration Cronbach α = 0,78; 2nd scale- commitment- Cronbach α = 0,89; exploration- Cronbach α = 0,81; ruminative exploration Cronbach α = 0,77). In case of the CFI (Chartrand et al., 1990) by deleting three variables, with the help of both the exploratory and the confirmatory factor analysis, we can demonstrate the two cognitive and the two emotional variables. The model fit of the CFA model is appropriate on the samples of both the high school students ($\chi^2/df = 1,98$; RMSEA = 0,038; CI = 0,031- 0,046; CFI = 0,97, TLI = 0,97) and the female university students ($\chi^2/df = 1,245$; RMSEA = 0,037; CI = 0,015- 0,053; CFI = 0,97, TLI = 0,97). The reliability of the scales on the high school student sample is appropriate (career choice anxiety Cronbach α = 0,88; generalized indecisiveness Cronbach α = 0,70; need for career information Cronbach α = 0,75; need for self knowledge Cronbach α = 0,85), whereas on the university student sample it is lower than expected on the generalized indecisiveness (Cronbach α = 0,61) and on the need for career information scale (Cronbach α = 0,60), and it is appropriate on the two other factors (career choice anxiety Cronbach α = 0,89, need for self knowledge Cronbach α = 0,89). At the same time, since reliability testing is sensitive to item numbers, we can expect an improvement in the former results with higher item numbers.

My **second hypothesis** was proved. On the high school student sample I was able to distinguish four types of career indecision with the help of (hierarchical, then k-means) cluster analysis (see 1st diagram). The path seeker, the ready to decide and the chronic indecisive correspond to the types known in international literature. I am going to describe the different types briefly below.⁷

The ***path seeker*** type can be characterized by a high level of identity, balanced time orientation, high school motivation, good results at school and high self-esteem. It is surprising that in some respect the individuals belonging to this type surpass the results even of the ready to decide (e. g. future orientation, past positive orientation and grade point average). Zimbardo and Boyd (1999) consider the past positive orientation the basis of identity, since they believe that this establishes the feeling of continuity and sameness, which are inevitable conditions of a stable identity (Erikson 1963/2002). Belonging to the

⁷ I have conducted the comparison of the individual types along different variables with the help of ANOVA, post hoc test: LSD.

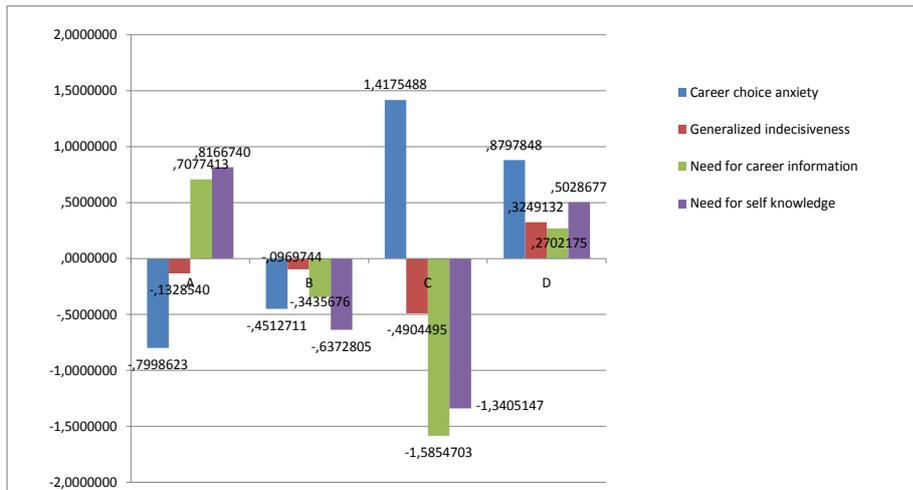
path seeker type makes it probable that the individual is a woman and is in the identity status of achieved identity or moratorium.

The members of the **ready to decide** group have better results in terms of identity, time orientation and self-esteem than the choice anxious and the chronic indecisive, at the same time they fall behind in their achievement and school motivation compared to the path seeker group, the reason for which is yet to be found out by further studies. Belonging to the ready to decide group goes together with the identity status of foreclosure on the high school student sample, and the members of this group are more likely to be male than female.

The type of the **choice anxious** constitutes a relatively small proportion of the entire high school student sample. The individuals belonging to the group score low on the commitment, the exploration and the ruminative exploration scales, as well as on both possible outcomes of identity crisis (identity synthesis and identity confusion). Belonging to the choice anxious type is connected to the identity statuses of carefree (alienated) diffusion and foreclosure on the high school student sample. In spite of the fact that they are not characterized by either a high intrinsic or a high extrinsic motivation (although they achieve the lowest scores on the amotivation scale as well); their school achievement is the highest on the sample both at the end of the 2010/2011 academic year and in the first term of the 2011/2012 school year. They consistently get the lowest scores on time orientation scales on all five factors compared to the other identity statuses. I presume the importance of performance from the high grade point average, which is probably accompanied by performance anxiety.

The members of the **chronic indecisive** type constitute more than one quarter of the sample (N = 190, 29,73 %). The individuals are characterized by a low level of commitment and high ruminative exploration. People belonging here achieve the lowest values on identity synthesis, and the highest on identity confusion, so their identity resolution is the lowest on the sample. This is also apparent from the fact that belonging to the chronic indecisive type makes it more probable that the individual is in the identity status of ruminative moratorium or moratorium. Their school motivation is similar to the ready to decide group, their school achievement is worse than that of the path seekers and the choice anxious. Characteristically, they “live” in the past, as they score the highest on both the past negative and the past positive factors in the sample. Their self-esteem is the lowest among the examined types. Women are more likely to belong to the chronic indecisive group than men. All in all, the

chronic indecisive group can be described with low identity resolution, reaching back to the past and bad school achievement.



1. diagram: The clusters developed according to the CFI on the high school student sample (rendered according to Z-scores)

Note: A = path seeker (N = 154), B = ready to decide (N = 249), C = choice anxious (N = 46), D = chronic indecisive (N = 190), not categorized N = 44

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Path seeker(a)	18,76 c,d 4,59	16,29 b,c,d 3,03	8,32 c,d 3,51	30,98 d 6,23	24,14 b,c,d 3,99	8,74 b 5,69	15,24 b,c,d 4,13	21,18 c,d 3,42	10,04 b,c 2,55	10,72 4,57	14,88 b,c 3,18	21,76 b,c,d 5,17	9,74 c 2,71	8,44 c 2,83	4,00 c 0,76	4,09 b,d 0,59	11,11 d 5,12
Ready to decide (b)	18,03 d 4,14	13,76 a,c,d 3,28	7,93 c,d 3,03	30,93 d 5,88	21,01 a,c,d 5,46	10,81 a,c,d 5,43	13,07 a,c 3,64	20,67 c,d 3,17	9,18 a,d 2,43	10,06 d 3,78	14,20 a,c 3,23	18,95 a,c 4,03	9,62 c 2,62	8,31 c 2,45	3,88 c 0,59	3,94 a 0,72	11,50 d 4,73
Choice anxious (c)	16,84 a 6,13	12,04 a,b,d 4,96	6,56 a,b,d 3,48	29,90 6,22	17,25 a,b,d 7,87	7,90 b 4,53	10,77 a,b,d 6,22	19,20 a,b 3,71	8,82 a,d 2,38	9,52 d 4,17	11,47 a,b,d 4,05	16,93 a,b,d 6,00	7,84 a,b,d 3,28	6,54 a,b,d 2,83	4,36 a,b,d 1,45	4,12 d 1,04	10,38 4,05
Cronic indecisive (d)	17,01 a,b 4,32	15,28 a,b,c 3,00	9,05 a,b,c 3,17	29,02 a,b 6,16	22,30 a,b,c 4,97	9,00 b 5,14	13,71 a,c 3,92	19,50 a,b 3,53	10,40 b,c 2,68	10,97 b,c 4,29	14,53 d 3,10	19,21 a,d 4,04	9,80 c 2,40	8,41 c 2,54	3,61 c 0,61	3,84 a,c 0,67	9,05 a,b 5,23

1. táblázat: The differences between the mean scores of career indecision clusters on the scales of identity, time orientation and self-esteem on the high school student sample (N = 207)

In the specific boxes there is the mean score, then the abbreviation (a,b,c,d) of the group from which the mean score of the given cluster significantly differs, finally we can see the standard deviation.

1 = commitment (DIDS), 2 = exploration (DIDS), 3 = ruminative exploration (DIDS), 4 = self-esteem (RSE), 5 = extrinsic motivation external regulation (AMS), 6 = amotivation (AMS), 7 = intrinsic motivation to know (AMS), 8 = identity (EDS), 9 = identity diffusion (EDS), 10 = past negative orientation (ZTPI), 11 = past positive orientation (ZTPI), 12 = future orientation (ZTPI), 13 = present hedonistic orientation (ZTPI), 14 = present fatalistic orientation (ZTPI), 15 = grade point average 1 (2010/2011 school year 2nd term); 16 = grade point average 2 (2011/2012 school year 1st term); 17 = identity resolution

(+) shows tendency-like difference, the letters stand for the clusters whose score is significantly different from the variable stated in the line.

On the sample of female university students there are also four distinguishable types of career indecision⁸, which, however, are somewhat different from the high school student sample regarding their characteristics. The ready to decide, the path seeker and the choice anxious types correspond to the types described in international literature. In the following section I am going to give a brief description of the types.

The individuals belonging to the **ready to decide** group achieve a high score on the identity synthesis factor, and a low one on the identity confusion scale. Their identity resolution is therefore high. They have already committed themselves to a certain point of view in questions of identity; they score higher on the commitment factor than their fellow-students belonging to the other three types. They are characterized by a low level of ruminative exploration. On the sample of female university students belonging to the ready to decide group goes together with achieved identity. This result is different from that of the high school students who, in the ready to decide group, are more likely to be in the identity status of foreclosure.

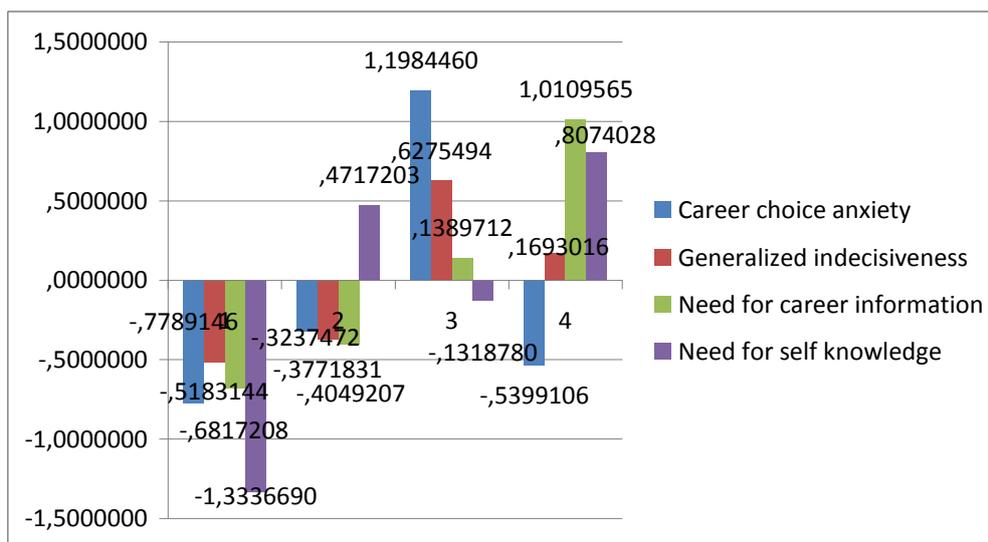
Members of the **self seeker** group have solved the identity crisis at a high level. They score high on identity synthesis, and low on identity confusion. Commitment in questions of identity is high with this type; it hardly falls behind the commitment of the ready to decide. As for ruminative exploration, they score lower than the choice anxious, however, higher than the ready to decide. Their self-esteem is high, it does not differ significantly from the ready to decide group. Belonging to the self seeker type is not connected to belonging to any identity status. The high level of commitment suggests that members of the group do not have a high need for self knowledge due to unachieved identity (as their identity resolution is also high), but presumably because they make an effort to find the best career – individual fit in their own career choice.

The characteristics of the **choice anxious** group on the female university student sample are different from those of the group of the same name on the high school student sample. I have decided on keeping the name, because the level of choice anxiety is remarkably high in this group; at the same time – unlike the adolescent sample – they also score high on other factors of career indecision. Individuals belonging to this group are characterized by low identity crisis resolution, high identity confusion and low identity synthesis. Regarding their identities they achieve worse results than the other three groups. They

⁸ I have conducted the comparison of the individual types along different variables with the help of ANOVA, post hoc test: LSD.

have not committed themselves in questions of identity, however, they are characterized by a high level of ruminative exploration. Belonging to the choice anxious type is connected to belonging to the identity status of diffused diffusion and ruminative moratorium. Their further results make the negative picture connected to identity more subtle: they score the highest on both the past negative and the present fatalistic factors alike. Their self-esteem is the lowest on the sample. The above presented scores of the choice anxious significantly differ from the results of every other type, however, the differences between the other types are not so prominent.

The fourth appearing type of career indecision is the *path seeker* type. The identity crisis of individuals falling into the path seeker type considering their mean score is resolved on the highest level, although it differs significantly only from the scores of the choice anxious. On the identity synthesis scale they are characterized by a high, on the identity confusion scale a low score. Despite this they only show a medium degree of commitment about their future plans. However, in their case the lower level of commitment – compared to the ready to decide – does not cause anxiety or indecision about career choice. On the ruminative exploration factor they “end up” between the lowest score of the ready to decide and the highest score of the choice anxious. Belonging to the path seeker type does not go together with belonging to an identity status. Their self-esteem is lower than that of the ready to decide, but higher than that of the choice anxious.



1. diagram: Clusters based on CFI results (shown based on Z-score)

Note: 1 = ready to decide (N = 42), 2 = self seeker (N = 61), 3 = choice anxious (N = 63), 4 = path seeker (N = 42), not classified N = 18

	1	2	3	4	5	6	7	8
A	21,81 c 2,74	8,69 c 2,21	13,11 c 4,13	20,57 b (+), c,d 3,14	5,57 b,c,d 2,24	8,55 c 3,68	6,67 c, d (+) 2,44	34,19 c,d 3,56
B	21,68 c 3,15	9,51 c (+) 2,38	12,15 c 4,98	19,18 a (+), c 3,5	6,70 b,c 2,39	8,77 c 3,85	7,39 c 2,53	32,64 c 4,84
C	20,03 a,b,d 3,17	10,29 a,b (+),d 2,73	9,75 a,b,d 4,84	16,16 a,b,d 4,35	8,60 a,b,d 2,85	10,44 a,b,d (+) 4,61	8,59 a,b,d 2,61	29,65 a,b,d 5,49
D	22,56 c 3,34	8,98 c 3,45	13,59 c 4,81	18,90 a,c 4,17	6,98 a,c 3,05	8,80 c (+) 4,40	7,59 a(+),c 2,37	31,95 a,c 5,88

2. diagram: The differences between the mean scores of career indecision clusters on the scales of identity, time orientation and self-esteem on the feamle university student sample (N = 207)

Note: A = ready to decide, B = self seeker, C = choice anxious, D = path seeker

1 = identity synthesis (EDS); 2 = role confusion (EDS); 3 = identity resolution (EDS), 4 = commitment (DIDS), 5 = ruminative exploration (DIDS), 6 = past negative orientation (ZTPI), 7 = present fatalistic orientation (ZTPI), 8 = self-esteem (RSE)

In the specific boxes there is the mean score, then the abbreviation (a,b,c,d) of the group from which the mean score of the given cluster significantly differs, finally we can see the standard deviation.

(+) shows tendency-like difference, the letters stand for the clusters whose score is significantly different from the variable stated in the line.

My **third hypothesis** was proved. On the samples of the high school students and the female university students, considering the results of the regression analysis, one of the identity variables is part of the explanation of every career indecision factor.

On the high school student sample:

- Almost 10 percent of the variance of career choice anxiety is explained by identity synthesis ($R^2 = 0,072$, $\beta = -0,190$) and by commitment ($R^2 = 0,019$, $\beta = -0,109$) factors.
- Generalized indecisiveness is predicted by identity confusion ($R^2 = 0,150$, $\beta = 0,308$) and ruminative exploration ($R^2 = 0,050$, $\beta = 0,238$) factors. The two variables together are responsible for 20 percent of the variance.
- The identity variables do not get the biggest role in the explanation of the variance of the need for career information factor. The biggest proportion of the variance is explained by extrinsic motivation, external regulation ($R^2 = 0,197$, $\beta = 0,300$) from the factors of school motivation. The exploration factor positively predicts the need for career information, and adds nearly 7 percent ($R^2 = 0,068$, $\beta = 0,193$) to the explanation of the variance. Ruminative exploration (after entering intrinsic motivation; $R^2 = 0,027$, $\beta = 0,217$) increases the explanation strength of the model by further 2 percent ($R^2 = 0,025$, $\beta = 0,160$).
- Nearly 20 percent ($R^2 = 0,189$; 3rd model) of the variance of the need for self knowledge is explained by exploration ($R^2 = 0,107$, $\beta = 0,259$), by identity confusion ($R^2 = 0,070$, $\beta = 0,217$) and by ruminative exploration ($R^2 = 0,018$, $\beta = 0,140$).

On the university student sample:

- In the background of career choice anxiety I have discovered the variables of ruminative exploration ($R^2 = 0,164$, $\beta = 0,406$) and exploration ($R^2 = 0,032$, $\beta = 0,178$); the two variables together explain 19,6 percent of the variance of career choice anxiety.
- On the sample of female university students generalized indecisiveness is well predicted by the self-esteem score ($R^2 = 0,229$, $\beta = -0,371$). However, the commitment factor ($R^2 = 0,034$, $\beta = -0,213$) also adds to the explained variance.
- Among the predictors of the need for career information factor I found the identity dimension of commitment ($R^2 = 0,039$, $\beta = -0,196$). However, the variance of the need for career information variable is explained to a greater extent by past positive orientation ($R^2 = 0,094$, $\beta = 0,351$).
- In case of the need for self knowledge, only a small proportion of the variance is explained by ruminative exploration ($R^2 = 0,037$, $\beta = 0,228$). The greatest part

of the need for self knowledge variance is explained by the need for career information ($R^2 = 0,145$, $\beta = 0,354$), which can be found on the same measuring tool (Career Factors Inventory; Chartrand et al., 1990).

To sum up, from the results of the two samples it is apparent that the role of identity variables is less evident behind the need for career information factor. The explanation of the factor can be the subject of further research.

To find out more about the connection between career indecision and identity variables, I have set up two structural equation models. Since my cross-sectional study does not allow the establishing of causal relationships, I have worked on the examination of the co-variance between the latent variables. The models set up for both the high school student ($\chi^2/df = 2,044$; RMSEA = 0,040; CI = 0,037-0,042; CFI = 0,922; TLI = 0,914) and the female university student sample serve as evidence for the mutual connection between identity variables and career indecision factors.

My **fourth hypothesis** regarding the comparison of the high school student and the female university student sample proved to be partially true. Female high school students score higher on the career choice anxiety ($F(1, 581) = 9,276$; $p < 0,01$), the generalized indecisiveness ($F(1, 586) = 4,814$; $p < 0,05$) and the need for career information ($F(1, 596) = 8,100$; $p < 0,01$) factors. In their results on the need for self knowledge scale there is no significant difference between female high school and university students. However, regarding the achieved scores on the career indecision scale, the differences between the two groups are significant; the result of the female high school students is significantly higher than that of the female university students ($F(1, 570) = 7,281$; $p < 0,01$). The results connected to identity statuses also prove my assumptions only partially. The Chi-Square Test shows a significant difference in the distribution of identity statuses between the female high school and university students ($\chi^2 = 20,146$; $df = 4$, $p < 0,001$). Female high school students are listed in the identity status of ruminative moratorium at a higher rate than it could be expected in case the two variables were independent (expected value 65 %, real value 78,8 %, Adj. R = 4,1). Female university students can be found in the identity statuses of moratorium (expected value 35%, real value 43,4 %; Adj. R = 2,3) and foreclosure (expected value 35 %, real value 42,7 %) at a higher rate than the expected value in case of the independence of the two variables. Therefore, my results correspond to Kroger's (2003) ideas with respect to achieved identity, moratorium and diffused diffusion identity; however, those

in foreclosure are present in the university student sample, which differs from what Kroger (2003) described.

Discussion and conclusion

By validating the Career Factors Inventory (CFI, Chartrand et al., 1990), a multidimensional (cognitive and emotional factors) measuring tool for career indecision, for Hungarian samples it became possible to define career choice types on the samples of high school students as well as female university students. The clusters corresponding to the most frequent types – the ready to decide, the developmentally undecided, as well as the choice anxious (Cohen et al., 1995) - consequently found in literature appeared among career indecision types on both samples. Besides this, on the high school student sample, a group characterized by a high level of anxiety (choice anxious) appeared, whereas on the female university student sample, there was a group with good qualities and a high need for self knowledge (self seeker). I am going to summarize my recommendations regarding the individuals belonging to each type by surveying the characteristics of the types; also I am going to determine to which counselling level of Wiegersma (1992) I would link the given group. For the path seeker group (high school students 24,10 %⁹; female university students 19,81 %) the informational counselling is probably sufficient, they can be linked to Wiegersma's first counselling level regarding their characteristics. They can work with the widest range of professionals, and for them counselling backed up with computers can also be appropriate. Among the ready to decide type, for female university students (20,29%) the above described interventional methods can be appropriate; whereas in case of high school students, a certain proportion of the ones belonging to the ready to decide group might need personal counselling (2nd level). According to the results of the sample, it is definitely worth talking about school achievement and attitude to studying with the ready to decide high school students. Most of the individuals in the self seeker type from the female university student sample can be placed on Wiegersma's (1992) first and second level. However, we have to pay extra attention to their increased need for self knowledge, which could be "dealt with" at personality development and self knowledge courses offered as electives at universities (as it is already in practice at many universities). The great majority of the choice anxious (7,19 %) and the chronic indecisive (29,73 %) on the high school student sample, as well as the choice anxious (30,43 %) on the female university student sample are on Wiegersma's (1992) third,

⁹ The percentages show the proportion of the type within the given sample (1. high school students, 2. female university students).

fourth and fifth level. In their case we have to expect serious inner conflicts, anxiety, and that problems are going to affect each other. This is well reflected in their identity status as well, where besides foreclosure and moratorium (high school students), which can be considered adaptive statuses, the identity statuses of diffuse and ruminative moratorium, which can be connected to maladaptive outcomes (alienated and diffuse), are dominant (both on the high school student and the female university student sample). Our data reflect that we should provide nearly one third of the “normal” high school and university student population with high level professional counselling; by involving experts who can (also) motivate these young people to take part in the exploratory activity concerning careers and themselves.

CFI is suitable for the impact study of career orientation activities, in case the individuals taking part in the process do it before (even with a diagnostic aim), as well as following the service. When linking individuals to counselling levels, I recommend determining both their career indecision type and their identity type; since the latter one can make the picture more subtle (e. g. a female university student self seeker with diffused diffusion identity can get to Wiegiersma's (1992) third level). I find it an important result that I have managed to make the maladaptive identity dimension of ruminative exploration measurable, since this variable and the identity statuses characterized by its high level (ruminative exploration and diffused diffusion identity)¹⁰ are connected to problematic behaviour and inappropriate psychological functioning. By measuring ruminative exploration, the grasping of this negative aspect of exploration also becomes possible.

At the same time, my research, naturally, has its limitations, which we have to take into consideration while generalizing the results. Firstly, my research was conducted with inventories based on self-report, many of which have not been validated for Hungarian sample so far. Furthermore, the female university students – as a consequence of their university major – probably belong to the social interest type; who are particularly affected by the concept of career indecision (Feldman, 2003). In order to be able to generalize the results of the university student population, we will also have to include men in the research, and we will also have to select women from a wider range of university majors. The results of high school students can be extended to the students of high quality schools with a good grade point average. The research of disadvantaged adolescents with a significantly low grade point average is a future task. The method of cluster analysis also has its drawbacks, as the SPSS creates well-

¹⁰ In my doctoral dissertation I also characterize the identity dimensions created with the help of DIDS (Luyckx et al., 2008).

distinguishable groups by all means. However, I have tried to decrease the possibility of errors by doing both hierarchical and non-hierarchical clustering on the data. It could be an interesting topic for future researches to involve the influence of partners (friends, love partners, parents) in the organization of the research besides identity and career indecision; as well as to examine the perceived self-efficacy in connection with career choice.

Work cited

- Borbély-Pecze T. B. (2010). Életút támogató pályorientáció. A pályatanácsadás szerepének, tartalmának, művelői körének kiszélesedése és a pedagógiai fejlesztés lehetőségei. *Doktori Értekezés, ELTE-PPK, Neveléstudományi Doktori Iskola.*
- Chartrand, J. M. et al. (1990). Development and validation of the Career Factors Inventory. *Journal of Counseling Psychology*, Vol. 37., No. 4., 491-501.
- Chartrand, J. M., Nutter, K. J. (1996). The Career Factors Inventory: Theory and applications. *Journal of Career Assessment*, Vol.4., No. 2., 205-218.
- Cohen, R. C., Chartrand, J. M., Jowdy, D. P. (1995). Relationships between career indecision subtypes and ego identity development. *Journal of Counseling Psychology*, Vol. 42, No. 4, 440- 447.
- Creed, P., Patton, W., Prideaux, L-A. (2006) Causal Relationship Between Career Indecision and Career Decision-Making Self-Efficacy: A Longitudinal Cross-Lagged Analysis. *Journal of Career Development* 33(1):pp. 47-65.
- Erikson, E. H. (1963). *Childhood and Society*, 2nd ed. New York: Norton.
- Erikson, E. H. (2002). *Gyermekkor és társadalom*. Osiris Kiadó, Budapest.
- Feldman, D. C. (2003). The antecedents and consequences of early career indecision among young adults. *Human Resource Management Review*, 13, 499-531.
- Feldman, D. C. (2003). The antecedents and consequences of early career indecision among young adults. *Human Resource Management Review*, 13, 499-531.
- Guay, F., Senécal, C., Gauthier, L., Fernet, C. (2003). Predicting career indecision: A self-determination theory perspective. *Journal of Counseling Psychology*. 50(2) 165- 177. old.
- Herr, E.L., Cramer,S.H. (1993): Szisztematikus megközelítések. Harper Collins Publishers, ford.: Pályairányítás és pályatanácsadás az egész élet során. Szisztematikus megközelítések. 281-325. oldal In: *Pályalélektan. Pályafejlődélméletek*.OMK Jegyzet 1993, ELTE kézirat

- Karner, O. (2010). A pályaeorientációs szakemberek kompetenciamátrixának kialakítása. *Életpálya-tanácsadás*. II. évf. 3-4. szám, 10-17.
- Kelly, R. K., Pulver, C. A. (2003). Refining measurement of career indecision types: A validity study. *Journal of Counseling & Development*, Volume 81, 445-454.
- Kroger, J. (2003). What transits in an identity status transition? *Identity: An International Journal of Theory and Research*, 3(3), 197-220.
- Lucas, M. S. (1993). A validation of types of career indecision at a counseling center. *Journal of Counseling Psychology*, Vol. 40. No. 4., 440-446.
- Luyckx, K., Goossens, L. et al. (2005): Identity status based upon four rather than two identity dimensions: Extending and refining Marcia's paradigm. *Journal of Youth and Adolescence*. 34. 605-618.
- Luyckx, K., Schwartz, S., Berzonsky, M. D., Soenens, B., Vansteenkiste, M., Smits, I, Goosens. L. (2008). Capturing ruminative exploration: Extending the four-dimensional model of identity formation in late adolescence. *Journal of Research in Personality*, 42, 58–82
- Marcia, J.E. (1967). Ego identity status: Relationship to change in self-esteem, „general maladjustment”, and authoritarianism. *Journal of Personality*, 35, 119-133.
- Ochse, R.-Plug, C. (1986) Cross-cultural investigation of the validity of Erikson's theory of personality development. *Journal of Personality and Social Psychology*. Vol. 50, No. 6. 1240-1252.
- Orosz G. (2012). Hungarian Validation of Zimbardo Time Perspective Inventory. *Megjelenés alatt*.
- Orosz G., Farkas D. (2011). Csalás a középiskolában. *Magyar Pszichológiai Szemle*, 66, 4, 605- 630.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Savickas, M. L., Jarjoura, D. (1991). The Career Decision Scale as a type indicator. *Journal of Counseling Psychology*, 38, 85-90.
- Schwartz, S. J. et al. (2011). Examining the light and dark sides of emerging adults' identity: A study of identity status differences in positive and negative psychosocial functioning. *Journal of Youth Adolescence*, 40; 839-859.
- Super, D. E. (1984). Önmegvalósítás munkában és szabadidőben. In: Ritoókné-Gillemontné (1994) (szerk.): *Pályalélektan Szöveggyűjtemény*. Nemzeti Tankönyvkiadó
- Vallerand, R. J., Pelletier, L. G., Blais M. R. (1992). The academic motivational scale: A measure of intrinsic, extrinsic, and amotivation. *Educational and Psychological Measurement*, 52, 1003-1017.

- Vallerand, R. J., Pelletier, L. G., Blais, M. R., Brière, N. M., Senécal, C., Vallières, E. F. (1993). On the assessment of intrinsic, extrinsic, and amotivation in education: Evidence on the concurrent and construct validity of the Academic Motivation Scale. *Educational and Psychological Measurement*, 53, 159-172.
- Vondracek, F. W. et al. (1995). The relationship of identity status to career indecision during adolescence. *Journal of Adolescence*, 18, 17-29.
- Wanberg, C. R., Muchinsky, P. M. (1992). A typology of career decision status: Validity extension of the Vocational Decision Status Model. *Journal of Counseling Psychology*, Vol. 39., No.1., 71-80.
- Wiegersma, G. (1992): A tanácsadás pszichológiájának rendszerei. In: Ritoók M. (szerk), *A tanácsadás pszichológiája*. Budapest, Tankönyvkiadó.
- Zimbardo, P. G., Boyd, J. N. (1999). Putting time in perspective: A valid, reliable individual-differences metric. *Journal of Personality and Social Psychology*, Vol. 77, No. 6., 1271- 1288.