Fruzsina Lukács[1]
Faculty of Psychology, Szent István University, Gödöllő, Hungary
National Labour Office, Project Management Departure, Hungary

Gábor Orosz
Institute of Cognitive Neuroscience and Psychology, Hungarian Academy of Science, Hungary
Institute of Psychology, University of Szeged, Hungary

Career Indecision from the Perspective of Time Orientation[2]

Abstract

The present study focuses on the link between career indecision status and time perspective of high school students. Previous works mainly investigated the relationship between future orientation and career indecision, neglecting attitudes towards other time perspective dimensions, such as the past and the present. Therefore, our aim was to overcome this hiatus by using the Zimbardo Time Perspective Inventory (Zimbardo & Boyd, 1999) and Career Factor Inventory (Chartrand, Robbins, Morrill & Boggs, 1990) in a sample of 683 high school students. By considering variable-centered and person-centered analyses, results suggest that scores on TP factors are closely associated with the career indecision type that one can be classified into. "Path seeker" and "Ready to decide" students have a balanced time perspective; "Chronically indecisive" youngsters have a time perspective pattern which is dominated by the past negative factor and they are less future-oriented; "Choice anxious" students have scores lower on all TP factors (except Past-Negative TP) than any other group.

Keywords: career indecision types, time perspective, cluster analysis

Niezdecydowanie zawodowe a orientacja temporalna

Streszczenie

Przedmiotem zainteresowania w ramach niniejszych badań jest tzw. stan niezdecydowania zawodowego w powiązaniu z perspektywą postrzegania czasu przez uczniów szkoły średniej. W dotychczasowych pracach analizowano głównie związek między orientacją przyszłościo-wą a niezdecydowaniem zawodowym, z pominięciem innych wymiarów perspektywy czaso-wej (przeszłej i teraźniejszej). Celem niniejszego badania stało się zatem wypełnienie tej luki za pomocą Kwestionariusza Postrzegania Czasu (Zimbardo i Boyd, 1999) oraz Czynnikowego Inwentarza Kariery (Chartrand, Robbins, Morrill i Boggs, 1990) zastosowanego na pró-bie 683 uczniów szkoły średniej. Wyniki wskazują, że poszczególne odmiany perspektywy

postrzegania czasu są ściśle powiązane z typem niezdecydowania zawodowego. Uczniowie z grup określonych jako „Poszukiwacze drogi" oraz „Gotowi do decyzji" charakteryzują się zrównoważoną perspektywę czasową. U „Chronicznie niezdecydowanych" wzorzec perspektywy postrzegania czasu zdominowany jest przez czynnik negatywnej przeszłości przy jednoczesnej niskiej orientacji na przyszłość. „Obawiający się wyboru" osiągnęli niższe rezultaty we wszystkich czynnikach TP (oprócz TP Negatywnej Przeszłości) niż którakolwiek z pozostałych grup.

Słowa kluczowe: typy niezdecydowania zawodowego, perspektywa czasowa, analiza skupień

Introduction

Career indecision is a problem that has been a major concern among career psychologists for many decades (e.g. Holland, 1975, 1977; Osipow, 1999). Career decision-making has become a vital problem for students who have to adapt their career aspirations to the demands of a complex and ever changing labor market. In today's societal context, high school students are under the pressure of career-related decisions which can have crucial potential consequences on their future. Nevertheless, adolescents' conceptualization of the future can also have an impact on their career-relevant decisions (e.g. Nurmi, 1991). That might be one of the reasons why previous and more recent research regarding career decisions mainly focused on the future dimension of time perspective (e.g. Crites, 1978; Savickas, Silling, Schwartz, 1984; Walker & Tracey, 2012). However, Zimbardo and Boyd's (1999) time perspective theory that was built on more comprehensive theoretical grounds (e.g. Lewin, 1951) allows researchers to investigate the link between a wider range of time orientations (past, present, and future), and career-related decisiveness. The goal of the present paper is to examine how career indecision is related to differentiated time perspective patterns of the past, the present and the future.

Since Holland's (1975, 1977) early definition, career indecision has been dealt with as a multidimensional problem consisting of emotional, social and cognitive factors. Career indecision means being undecided about the career path one wants to pursue and experiencing that a decision should be made at the same time. As such, career indecision is most common at transition points (e.g. high school to university, school to work, having to choose a new field of work etc.). A clear line must be drawn between the normal developmental state of career indecision and career indecisiveness which stands for the repeated trouble one has making decisions and is a state-like factor (Osipow, 1999). According to Chartrand, Robbins, Morrill and Boggs (1990), career indecision must be conceptualized along cognitive and emotional factors. On the basis of these cognitive and emotional dimensions, Cohen and Chartland (1995) created a classification including four main subtypes: (a) Ready to Decide, (b) Developmentally Undecided, (c) Choice Anxious and (d) Chronically Indecisive. The Ready to Decide group can be characterized by little or no career indecision or career choice anxiety, high self-esteem, positive career identity; they

have well-developed vocational identity and they possess the essential information about career perspectives. Individuals in the Developmentally Undecided group are emotionally stable, goal-directed, their anxiety level is between low and average, they have high self-esteem, have mature ego identity status and they need a lot of work-related information.[3] The difficulties of the Choice Anxious group were related mainly to anxiety, especially in decision-making situations; they have a low need for career information and they have less improved vocational identity. The Chronically Indecisive group reports the most difficulties in identity formation and career identity; they have low self-esteem but they are motivated to obtain career information and self-knowledge. These categories were revealed with slightly different names in several different studies (Cohen & Chartrand, 1995; Chartrand & Nutter, 1996; Fuqua & Hartman, 1983; Jones, 1989; Kelly & Pulver, 2003; Larson, Heppner, Ham & Dugan, 1988; Savickas & Jarjoura, 1991; Wanberg & Muchinsky, 1992).

According to Zimbardo and Boyd (1999), time perspective (TP) is a process whereby individuals make sense of the events happening to them by assigning these events to temporal categories or time frames. This process often is subconscious and it has influence on one's risky judgments, decisions and actions (Keough, Zimbardo & Boyd, 1999), career choice satisfaction (Ezen & Tezel, 2010), as well as on one's subjective well-being and happiness (Boniwell & Zimbardo, 2004; Drake, Duncan, Sutherland, Abernethy & Henry, 2008). Zimbardo and Boyd's (1999) TP theory includes five main dimensions: Past-Negative, Past-Positive, Present-Hedonistic, Present-Fatalistic and Future factors. The Past-Negative TP reflects negative, aversive attitudes when calling upon one's past. The Past-Positive TP represents the reverse attitude to this, with warm and sentimental attitudes of the past. The Present-Hedonistic TP can be characterized by an attitude to maximize enjoyment through a hedonistic, risk-taking attitude. The Present-Fatalistic TP unfolds as a hopeless and helpless position taken in life with strong beliefs about fate or other uncontrollable forces that disable any attempt made in the present. Future TP stands for planning for the future and being able to postpone immediate rewards in favour of goals one wants to reach in the future.

In the past, studies mainly focused on future and present time perspective, neglecting past orientation (Zimbardo & Boyd, 1999). This is particularly true if we look at the field of career psychology (Taber, 2013). Several studies have highlighted the importance of relative dominance of future orientation over that of the present in career planning. For instance, according to Super (1992), career maturity includes TP. In his Life Career Rainbow Model, TP consists of three elements: (a) reflection upon experience, (b) anticipation of the future, and (c) concepts of life

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[3] The label developmentally undecided can be a source of confusion as it may sound like a diagnostic category. We must clearly state that this group has favourable psychological correlates and does not fall behind in personal development from the Ready to Decide group. Developmentally undecided persons have all the means to form a decision once they are provided the information required to do so. Therefore, belonging to this type is considered a normal state along the development of career formation.

stages. Ferrari, Nota and Soresi (2010) also reported that adolescents with a high degree of future time perspective experience less career indecision. Janeiro (2010) investigated 9th and 12th grade students and found that self-esteem and internal attributions did not have a direct effect on career planning attitudes in her model (SEM), only future time perspective. In sum, these studies suggest that future time perspective (independently from its theoretical background) is positively linked to career decision.

Another branch of research focused not only on the future dimension. Marko and Savickas (1998) demonstrated that interventions increasing future orientation by means of improving subjects' sense of continuity between the past, present and future resulted in more highly developed attitudes toward career planning. However, the intervention did not directly influence university students' career planning outcomes. In a more recent study, Taber (2012) examined the link between TP pattern and career decision-making difficulties in an adult sample. According to his results, Past-Negative, Present-Fatalistic, and Present-Hedonistic TPs are linked to career decision-making difficulties. Additionally, high Future TP is associated with high motivation in career choice.

The construct of time perspective offers considerable potential for practical interventions in the field of career orientation but studies from this aspect are absent (Boniwell & Zimbardo, 2004). Therefore, our aim in this study is to investigate the relationship between TP dimensions and career indecision, as well as the link between TP patterns and career indecision types.

Based on Taber's (2012) previous work on an adult sample, we assumed that Past-Negative, Future and Present-Fatalistic time orientations will be closely related to career decision-making difficulties of high school students. We set up the following hypotheses:

H1: On the basis of variable-centered analysis, career indecision factors will be related to TP factors. Past-Negative and Present-Fatalistic time orientations will be associated with greater career indecision, while Future Time Perspective will be negatively related to career indecision. Furthermore, Past-Negative and Present-Fatalistic TPs will be associated with greater Generalized Indecisiveness.

H2: In the person-centered analysis, members of different career indecision types will differ on their use of temporal frames. Chronically Indecisive individuals might have a strong Past-Negative and Present-Hedonistic orientation, coupled with low Future TP. Ready to Decide and Developmentally Undecided people will have strong future orientation, while having low scores on Present-Fatalism (Taber, 2013).

Methods

Participants

Participants in the study were 683 high school students (388 women, 285 men, 10 persons did not indicate their gender). In Hungary high school studies typically

start at Grade 9 and end at Grade 12.[4] Students' age ranged between 14 and 21 years (M = 16.94, SD = 1.24). Their age distribution can be described by the following numbers: (N = 3) 14 years old, (N = 52) 15 years old, (N = 188) 16 years old, (N = 190) 17 years old, (N = 206) 18 years old, (N = 29) 19 years old, (N = 2) 20 years old and (N = 2) 21 years old students (N = 14 students did not report their age). While the age range was quite large, the majority (93%) of students were between 15 and 18 years old.[5]

Measures

Career Factors Inventory. The 21-item multidimensional measure (Chartrand et al., 1990) of career indecision has four dimensions, among them two emotional (career choice anxiety, generalized indecisiveness) and two cognitive factors (need for career information and need for self-knowledge). CFI uses a five-point rating scale ranging from 1 (strongly disagree) to 5 (strongly agree) on cognitive factors and has two adjectives assigned to them on emotional factors. The Career Choice Anxiety scale has six items (e.g. When I think about actually deciding for sure what I want my career to be I feel: 1 frightened – 5 fearless) and it captures the anxiety that subjects experience about career decision-making. The Generalized Indecisiveness scale has five items (e.g. For me decision making seems: 1 clear – 5 hazy; While making most decisions I am 1 quick – 5 slow) tapping how indecisive one generally is when it comes to decision-making. Need for Career Information has six items (e.g. Before choosing or entering a particular career area I still need to find out what present and predicted job opportunities are like for a certain career area or areas.). Need for Self-Knowledge has four items (e.g. Before choosing or entering a particular career area I still need to attempt to what type of person would I like to be.). CFI has good psychometrical features and has been used with high school samples before.

CFI was translated into Hungarian and translated back to English following the protocol of Beaton, Bombardier, Guillemin and Ferraz (2000). Exploratory (EFA) and confirmatory (CFA) factor analyses were carried out and reliability (based on Chronbach's Alpha) was measured to form the final version of the Hungarian CFI. We used Brown's (2006) guidelines about the values indexes have to take. The four-factor structure was proven to give the best model fit (N = 683, χ^2/df = 1.98,

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[4] years of studies is still the most common form of education in high schools despite having the opportunity of choosing from other arrangements. Hungarian children enter the public school system at the age 6 or 7.

[5] At the age of 16 important cognitive changes occur. We made a comparison between students aged 14–16 years and those who were above 16 years to see if these changes had an impact on our findings. Statistical analyses showed only 2 differences between the age groups (out of the 9 possible differences). Younger students (aged 14–16 years) scored significantly higher (t(664) = 2.49*, Cohen-d = 0.2) on the Present-Fatalistic Factor, while students above the age of 16 years scored significantly higher on the Career Choice Anxiety Factor (t(646) = -2.072*, Cohen-d = 0.17). The effect sizes were low in both cases, suggesting that the difference between age groups are not too great. Career indecision cluster membership is not affected by age group (crosstabs analysis based on memberships was not statistically significant).

RMSEA = 0.038, CI = [0.031, 0.046], CFI = 0.97, TLI = 0.97). On the basis of the results of EFA and CFA, the Hungarian version of CFI has 17 items on four scales; four items had to be dropped from the original version (career choice anxiety – item 2; general indecisiveness – item 7 and 9; need for career information – item 17).

Zimbardo Time Perspective Inventory. ZTPI (Zimbardo & Boyd, 1999) is a 56-item inventory measuring five time perspectives: Past-Positive, Past-Negative, Present-Hedonistic, Present-Fatalistic and Future. It uses a five-point Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). The Past-Negative factor has ten items (e.g. I think about the bad things that have happened to me in the past), Past-Positive nine items (e.g. I get nostalgic about my childhood), Present-Hedonistic 15 items (e.g. It is more important to enjoy life's journey than to focus on the destination), Present-Fatalistic nine items (e.g. I take risks to put excitement in my life), and Future TP has 13 items (e.g. I'm able to resist temptations when I know that there is work to be done).

We used the same method to adapt ZTPI to Hungarian as described previously with CFI. The five-factor structure was proven to give the best model fit (N = 683, χ^2/df = 2.46, RMSEA = 0.046, CI = [0.041, 0.052], CFI = 0.93, TLI = 0.91). Therefore, a shortened Hungarian version of ZTPI[6] was used which includes 21 items on five scales. In line with Zimbardo and Boyd's (1999) item structure they are the following: Past-Negative – ZTPI 22, 25, 34, 50, Past-Positive – ZTPI 2, 15, 20, 29, Present-Hedonistic – ZTPI 31, 32, 42, Present-Fatalistic – ZTPI 37, 38, 39 and Future TP – ZTPI 10, 13, 21, 40, 45, 51).

Procedure

Subjects were reached through schools and had been informed of the study being anonymous and participation voluntary prior to filling out a larger set of questionnaires. All students who volunteered to participate in this investigation received a packet that contained an instruction sheet, a demographic variable form and six questionnaires, two of which were used for this study. Students were not paid but feedback on their results was offered. Feedback was also offered to participating schools about the general findings of the investigation.

Results

Variable-centered analysis

The relationship between the variables of career indecision and time perspective was measured with Pearson's correlations. As it can be seen in Table 1, TP factors and Career Indecision dimensions are interconnected.

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[6] In this study and in one of the previous studies (Orosz & Roland-Lévy, under review) we aimed to find a factor structure in which there is no cross-loading and which has appropriate or nearly appropriate CFA model fit, not only taking into account RMSEA, but other model fit indices as CFI and TLI.

Tab. 1. Intercorrelations between Time Perspective and Career Factors Inventory dimensions

| Dimensions	M	SD	1	2	3	4	5	6	7	8	9
1. Career Choice Anxiety	2.78	.96	—								
2. General Indecisiveness	2.83	.90	.13**	—							
3. Need for Career Information	3.38	.79	-.11**	.12**	—						
4. Need for Self-Knowledge	3.20	1.02	-.04	.15**	.35***	—					
5. Past-Positive TP	3.56	.83	-.17**	.05	.24***	.17**	—				
6. Past-Negative TP	2.63	1.04	.03	.23***	.03	.19***	-.09*	—			
7. Present-Hedonism TP	3.20	.88	-.13**	-.03	.15**	.15**	.23***	.10*	—		
8. Present-Fatalistic TP	2.77	.88	-.05	.19***	.09*	.13**	.16**	.29***	.25***	—	
9. Future TP	3.25	.74	-.17**	-.11**	.28***	.18**	.20***	-.06	-.02	-.074	—

* $p \le .05$, ** $p \le .01$, *** $p \le .001$

Past-Positive TP was positively related to Career Choice Anxiety $r(649) = .17$, $p < .001$, Need for Career Information $r(661) = .24$, $p < .001$, and Need for Self-Knowledge $r(661) = .17$, $p < .01$. Past-Negative TP was positively associated with General Indecisiveness $r(650) = .23$, $p < .01$) and Need for Self-Knowledge $r(659) = .19$, $p \le .001$. Present-Hedonism was negatively linked to Career Choice Anxiety $r(651) = -.13$, $p < .01$, and positively related to Need for Career Information $r(662) = .15$, $p < .01$, and Need for Self-Knowledge $r(662) = .15$, $p < .01$. Present-Fatalistic TP was positively associated with General Indecisiveness $r(655) = .18$, $p < .01$, Need for Career Information $r(663) = .093$, $p < .05$ and Need for Self-Knowledge $r(664) = .13$, $p < .01$). Finally, Future TP was negatively related to Career Choice Anxiety $r(643) = -.17$, $p < .01$) and General Indecisiveness $r(646) = -.11$, $p < .01$) and positively related to Need for Career Information $r(654) = .28$, $p < .01$ and Need for Self-Knowledge $r(654) = .18$, $p < .01$).

Individual-centered analysis

Career Indecision types were formed through hierarchical and K-means cluster analysis. First we conducted a hierarchical cluster analysis to determine the ideal number of clusters. Outliers and incomplete profiles were dropped from the sample resulting in 639 complete subject profiles. Hierarchical analysis suggested a four-cluster solution. K-means cluster analysis was carried out on the sample. In order to test if Career Indecision types significantly differ on Career Decision factors we conducted a one-way ANOVA with career indecision type as the independent variable. Significant differences were found between subtypes regarding all factors (Career Choice Anxiety $F(3, 635) = 323.34$, $p < .001$; Generalized Indecisiveness $F(3, 635) = 12.69$, $p < .001$; Need for Career Information $F(3, 635) = 119.83$, $p < .001$; Need for Self-Knowledge $F(3, 635) = 232.86$, $p < .001$).

The first cluster was named Path Seeker (N = 154, 104 woman, 48 men, 24.10% of the total sample). According to the LSD post hoc tests[7] Path Seekers have the highest score on informational factors: Need for Career Information and Need for Self-knowledge. Their score on Career Choice Anxiety is the lowest in the sample and they also score low on Generalized Indecisiveness. The second type was called Ready to Decide (N = 249, 114 woman, 132 men, 38.97% of the total sample). Their scores are below the sample means on all four career indecision factors. Career Choice Anxiety and Generalized Indecisiveness are low in this cluster. Need for Career Information and Need for Self-Knowledge scores range from low to moderate. The third type was labelled Choice Anxious (N = 46, 22 men, 24 woman, 7.19% of the total sample). Persons in this group have extremely high scores on career choice anxiety but score low on other scales of career indecision. The forth group was named Chronically Indecisive (N = 190, 64 men, 123 woman, 29.73% of the total sample). Individuals in this group score above sample mean on all four Career Indecision dimensions. This group is the only one that has above sample mean scores on Generalized Indecisiveness, indicating their lack of capability for the career-decision making process. Their scores on the Need for Career Information and the Need for Self-Knowledge scales are somewhat smaller than that of the Path Seekers.
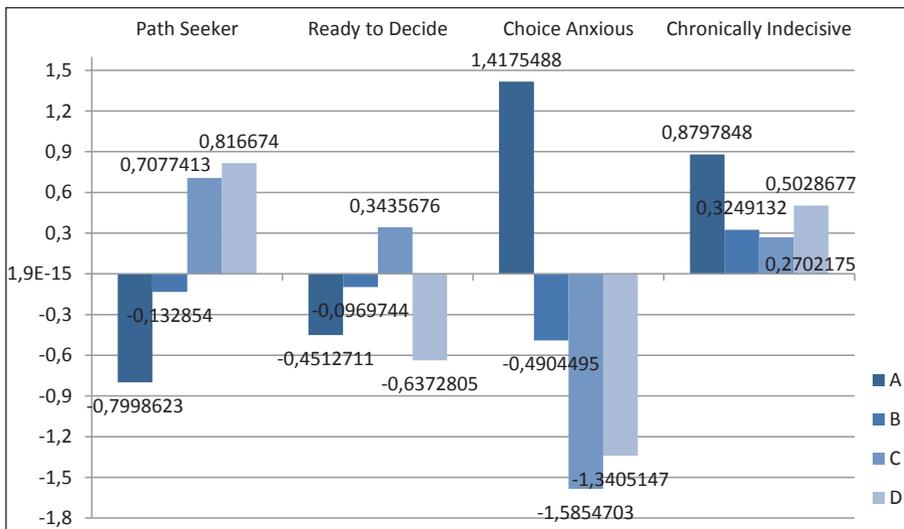
Note: A = Career Choice Anxiety, B = Generalized Indecisiveness, C = Need for Career Information, D = Need for Self-Knowledge (figure seen in standardized Z-scores)

Fig. 1. Career Indecision types cluster centroids

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[7] According to the LSD post hoc tests all differences were significant at $p < .001$ level, except differences between members of the group of Path Seeker and Ready to Decide in the dimension of general indecisiveness ($p = .72$) and between the groups of Path Seeker and Choice Anxious on the same dimension ($p = .029$).

In order to examine whether Time Perspective scale has different patterns in the four career indecision subtypes we conducted a one-way ANOVA with LSD post hoc tests with career indecision type as the independent variable. Significant differences were found on all factors (Past-Negative TP: $F(3, 628) = 2.69$, $p < .05$, $\eta^2 = .01$; Past-Positive TP: $F(3, 629) = 13.52$, $p < .001$, $\eta^2 = .06$; Present-Hedonistic TP: $F(3, 630) = 7.28$, $p < .001$, $\eta^2 = .08$; Present-Fatalistic TP: $F(3, 632) = 7.19$, $p < .001$, $\eta^2 = .03$; and Future TP: $F(3, 622) = 18.96$, $p < .001$, $\eta^2 = .03$). The pattern of differences is summarized in Table 2.

Tab. 2. Results of one-way ANOVA on TP factors with career indecision cluster membership as independent variable

	Sample average		Path Seeker (a)		Ready to Decide (b)		Choice Anxious (c)		Chronically indecisive (d)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Past-Negative	2.63	1.04	2.68	1.14	2.52 d	.95	2.38 d	1.04	2.74 b, c	1.07
Past-Positive	3.56 a, c	.83	3.72 b, c	.80	3.55 a, c	.81	2.87 a, b, d	1.01	3.63 c	.78
Present-Hedonistic	3.20 c	.88	3.25 c	.90	3.21 c	.87	2.62 a, b, d	1.09	3.27 c	.80
Present-Fatalistic	2.77 c	.88	2.81 c	.94	2.77 c	.82	2.18 a, b, d	.94	2.81 c	.85
Future	3.25 a, c	.74	3.57 b, c, d	.72	3.16 a, c	.67	2.82 a, b, d	1.00	3.20 a, c	.67

Note: Small letters in each row stand for the cluster that's score differs significantly from the cluster in cells' column

Though effect sizes are rather small, there are some important significant differences between career indecision types on TP scales. The Choice Anxious group scores significantly lower on Past-Positive (all $p < .001$), Present-Hedonistic (all $p < .001$), Present-Fatalistic (all $p < .001$) and Future TP (all $p < .01$) scales than any other career indecision group and it has significantly lower scores than the Chronically Indecisive cluster on Past-Negative TP scale ($p < .05$). Chronically Indecisive individuals have significantly higher scores on the Past-Negative factor than Ready to Decide group members do ($p < .05$). Path Seekers have significantly higher scores on the Future TP factor than any of the other groups (all $p < .01$), furthermore, they score higher on the Past-Positive dimension ($p < .05$) than members of the Ready to Decide ($p < .001$) groups do.

Discussion

The purpose of the present study was to examine the relationship pattern between time perspective and career indecision among high school students. Vocational psychology theory and research has focused almost exclusively on future time orientation up to this date. However, results indicate career psychology can benefit in terms of theoretical and practical implications by taking into consideration present and especially past dimensions of time perspective.

Relationships between time perspective and career indecision dimensions

As Zimbardo and Boyd (1999) claim, past focus can affect the interpretation and response to the current decision situation. Recalling analogous prior situations, with memory of costs and benefits that accompanied the decision, might be nostalgic and positive or ruminative, aversive and negative. This past-related temporal influence might be one of the reasons why Past-Negative TP was positively linked to Generalized Career Indecisiveness and Need for Self-Knowledge. When prior to making a serious decision – such as career choice – an adolescent focuses on alleged or true bad decisions of the past, it can hinder him/her from being able to form a decision. Furthermore, before making a decision about one's career, recalling such negative experiences can induce negative self-reflections about one's personality and capabilities. These results are in line with Hypothesis 1. We found some unexpected results that can be of interest; in the following session we will interpret these findings.

Despite the absence of previous results about this link, Past-Positive TP score is negatively related to Career Choice Anxiety and positively linked to Need for Career Information and Need for Self-Knowledge. This result is somewhat surprising as we made no assumptions of Past-Positive TP being connected to career indecision, partly because Taber (2012) on his adult sample had not found any results to suggest otherwise. Nevertheless, as discussed earlier on, informational factors in most cases do not represent a ruminative way of searching, but rather an anxiety-free need for accurate information which can lead to a fruitful search of career-relevant information. Therefore, this result does not undermine the validity of Past-Positive TP as an important element of balanced TP that leads to positive consequences in important decisions.

Others use not a past-based, but another type of top-down decision-making, when they anticipate that the consequences of their decision, made in the present, may have an impact on their future in the form of costs to be paid or rewards to be reaped (Zimbardo & Boyd, 1999). Future time orientation has been widely associated with goal directness, decision-making etc. (e.g. Nurmi, 1991). Our results suggest that in line with our first hypothesis, emotional factors such as Career Choice Anxiety and Generalized Indecisiveness are negatively related to the construct. Apparently, if a person uses anticipated future rewards and punishments, goals, and means-ends relationships as reference points in his or her decision-making, Future

TP shields him or her from the negative emotional consequences of being undecided for the moment.

Finally, some may tend to use primarily "bottom-up" decision-making strategies based on the sensory, biological, and social salient elements of the present environment. Their actions are formed by forces of situational press, their biological state or social aspect of the situation (Zimbardo & Boyd, 1999). As for our results concerning present TP, both Present-Hedonistic and Present-Fatalistic TPs were positively related to informational factors (Need for Career Information and Need for Self-Knowledge). Present-Hedonistic TP was, however, negatively related to Career Choice Anxiety, while Present-Fatalistic TP – as stated in Hypothesis 1 – is positively related to Generalized Indecisiveness. The ability to enjoy the moment works as a protector against anxiety about one's career aspects in the future, but the thought that outside forces determine our fate, increases the feeling of indecisiveness in adolescents.

In summary, our first hypothesis was mainly supported. Past-Negative and Present-Fatalistic time orientation focus does increase generalized indecisiveness. Future TP however, "only" shields individuals from emotional indecision and does not guarantee that one has all the relevant information to make a career choice. These correlational results suggest that high school students who plan extensively to the future, experience less general career indecisiveness, whereas those who have strong beliefs about fate have more career decision-making difficulties. To our surprise, Past-Positive TP can not only be linked to cognitive factors of career indecision (Need for Career Information and for Self-Knowledge), but also to Career Choice Anxiety. Higher Past-Positive score is accompanied by less anxiety. To detect the reason for this further investigation is needed, but we suspect that if a person has good memories of the past and decisions made by him/her, it increases confidence in one's decision-making abilities, which decreases anxiety.

Time Perspective patterns in light of Career Decision typology

After the discussion of variable-centered results, individual-centered results will be interpreted, namely how groups of Ready to Decide, Path Seeker, Choice Anxious and Chronically Indecisive persons prefer to balance time. Ready to Decide individuals are known to have mature vocational and personal identities, to be highly extraverted and to have high scores on agreeableness, to experience positive affect, to seek out social contact and to prefer a high activity level (Kelly & Pulver, 2003). Little is known, however, about their preferences of temporal frames. Our results indicate that Ready to Decide adolescents have a "balanced" distribution of TP dimensions. They score highest – but not significantly higher than the sample average – on Past-Positive and Present-Hedonistic dimensions, closely followed by Future TP score, and have lower – but again not significantly lower than the sample average – scores on Past-Negative and Present-Fatalistic TP dimensions. The Ready to Decide group has scores close to the sample average on each TP scale. In sum, to

be ready to make a career related decision is accompanied by the ability to flawlessly switch between past, present and future time frames.

The Path Seeker group is characterized by a focal need for career information and information about the self, little career choice anxiety, goal-directness, mature ego identity, and the absence of negative affect in career psychology literature (e.g. Kelly & Pulver, 2003). Moreover, they have strong verbal and mathematical skills (Kelly & Pulver, 2003) and have good grades (adjoining study Lukács, 2012). In our adolescent sample they have above sample average scores on Past-Positive and Future TPs. They also score higher on Present-Hedonism than on Present-Fatalism and Past-Negative TPs when we look at the pattern of their time orientation in itself. We assume that having good memories of the past, accompanied with anticipation for future goals, as well as the capability to enjoy present environment ("balanced" TP, Zimbardo & Boyd, 1999) results in being capable of making career-related decisions if provided with sufficient information.

Choice Anxious individuals are extremely anxious about making a career decision. As for their use of temporal frames, the pattern of their scores across TPs is like that of the Path Seeker's (with Past-Positive, Future and Present-Hedonistic TPs being slightly higher than Past-Negative and Present-Fatalistic TPs). What tells the two groups apart is the range of these scores. Choice Anxious individuals have lower scores on all TP factors (except Past-Negative TP) than any other group and as a result the sample means. It is as if their high anxiety level made it harder for them to relate to temporal frames, but the reason behind this finding needs to be further investigated.

The Chronically Indecisive group is systematically found to be in need of career information, highly anxious, lacking decision-making confidence; they have low self-esteem and poorly developed identity (Jones & Chenery, 1980; Larson et al., 1988; Wanberg & Muchinsky, 1992; Chartrand et al., 1994). Kelly and Pulver (2003) found that people belonging to this type (they called them "neurotic indecisive information seekers", p. 451) had a reserved interpersonal style, a desire to avoid social contact and a cautious approach to life. Our results suggest that chronically indecisive people have past-negative dominance (their Past-Negative scores were significantly higher than Path Seekers' scores). Their TP scores did not differ significantly from the sample mean but they can be characterized with a lower Future time orientation than Path Seekers'. Results suggest that the difficulties they face (high anxiety, indecisiveness) might stem from bad memories of past decisions and a relative lack of anticipating the future.

In summary, our second hypothesis was fairly supported. The Chronically Indecisive group does have a relative Past-Negative dominance and lower scores on Future TP (when looking at the five TP's pattern between subjects of the group; although its score does not differ significantly from the sample average). Ready to Decide individuals do not have a higher level or the sample average of future orientation than others, but their time perspective pattern is similar to the

"balanced" TP. Path Seekers not only have a Future dominance, but also score higher on the Past-Positive Factor than the Ready to Decide and the Choice Anxious group.

Limitations

It is important to mention some of the limitations of this study. Our data was based on self-reports and we used shortened scales that, despite having good psychometric properties, may narrow the interpretation area of the utilized dimensions. This is especially true in the case of the Hungarian version of ZTPI. Furthermore, gender differences were not dealt with in the present work, further studies should take this into account. Finally, our sample was not a representative one. Therefore, it might be misleading to draw far-reaching conclusions regarding differences between means of sample average and the different career decision groups.

Practical implications

Career indecision typologies were from the very beginning (Holland, 1975, 1977) made to help practitioners better understand obstacles one has to overcome in his career path. The present study sheds light on some important data about temporal frames used by people in different career indecision types. In the following sections we suggest ways of intervention for different types based on previous research (Cohen & Chartrand, 1995) and taking into account our results on a sample of 638 high school students.

The results of the present study suggest that members of the Ready to Decide and the Path Seeker groups had low career indecision and a "balanced" pattern of TP factors. They might not need to engage in career orientation services at all, as they have what it takes to form a good decision. Path Seekers may need some more information about the world of work or themselves. Should some of the individuals in these groups need assistance when making their career-decision, informational or web-based counselling will suffice that need entirely.

Chronically Indecisive students would surely benefit from career counselling interventions as they have high scores on all career indecision factors. Individual or group sessions should include the reframing of or coping with past bad memories – most importantly the ones concerning decisions made – as well as increasing future orientation (normally already included in career counselling sessions as career goals are usually related to the future).

Members of the Choice Anxious group should be taught anxiety management techniques. Future studies should address the question of impact of TP intervention (future, past and present) when working with clients who have high levels of career indecision.

Conclusions

The present study aimed to measure the relationship pattern of time perspective dimensions and career indecision with variable- and individual-centered methods. Zimbardo and Boyd's (1999) inventory made it possible to compare time perspective

patterns (including past, present and future dimensions) of youngsters who are ready to decide on their career, who seek their profession, who are anxious due to this decision, and those who are chronically indecisive. On the basis of the results six main conclusions can be drawn: (a) Past-Negative and Present-Fatalistic time orientation focus is in relationship with generalized indecisiveness. (b) However, Future TP shields individuals from emotional indecision and hand in hand with positive views on past, it is linked to Need of Self-Knowledge and information to make a career choice. (c) Path Seeker students – who have high need for self- and career information, with low anxiety level without generalized decisiveness – have a time perspective pattern which is similar to Zimbardo and Boyd's (1999) balanced Time Perspective. (d) Ready to decide individuals – with mature vocational and personal identities – have similar balanced patterns as Path Seekers with subtle differences. (e) Chronically indecisive youngsters – who lack decision-making confidence and have low self-esteem – have a time perspective pattern which is dominated by the Past-Negative factor and they are less future-oriented. (f) Choice Anxious students – who are extremely anxious about making a career-decision – have lower scores on all TP factors (except Past-Negative TP) than any other group. Students who belong to these different groups need different career orientation services because while one is suffering from anxiety and the negative experiences of the past, the other is looking forward to the future by searching career- and self-relevant information.

References

Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz M. B. (2000). Guidelines for the process of cross-cultural adaption of self-report measures. *SPINE*, *25*(24), 3186-3193.

Boniwell, I., & Zimbardo, P. G. (2004). Balancing Time Perspective in pursuit of optimal functioning. In: P. A. Linley & S. Joseph (Eds.), *Positive Psychology in Practice* (pp. 165-181). New Jersey: John Wiley & Sons, Inc.

Brown, T. A. (2006). *Confirmatory Factor Analysis for applied research*. New York: Guilford.

Chartrand, J. M., Robbins, S. B., Morrill, W. H., & Boggs, K. (1990). Development and validation of the Career Factors Inventory. *Journal of Counseling Psychology*, *37*(4), 491-501.

Chartrand, J. M., & Nutter, K. J. (1996). The Career Factors Inventory: Theory and Applications. *Journal of Career Assessment*, *4*(2), Spring, 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*, *42*(4), 440-447.

Crites, J. O. (1978). *Theory and Research Handbook for the Career Maturity Inventory.* Monterey, Ca: CTB/McGraw-Hill.

Drake, L., Duncan, E., Sutherland, F., Abernethy, C., & Henry, C. (2008). Time perspective and correlates of wellbeing. *Time & Society*, *17*(1), 47-61.

Eren, A., & Tezel, K. V. (2010). Factors influencing teaching choice, professional plans about teaching and future time perspective: A mediatonal analysis. *Teaching and Teacher Education*, *26*, 1416-1428.

Ferrari, L., Nota, L., & Soresi, S. (2010). Time perspective and indecision in young and older adolescents. *British Journal of Guidance & Counselling*, *38*(1), 61-82.

Fuqua, D. R., & Hartman, B. W. (1983). Differential diagnosis and treatment of career indecision. *The Personnel and Guidance Journal*, *62*, 27-30.

Holland, J. L., Gottfriedson, G. D., & Nafziger, D. H. (1975). Testing the validity of some theoretical signs of vocational decision-making ability. *Journal of Counseling Psychology*, *22*(5), 411-422.

Holland, J. L., & Holland, J. E. (1977). Vocational indecision: More evidence and speculation. *Journal of Counseling Psychology*, *24*(5), 404-414.

Janeiro, I. N. (2010). Motivational dynamics in the development of career attitudes among adolescents. *Journal of Vocational Behavior*, *76*, 170-177.

Jones, L. K., & Chenery, M. (1980). Multiple subtypes among vocationally undecided college students: A model and assessment instrument. *Journal of Counselling Psychology*, *27*, 469-477.

Jones, L. K. (1989). Measuring a three-dimensional construct of career indecision among college students: A revision of the Vocational Decision Scale – The Career Decision Profile. *Journal of Counselling Psychology*, *36*(4), 477-486.

Kelly, R. K., & Pulver, C. A. (2003). Refining measurement of career indecision types: A validity study. *Journal of Counselling & Development*, *81*, 445-454.

Keough, K. A., Zimbardo, P. G., & Boyd, J. N. (1999). Who's smoking, drinking and using drugs? Time perspective as a predictor of substance use. *Basic and Applied Psychology*, *21*(2), 149-164.

Larson, L. M., Heppner, P. P., Ham, T., & Dugan, K. (1988). Investigating multiple subtypes of career indecision through cluster analysis. *Journal of Counselling Psychology*, *35*, 439-446.

Lewin, K. (1951). *Field theory in the social sciences: Selected theoretical papers*. New York: Harper.

Lukács, É. F. (2012). *The connection of career decision and identity development: Types of career indecision from the perspective of identity statuses*. Budapest: ELTE-PPK.

Marko, K. W., & Savickas, M. L. (1998). Effectiveness of a career time perspective intervention. *Journal of Vocational Behaviour*, *52*, 106-119.

Nurmi, J. E. (1991). How do adolescents see their future? A review of the development of future orientation and planning. *Developmental Review*, *11*, 1-59.

Orosz, G., & Roland-Lévy, C. (under revision). Hungarian Validation of Zimbardo Time Perspective Inventory. *Time & Society.*

Osipow, S. H. (1999). Assessing career indecision. *Journal of Vocational Behaviour*, *55*, 147-154.

Savickas, M. L., Silling, S. M., & Schwartz, S. (1984). Time perspective in vocational maturity and career decision making. *Journal of Vocational Behaviour*, *25*, 258-269.

Savickas, M. L., & Jarjoura, D. (1991). The Career Decision Scale as a type indicator. *Journal of Counselling Psychology*, *38*, 85-90.

Super, D. E., Osborne, W. L., Walsh, D. J., Brown, S. D., & Niles, S. G. (1992). Developmental Career Assessment and Counselling: The C-DAC Model. *Journal of Counselling & Development*, *71*(1), 74-80.

Taber, B. J. (2013). Time perspective and career decision-making difficulties in adults. *Journal of Career Assessment*, *21*(2), 200-209. DOI: 10,1177/1069072712466722.

Zimbardo, P. G., & Boyd, J. N. (1999). Putting time in perspective: A valid, reliable individual-differences metric. *Journal of Personality and Social Psychology*, *77*(6), 1271-1288.

Wanberg, C. R., & Muchinsky, P. M. (1992). A typology of career decision status: Validity extension of the Vocational Decision Status Model. *Journal of Counselling Psychology*, *39*(1), 71-80.

Walker, T. L., & Tracey, T. J. G. (2012). The role of future time perspective in career decision-making. *Journal of Vocational Behaviour*, *81*(2), 150-158.