

Personality, Motivational Factors And Difficulties In Career Decision-Making In Secondary School Students

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Abstract

The purpose of the study was to examine the differences in personality, motivational factors and career decision-making difficulties between career decided and undecided students. The predictive value of some personality and motivational variables for secondary school students' career decision-making difficulties was also investigated. 641 students of the fourth class of grammar school participated in the study. The results show that there are differences between career decided and undecided students in most of the personality variables. Career decided students make their decisions more self-confidently, are less panic-stricken and avoid decision-making less compared to undecided students. They are higher in extraversion, conscientiousness, openness and emotional stability, are more competent and report having more self-control and fewer career decision-making difficulties. The most important predictors of students' career decision-making difficulties are: a less panic-stricken and impulsive decision-making style, extraversion, emotional stability and competence in self-regulation.

Key words: process of career decision-making, career decisiveness/ indecisiveness, decision-making difficulties, personality and motivational factors of career decision-making

INTRODUCTION

The process of career decision-making

In adolescence, the choice of career in further education is one of the most important decisions that an adolescent has to make. Career decision-making is related to an individual's lifestyle as well as personal and professional satisfaction

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(Betz & Taylor, 2006; Lounsbury, Tatum, Chambers, Owens, & Gibson, 1999; Lucas, 1992). Some adolescents are able to make this decision quite easily and quickly, while others report having many difficulties with it (Rounds & Tinsley, 1984; Gati, Krausz, & Osipow, 1996). Thus, for effective career counselling, it is important to know which factors influence career decision-making and related difficulties. Some personality and motivational factors and their influence on adolescents' career decision-making and difficulties are presented in this article.

Gati et al. (1996) emphasize that the career decision-making process has the same characteristics as any other decision-making process, which means that (i) the process involves an individual who (ii) chooses what he/she feels is the most appropriate from various career possibilities (iii) based on comparison and evaluation of alternatives, mindful of the fact that these comparison and evaluation processes are influenced both by the characteristics of the educational program/profession and the individual. Moreover, the career decision-making process has some specific features, e.g. an individual makes a decision from a wide range of career possibilities, for each career alternative a wealth of information is available and the fact that various aspects of the profession should be taken into consideration (e.g. duration of the educational process, independence in work etc.). Due to the complexity of the decision-making on further education/study, adolescents have to use various skills in the process of selection. There are large differences in the decision-making process among adolescents. Some are able to make a decision without difficulty while others cope with various obstacles in their environment (e.g. limited financial means, accessibility of the university) as well as with internal difficulties.

Career decisiveness/indecisiveness and decision-making difficulties

Career decisiveness is defined as an individual's certainty about his/her career decision (Osipow, Carney, Winer, Yanico, & Koschier, 1987), where certainty relates to the extent an individual is convinced that he/she can make a career decision. Contrary to this concept is career indecisiveness, which refers to an individual's inability to make a decision about the profession that he/she is striving for. Chartrand, Rose, Elliot, Marmarosh, & Caldwell (1993), Gati, Krausz, & Osipow (1996) and Leong & Chervinko (1996), also broadly define career indecisiveness as difficulties that an individual has in career decision-making. Career indecisiveness refers to every problem or obstacle that appear in the career decision-making process (Fuqua, Blum, & Hartman, 1988).

Empirical studies of career indecisiveness deal mostly with development of various instruments for assessment of individual differences. Tinsley (1992) notes that these instruments are not founded on various theoretical concepts. Based on a meta-analytical study Gati, Krausz, & Osipow (1996) emphasized the need for a new frame of reference that would relate theories to empirical studies. They,

therefore, developed a theoretical model called "the taxonomy of career decision-making difficulties".

This taxonomy is based on a normative decision-making theory which various researchers consider important in order to understand the career decision-making process (e.g. Brown, 1990; Gati, 1986; Mitchell & Krumboltz, 1984; Neimeyer, 1988; Osipow, 1987; Osipow & Fitzgerald, 1996; Phillips, 1994; Pitz & Harren, 1980; Walsh & Osipow, 1988). The difficulties in this taxonomy are defined as a deviation from the model of "the person that makes career decisions perfectly". Each deviation from the model of such person is regarded as a potential difficulty, which can influence an individual's decision-making process in such a way that it can hinder or impede the individual in his/her decision-making process, or the individual makes a decision that is not optimal (Gati, Krausz, & Osipow, 1996).

In the taxonomy, career decision-making difficulties are classified into three broad categories, which are further divided into ten specific categories of difficulties. The first broader category, *lack of readiness*, includes three categories of difficulties that can appear before the career decision making process: (1) lack of motivation to begin the career decision making process; (2) general indecisiveness that refers to all kinds of decisions and (3) dysfunctional beliefs that include irrational expectations about the career decision-making process.

The other two broader categories of difficulties, *lack of information* and *inconsistent information*, include categories of difficulties that arise during the career decision-making process. *Lack of information* includes four categories of difficulties: (1) lack of knowledge about the steps involved in the process; (2) lack of information about the self; (3) lack of information about the various alternatives (i.e. occupations) and (4) lack of information about ways of obtaining additional information. The third broader category of difficulties, *inconsistent information*, includes. (1) unreliable information (e.g. academic achievement above average and low score on the intelligence test); (2) internal conflicts, which are conflicts within the individual as opposing preferences or difficulties related to the need to compromise and (3) external conflicts which relate to the influence of significant others.

For assessment of difficulties in the taxonomy, the Career Decision Difficulties Questionnaire (CDDQ; Gati, Krausz, & Osipow, 1996) was designed. In line with other researchers who have used this instrument, we were interested in the typical difficulties students have in their career decision-making. This was especially of interest for the students who have not yet made their career decisions.

Personality and motivational factors of career decision making

In assessment of intrapersonal factors, which are related to effective career decision-making and related difficulties, mostly motivational and emotional variables as the locus of control, self-efficacy, self-concept and anxiety were

studied (Betz & Taylor, 2006; Larson et al., 1994; Lucas, 1992). For example, Hartman, Fuqua, & Blum (1985, in Larson, Busby, Stephan, Medora, & Allgood, 1994) explain that anxiety represents an emotional obstacle that decelerates the career decision-making process or impedes it.

Rare exceptions are studies that connect career decision-making and related difficulties to the Personality Big Five Dimensions. The study of Lounsbury et al. (1999) shows that career indecisiveness is positively associated with agreeableness and conscientiousness and negatively to neuroticism. The negative correlation between career decisiveness and neuroticism shows that individuals who experience more worries, tensions and anxiety have more difficulties in career decision-making. With reference to a positive relation between career indecisiveness and conscientiousness, Lounsbury et al. (1999) examined whether career decisiveness can even be the result of an individual's conscientiousness. A positive relation between career indecisiveness and agreeableness is explained in such a way that individuals who are higher on agreeableness are more willing to cope with career planning, more trustful of information related to the career decision, tend to look for and accept advice from other people and, therefore, have fewer difficulties in their career decision-making process. In that study also, a positive relation between career decisiveness and satisfaction with life was established. Studies that offer insight into the dynamics of the career decision-making from the aspect of the Personality Big Five Dimensions model are very rare nowadays. This is the reason for including those personality dimensions in our research.

The relation between an individual's predominant decision-making style and his/her efficiency in the career decision-making process are also frequently examined in empirical studies. Namely, a decision-making style indicates the learned, usual pattern of an individual's reactions in coping with a situation where he/she has to make a decision (Scott & Bruce, 1995, in Sager & Gastil, 1999) or the way he/she approaches cognitive tasks (Galotti, Ciner, Altenbaumer, Geerts, Rupp, & Woulfe, 2006). Tuinstra, Groothoff, van den Heuvel & Post (2000) defined four decision-making styles in adolescents. These are: self-confidence (an adjusted decision making pattern) and avoidance, panic and impulsive decision-making (unadjusted decision-making patterns). Unadjusted decision making styles are negatively related to progress in a career decision-making process (Franken & Muris, 2005; Phillips, Paziienza, & Walsh, 1984, in Blustein & Phillips, 1990). Thus, the individuals who make panicky decisions and without reflection (panic decision-making), those who make decisions impulsively without reflection or prudence (impulsive decision making) or those who make their decision with regard to what other people suggest (avoidance) generally make a decision which is not optimal vis-a-vis their career goals, interests or abilities. Thus, an individual's decision-making style influences the way he makes his decision. This means that the individuals' preferred decision-making style affects his/her career decision. For

that reason, we also examined the relation between decision-making styles and career decision-making.

In the present study our aim was to examine:

- 1) whether there are differences in personality and motivational factors and in the kind of career decision making difficulties between career decided and undecided students;
- 2) which personality and motivational factors discriminate the most between career decided and undecided students;
- 3) the predictive value of various personality and motivational factors for the career decision making difficulties in secondary school students.

METHOD

Participants

641 students of the fourth grade from seven different grammar schools (38.7% boys, 61.3% girls) participated in the study. The participants were students of two similar grammar school programmes: general grammar school programme (67.8%) and economic grammar school programme (32.2%). The average age of the students was 17 years and 11 months.

Instruments

Five instruments were used in the study.

1. Decision Making Questionnaire (Tuinstra et al., 2000)

This self-report measure includes 22 items that refer to the ways people usually make decisions. It measures four decision making styles: one adjusted style – self-confidence, and three unadjusted styles (avoidance, panic and impulsive decision making). Avoidance and self-confidence styles consist of six items, whereas panic and impulsive styles have five items. Students were asked to complete items on a four-point rating scale, where 1 = never true for me, 2 = sometimes true for me, 3 = often true for me and 4 = always true for me.

The reliability coefficients of the Slovene version are better than those of the original version: self-confidence (Cronbach α for the original version is .70, for the Slovene version .72), avoidance (Cronbach α for the original version is .72, for the Slovene version .79); panic (Cronbach α for the original and the Slovene version is .65) and impulsive (Cronbach α for the original version is .62, for the Slovene version .68).

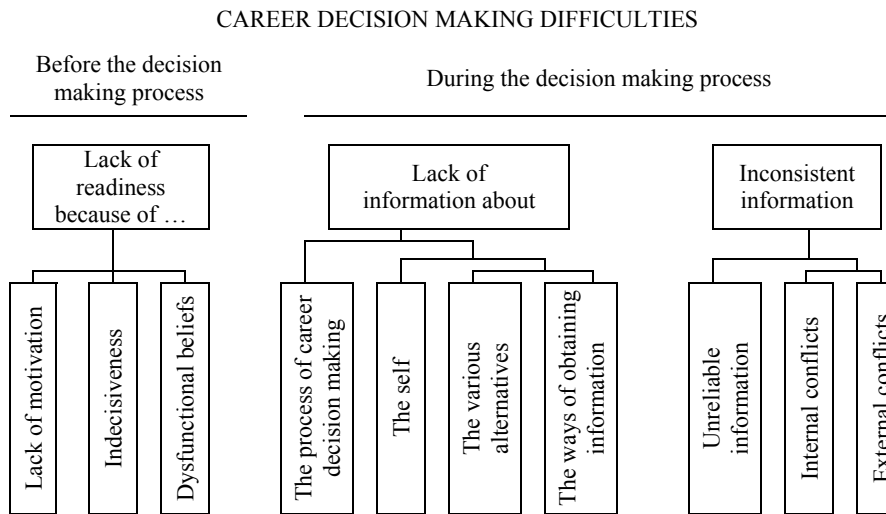
2. Career Decision-Making Difficulties Questionnaire - CDDQ (Gati, & Osipow, 2004)

The adapted Slovene version of the Career Decision-Making Questionnaire (adapted by Pečjak & Zagoričnik) is the revised version of the questionnaire of Gati, Osipow, & Krausz (1996). It was designed to assess potential difficulties in career decision making of grammar school students.

The questionnaire consists of two parts. In the first part, students report their career decisiveness/indecisiveness by answering the question "Do you know which educational programme you will choose?" If their answer was positive and they also named the chosen programme, we classified them in the category of career decided students. If their answer was negative, they were treated as career undecided students. The career decided students continued with reporting on their degree of decisiveness for further education, degree of satisfaction with this decision, subjective judgement about the difficulties in career decision-making and the importance of the decision. They completed items on a nine-point rating scale as well as the importance of the decision on a five-point scale respectively.

The second part of the questionnaire is the Slovene version of the original questionnaire. It consists of 34 items that refer to the difficulties students usually have in career decision making. Students completed the items on a nine-point scale (1 – not at all true for me; 9 – completely true for me). This part measures the degree of students' difficulties in the decision making about further education on ten categories of difficulties, three broader categories and the degree of difficulties in general. These broader and specific categories of the difficulties in the Career Decision-Making Difficulties Questionnaire are: lack of readiness (lack of motivation, general indecisiveness, dysfunctional beliefs), lack of information (lack of knowledge about the steps involved in the process, lack of information about the self, the various alternatives and ways of obtaining additional information) as well as inconsistent information (unreliable information, internal conflicts, external conflicts). This taxonomy is presented in Figure 1.

Figure 1. Taxonomy of career decision making difficulties
(Gati, Krausz, & Osipow, 1996)



The Cronbach alpha coefficients for the Slovene version of the Career Decision-Making Difficulties Questionnaire range between .55 and .93, where low reliability of the Dysfunctional beliefs scale ($\alpha = .55$) and Lack of information about ways of obtaining additional information scale ($\alpha = .65$) should be mentioned (Zagoričnik, 2006). These coefficients are similar to reliability coefficients of the Career Decision-Making Difficulties Questionnaire reported in other studies (e.g. Gati, Krasuz, & Osipow, 1996; Gati & Saka 2001; Hijazi, Tatar, & Gati, 2004).

3. Big Five Inventory - short version (John, 1990)

The personality questionnaire "Big Five" measures five personality dimensions: extraversion, agreeableness, conscientiousness, emotional stability and openness. The questionnaire has 44 items and was designed to assess the "Big Five" dimensions without the assessment of its sub-dimensions. The shorter version of the questionnaire consists of adjectives that are prototypical markers of the "Big Five" personality dimensions. The participants were asked to indicate the extent they agreed with the item (1 – do not agree at all; 2 – mostly do not agree; 3 – partly agree, partly disagree; 4 – mostly agree; 5 – completely agree).

The reliability coefficients of the Slovene version of the questionnaire are very similar to those of the original version (Slovene/original version for the extraversion scale $\alpha = .84/.88$, for the agreeableness scale $\alpha = .77/.79$, for the conscientiousness scale $\alpha = .80/.84$, for the emotional stability scale $\alpha = .85/.81$ and

for the openness scale $\alpha = .80/.80$ (Avsec, 2007). The face validity refers to the strong convergent and divergent relation to other "Big Five" questionnaires and other equivalent instruments. Convergent validity for all five dimensions is approximately $r = .92$.

4. Self-regulation Inventory – short version (SSI-K3, Kuhl & Furhmann, 2004)

The Self-regulation Inventory is designed to assess the individual's volitional processes. The short version consists of 52 items, which refer to five components of volitional processes: self-regulation/competence, self-control, volitional development, self-access and general life stress. These components of volitional processes include subscales. The self-regulation-competence includes self-determination, positive self-motivation and self-relaxation. Self control includes cognitive self-control (ability to plan) and emotional self-control (goal orientation without anxiety). The volitional development consists of initiative, action orientation and ability to concentrate. Self access includes the subscales-action orientation after failure, sense of feeling, integration of inconsistencies and the component - general life stress - includes the subscales demands and threats.

Students rate the items on a four-point scale, where 1 = not at all true, 2 = partly true, 3 = very true and 4 = completely true.

The reliabilities of the subscales of the Slovene and original version of the questionnaire are very similar and as follows:

- Self-regulation/competence: self-determination ($\alpha = .74/.76$), positive self-motivation ($\alpha = .79/.82$) and self-relaxation ($\alpha = .80/.84$);
- Self-control: cognitive self-control ($\alpha = .83/.81$) emotional self-control ($\alpha = .70/.73$);
- Volitional development: initiative ($\alpha = .75/.79$), action orientation ($\alpha = .79/.80$) and ability to concentrate ($\alpha = .87/.90$);
- Self-access: action orientation after failure ($\alpha = .87/.84$), sense of feeling ($\alpha = .78/.78$) and integration of inconsistencies ($\alpha = .84/.84$);
- General life stress: demands ($\alpha = .79/.83$) and threats ($\alpha = .81/.82$).

5. Satisfaction with life scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985)

Satisfaction with life scale measures general satisfaction with life. Among different components of subjective well-being, "Satisfaction with life" scale is designed to assess general satisfaction with life and represents cognitive aspects of satisfaction with life.

The scale consists of five items that should be rated on a seven-point scale (1 – not true at all; 7 – completely true). Pavot & Diener (1993) report that internal consistency coefficients ranged from .79 to .89 and test-retest reliability from .50 to .84). In this study, the Cronbach alpha coefficient was .80.

Procedure

The study was performed in the period from January to May 2006. The questionnaires were administered with the help of the school counsellors. In January 2006 (before enrolment at the university) the students completed the first two questionnaires – Adolescent Decision Making Questionnaire and Career Decision-Making Difficulties Questionnaire. In April and May 2006 (after enrolment at the university), they completed the Big Five Inventory, Self-regulation Inventory and Satisfaction with Life Scale. The administration of the questionnaires was anonymous.

From the 678 students who completed the questionnaires 641 students (94.5%) completed all the questionnaires.

RESULTS

I. Differences in personality, motivational characteristics and career decision making difficulties between career decided and undecided students

We examined whether there are differences in personality and motivational factors and in the kind of career decision making difficulties between career decided and undecided students. Using the t-test we investigated the differences between career decided (N = 462) and undecided students (N = 179). We also calculated the significance of the differences between the two groups.

Table 1. Descriptive statistics for the personality and motivational characteristics for the group of career decided and the group of career undecided students and the significance of the differences between these two groups

	Career decisiveness	M	SD	t	df	r
Decision making - self-confidence	Yes	18.00	2.50	5.72***	628	.21
	No	16.70	2.71			
Decision making - panic	Yes	10.31	2.44	2.63**	623	.11
	No	10.87	2.36			
Decision making - impulsive	Yes	11.20	1.46	1.08	616	.04
	No	11.34	1.43			
Decision making - avoidance	Yes	10.44	2.69	4.37***	616	.17
	No	11.48	2.61			
BFI - extraversion	Yes	29.67	5.39	3.01**	497	.13
	No	28.03	5.92			

Table 1. Continued

	Career decisiveness	M	SD	t	df	r
BFI - agreeableness	Yes	32.13	4.82	0.40	501	.02
	No	32.32	4.27			
BFI - conscientiousness	Yes	30.76	5.67	3.64***	501	.16
	No	28.82	4.80			
BFI - emotional stability	Yes	22.05	5.37	2.06*	499	.09
	No	23.14	5.47			
BFI - openness	Yes	32.24	5.28	2.14*	501	.10
	No	31.09	5.87			
Satisfaction with life	Yes	23.40	5.67	1.76	500	.08
	No	22.38	6.53			
SSI-K3: Self-regulation-competence	Yes	30.26	5.24	2.91**	472	.13
	No	28.71	5.52			
SSI-K3: Self-control	Yes	17.59	2.99	2.02*	483	.09
	No	17.01	2.58			
SSI-K3: Volitional development	Yes	29.70	4.47	1.26	467	.06
	No	30.26	4.11			
SSI-K3: Self-access	Yes	26.91	6.61	0.30	472	.01
	No	27.12	6.41			
SSI-K3: General life stress	Yes	16.89	5.15	0.56	488	.02
	No	17.17	5.00			
CDDQ - lack of motivation	Yes	6.25	3.74	8.32***	630	.32
	No	9.25	4.85			
CDDQ - general indecisiveness	Yes	14.15	5.79	5.97***	627	.23
	No	17.15	5.35			
CDDQ - dysfunctional beliefs	Yes	27.57	6.99	5.42***	620	.21
	No	24.20	6.78			
CDDQ - lack of knowledge about the steps involved in the process	Yes	9.21	5.88	11.69***	638	.42
	No	15.24	5.82			
CDDQ - lack of information about the self	Yes	11.99	7.31	12.64***	633	.45
	No	20.32	7.79			
CDDQ - lack of information about the various alternatives	Yes	10.44	6.20	10.44***	638	.38
	No	15.98	5.52			
CDDQ - lack of information about the ways of obtaining additional information	Yes	5.63	3.48	9.11***	636	.34
	No	8.54	3.96			
CDDQ - unreliable information	Yes	7.47	4.63	9.68**	634	.36
	No	11.56	5.16			
CDDQ - internal conflicts	Yes	15.36	8.24	10.48***	627	.39
	No	22.83	7.43			
CDDQ - external conflicts	Yes	3.59	3.12	4.27***	628	.17
	No	4.87	3.98			
CDDQ - lack of readiness	Yes	48.04	10.06	2.75**	606	.11
	No	50.58	10.37			
CDDQ - lack of information	Yes	37.35	20.01	12.97***	631	.46
	No	60.06	19.16			
CDDQ - inconsistent information	Yes	26.39	13.23	10.97***	614	.41
	No	39.23	12.66			
CDDQ - together	Yes	111.91	35.98	11.07***	581	.42
	No	148.42	34.39			

* $p < .05$ ** $p < .01$ *** $p < .001$ r = effect size

As presented in Table 1, there are significant differences between career decided and undecided students in almost all variables included in analysis. These two groups of students do not differ significantly in impulsiveness of decision making, agreeableness, satisfaction with life, volitional development, self-access or general life stress. The significance of the differences between decided and undecided students is moderate to large ($.30 < r < .50$) for lack of motivation, lack of knowledge on the steps involved in the process, lack of information about the self, various alternatives, ways of obtaining additional information, unreliable information, internal conflicts, lack of information, inconsistent information and CDDQ – altogether. The most significant differences between the decided and undecided students relate to lack of information (it explains 21% of the whole decisiveness variance) and lack of information about the self (it explains 20% of the whole decisiveness variance). A small significant difference between both groups of students ($.10 < r < .30$) was found for the general indecisiveness and dysfunctional beliefs (they explain 4-5% of the decisiveness variance), avoidant decision making style and conscientiousness (each of them explains approximately 3% of the variance), as well as extraversion and self-regulation – competence, (each of them explaining approximately 2% of the variance).

Discriminant analysis was used to examine which students' motivational and personality characteristics discriminate between the group of career decided and undecided students. Wilks' Lambda is .68 ($\chi^2 = 126.05$; $df = 18$; $p = .00$). On the basis of that value we can conclude that there are differences between students in motivational and personality characteristics. The discriminant analysis provides us with more detailed information on the structure and quality of these differences. One discriminant function that explains 100% of variance was extracted. The standardized canonical discriminant function coefficients are presented in Table 2.

Table 2. Structure matrix for the variables differing between career decided and undecided students

	Function 1
CDDQ – lack of information	.81
CDDQ – inconsistent information	.61
Decision making - self-confidence	-.35
Decision making - avoidance	.32
BFI - extraversion	-.24
BFI - conscientiousness	-.20
BFI - openness	-.18
Satisfaction with life	-.15
SSI-K3: Self-regulation - competence	-.12
CDDQ - lack of readiness	.12
SSI-K3: Self-control	-.12
BFI - emotional stability	.11
Decision making - panic	.11

Table 2. Continued

	Function 1
Decision making - impulsive	.06
SSI-K3: Volitional development	.06
SSI-K3: General life stress	.04
BFI - agreeableness	.03
SSI-K3: Self-access	.01

Table 3. Group centroids for decided and undecided group on the discriminant function

Career decisiveness	Function 1
Yes	-0.44
No	1.07

Table 2 presents which variables discriminate the most between decided and undecided students. What differentiates these two groups the most is lack of information: undecided students report having a greater lack of information compared to decided students. This dearth of information refers to lack of information about the self, various alternatives and ways of obtaining information.

The second most discriminative variable is inconsistent information. Undecided students report more inconsistent information compared to decided students. Inconsistent information refers to internal conflicts that reflect students' confusion and uncertainty in choosing an alternative; external conflicts refer to students' adjustment of their career decisions to their significant others (e.g. parents, friends) as well as conflicting information that arises from various (positive and negative) characteristics of the profession. Also, the group centroid (Table 3) indicates that two different groups of students appear with regard to their personality and motivational characteristics. The differences between these two groups are as described above in this paragraph.

The classification results show that 78.8 percent of decided students and 79.6 percent of undecided students were classified correctly.

II. The predictive value of the personality and motivational factors for career decision making difficulties

Regression analysis was used to examine the predictive value of students' motivational and personality characteristics for their career decision making difficulties. The results of this analysis are presented in Table 4.

Table 4. Multiple regression analyses predicting career decision making difficulties from students' personality and motivational characteristics using the Enter method

	B	R²	F^a_{15, 323}
Decision making - self-confidence	-.09	.28	8.36***
Decision making - panic	.15*		
Decision making - impulsive	.16**		
Decision making - avoidance	.09		
BFI - extraversion	-.16**		
BFI - agreeableness	.04		
BFI - conscientiousness	.08		
BFI - emotional stability	-.24***		
BFI - openness	.06		
Satisfaction with life	-.04		
SSI - K3: Self-regulation - competence	-.16*		
SSI - K3: Self-control	-.02		
SSI - K3: Volitional development	.09		
SSI - K3: Self-access	.09		
SSI - K3: General life stress	.08		

* $p < .05$ ** $p < .01$ *** $p < .001$

Students' characteristics that predict their career decision making difficulties are panic and impulsive decision making style, extraversion, emotional stability and competence in self-regulation. Students with a panic and impulsive decision making style, less extraverted or emotionally stable along with students who report being less competent in the regulation of their career decision making process have significantly more career decision making difficulties. The stronger predictor for students' career decision making difficulties is emotional stability.

DISCUSSION

The purpose of the study was to examine the differences between career decided and undecided students in their personality and motivational characteristics and in their career decision making difficulties. Also, we wanted to investigate which personality and motivational factors discriminate the most between decided and undecided students and what the value of different personality and motivational variables is in predicting students' career decision making difficulties.

I. Differences between career decided and undecided students in personality and motivational characteristics and in their career decision making difficulties

There are significant differences between decided and undecided students in most of the personality and motivational variables included in the study: in the decision making styles, in personality dimensions and in the motivational dimension volitional self-regulation (Table 1).

Decided and undecided students differ in three of the four decision making styles. Career decided students are more self-confident, less panic-stricken and avoidant in their career decision making compared to their undecided peers. At the same time, the results of the discriminant analysis show that self-confidence and a panic decision making style are strong discriminators between decided and undecided students (Table 2). Such results are not surprising; we can expect that students who are self-confident in their decision making (i.e. trust in their decision making abilities and are satisfied with their past decisions) will have decided about their further career/education two months before the deadline for the decision. On the other hand, it is not surprising that undecided students tend to avoid decision making or make their decisions quickly, at the last moment (which characterises panic decision making). The relation between indecisiveness and avoidant decision making style is probably reciprocal: thus students who avoid decision making make their decisions with more difficulty and slower. At the same time they cannot avoid making their career decision and this can act as a stressor, which the student tries to avoid. The same direction of the relation between decision making styles and career decisiveness was also reported in other studies (e.g. Franken & Muris, 2005; Lucas & Epperson, 1990).

The results of testing the differences between decided and undecided students in the personality dimensions show that decided students are more extraverted, emotionally stable and conscientious compared to undecided students. Students, who are more anxious, distressed and tense - the characteristics of emotional instability (as defined by Costa & McCrae, 1989) - have more problems in making their career decision. The personality dimension conscientiousness is defined by the following attributes: orderliness, self-discipline, deliberation, dependability, and competence (Hogan & Ones, 1997; Costa & McCrae, 1989). Career decisiveness is the presumed outcome for students who have such characteristics. Namely, it can be expected that students who are more organised and disciplined will be faster in their career decision making and be more convinced by their decision.

Similar, though not identical results that career decisiveness is positively and significantly related to agreeableness and conscientiousness and negatively related to neuroticism were reported by Lounsbury et al. (1999). The differences in the results between this and our study could be attributed to differences in the sample (in Lounsbury's study the sample was limited to psychology students, whereas in

our study the grammar school students were included) and to the different instruments for assessing the "Big Five personality dimensions" (Lounsbury et al: NEO Five-Factor Inventory – NEO-FFI, Costa & McCrae, 1989; our study: Big Five Inventory - BFI; John, 1990).

Kuhl (1992) defines volition as a general executor that connects various cognitive, motivational and emotional processes, adjusts them and thereby regulates an individual's behaviour in the career decision making process. The results of our study support such a view. We have established the significant differences between decided and undecided students in the self-regulation of competence and self-control. This finding makes sense when analysing the sub-factors of these two factors (see Method). If we try to explain competence in the context of career decision making, we can conclude that a student who is self-assured and positively motivated to find an educational path that is optimal for him/her, is faster in his/her career decision making process compared to a student who does not have such characteristics. The same holds true for self-control, which is also higher in decided students. Such findings are identical to the findings of Kuhl & Fuhrmann (2004) and are not surprising. Namely, self-control consists of the sub-factors - cognitive self-control (planning of the career) and emotional self-control (goal orientation, i.e. the career decision without anxiety), which are higher in decided students.

The majority of differences between decided and undecided students appear in the career decision making difficulties. There are significant differences in all categories (general score in career decision making difficulties and specific categories of difficulties) between decided and undecided students. The latter have more difficulties in general, express less motivation for career decision making, have less information that could help them in their decision making and also have more inconsistent information. The lack of readiness in obtaining information needed for an optimal career decision results in uncertainty and confusion, which can be also reinforced by their environment with different views about their career. Zagoričnik (2006) reports the same findings. The results of the discriminant analysis show that both lack of information and inconsistent information are the strongest discriminators between decided and undecided students.

II. Predictive value of the personality and motivational variables for the career decision making difficulties

Personality and motivational factors included in the study explain 28 percent of the variance in the career decision making. Students' decision making styles predict the career decision making difficulties. Students who are panic-stricken (e.g. they get panicky when they have to make a decision, make a decision quickly, without consideration, are upset when they make a decision) or impulsive (they make a decision in a moment, without consideration and do not devote much attention to

decision making) in their career decision making, can expect more career decision making difficulties. Conversely, students who are emotionally stable (can cope with stressors, are relaxed and can stay calm in tense situations), extraverted, and feel competent, have fewer career decision making difficulties. A similar conclusion was also reported by Morera, Maydeu-Olivers, Nygren, White, Fernandez, & Skewes (2006).

Emotional stability is the strongest predictor for career decision making difficulties. This implies that a career decision making process is a demanding, responsible and stressful task for a student. Namely, this is one of the most important decisions the students make. Students who are more emotionally stable and can better cope with stress are more efficient also in coping with dilemmas related to the further education.

The findings of this study have important educational implications. The conclusions on students' decision making styles, their personality dimensions and motivational processes can be helpful for school counsellors in personal and group career counselling. For example, with an administration of the Adolescent Decision Making Questionnaire, a school counsellor can identify those students with a less adaptive decision making style (impulsive, panic or avoidance). Using a Career Decision Making Difficulties Questionnaire, a counsellor can assess the main obstacles in students' career decision making: does a student lack readiness for a career decision making (the need for a more directive guidance), does he/she lack information (the need to help a student to obtain additional information) or does he have internal/external conflicts (the need for a counselling session with a student and his/her significant others). Such information about the students facilitate more differentiated career counselling and thereby offer an opportunity for a favourable, optimal career decision.

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Priljeno: 13. 06. 2007.