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Dark Triad in the context of career choice

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Abstract: The research study deals with Dark Triad traits (Machiavellianism, narcissism, psychopathy) in the context of the vocational interests in high school students. We assumed that students tending towards the helping professions might score differently in Dark Triad traits compared to students oriented towards professions such as manufacturing, business, or law (Jonason et al., 2014; Kowalski et al., 2017). The main goal of the study was to examine the differences in Dark Triad traits with respect to students' professional intentions. The research was conducted on a sample of 181 students of grammar schools and secondary vocational schools in Slovakia ($M_{age} = 18.3$ years; $SD = .77$); 57% were boys, 43% were girls. The Slovak version of the Short Dark Triad (Čopková & Šafár, 2020; Jones & Paulhus, 2014) and the Questionnaire of Professional Intentions (Džuka, 2006) were used. Testing the significance of differences between students with different professional intentions pointed to significant differences in subclinical psychopathy. Significantly higher psychopathy was shown by students oriented to the sphere of production compared to students oriented to art, science and education. Also in psychopathy, students oriented towards the sphere of business scored higher than students oriented towards the sphere of art and education. Testing of within-subject variability showed Machiavellianism as the most significant feature of the Dark Triad in all professional spheres.

Keywords: Dark Triad, Machiavellianism, narcissism, psychopathy, professional intentions, career choice

Temná triáda v kontexte voľby povolania

Abstrakt: Výskumná štúdia sa zaoberá črtami Temnej triády (machiavelizmus, narcizmus, psychopatia) v kontexte inklinácie k povolaniu u slovenských študentov stredných škôl. Východiskom je predpoklad, že študenti inklinujúci k tzv. pomáhajúcim profesiám by mali v črtách Temnej triády skórovať signifikantne odlišne v porovnaní so študentmi orientovanými na profesie ako výroba, obchod či právo (Jonason et al., 2014; Kowalski et al., 2017). Hlavným cieľom štúdie bolo otestovať rozdiely v črtách Temnej triády vzhľadom na profesijné intencie študentov. Výskum bol uskutočnený na vzorke 181 študentov gymnázií a stredných odborných škôl na Slovensku ($M_{vek} = 18,3$ roka); 58,6 % tvorili chlapci, 41,4 % dievčatá. Ako výskumné nástroje boli použité slovenská verzia Krátkej škály temnej triády (Čopková & Šafár, 2020; Jones & Paulhus, 2014) a Dotazník profesijných intencií (Džuka, 2006). Testovanie signifikancie

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rozdielov medzi študentmi s rôznymi profesijnými intenciami poukázalo na významné rozdiely v subklinickej psychopatii, signifikantne vyššiu psychopatiu vykazovali študenti orientovaní na sféru výroby v porovnaní so študentmi orientovanými na umenie, vedu a výchovu. Rovnako v psychopatii vyššie skórovali študenti orientovaní na sféru obchodu v porovnaní so študentmi orientovanými na sféru umenia a výchovy. Testovanie vnútro skupinovej variability ukázalo ako najsignifikantnejšiu črtu Temnej Triády machiavelizmus vo všetkých profesijných sférach.

Kľúčová slova: Temná triáda, machiavelizmus, narcizmus, psychopatia, profesijné záujmy, voľba povolania

1 Introduction

For most people, adolescence is a time when they make decisions about their future lives. In many cases, these decisions are accompanied by various pressures from one's environment, including expectations from parents, classmates or themselves. As the termination of compulsory schooling is also a specific and important social factor of this period, one important and very challenging task for adolescents is to decide how they will continue in their lives and what they will choose as a future job orientation. Some adolescents do not think only about their future job. Some of them also think about a suitable university that will open the door to a satisfying career (Ireh, 1999). As Hill and Edmonds (2017) point out, an adolescent who successfully overcomes the pitfalls of adolescence becomes a responsible and reliable individual who is able to work with other people and is beneficial to society.

Adolescence is also an important period for building the continuity and stability of personality traits (Hill & Edmonds, 2017). Psychologists have described personal maturation as a process where the level of socially desirable traits increases. In the context of Big Five theory, this relates specifically to conscientiousness, friendliness and emotional stability (Hogan & Roberts, 2004). Maturation is a process that goes hand-in-hand with adolescence. These processes also influence the development of personality characteristics. The period should thus provide opportunities to create traits that will help the individual to acquire the social roles that are expected by society (Hill & Edmonds, 2017). This part of life is a tumultuous stage characterized by emotional lability, mood swings and impulsivity (Langmeier & Krejčířová, 2006). The early stage of adolescence is characterized as a period of defiance. It is the period when friends and other peers become key objects for the adolescent, while the influence of parents recedes into the background (Vágnerová, 2012). Erikson (in Říčan, 2006, p. 241) interestingly called the response of adolescents to all the difficulties that this period brings an "adolescent moratorium". It is a time when an adolescent suddenly needs time and space to think and reflect on various aspects of their Self. This moratorium probably does not occur until the end of the period (Kroger & Klimstra in Vágnerová, 2012).

2 The Dark Triad

There are many perspectives on what a personality actually is. Thus, we can find a large number of definitions trying to capture its whole essence. One view is that personality represents that which makes a person unique, and makes that person what he or she is (Hall, Lindzey, Loehlin, & Manosevitz, 1997). Costa and McCrae (1999) describe personality as a dynamic psychological entity that controls our actions, or in other words, behavior and experience. Personality is considered to be an entity in which people differ qualitatively and quantitatively. This entity is formed under the pressure of the environment, education, culture and other human factors (Smékal, 2009). Kohoutek (2000) approaches personality as an indication of what a person wants, what he can do, and what he is.

Simply put, we can know a person's personality through his needs, abilities and qualities. However, we would look in vain for a uniform definition of personality. In summary, we agree with Hall and colleagues (1997), that personality is the most basic and deepest characteristic of a person. It is a psychological entity that is unique and unrepeatable for each person. It reflects the ways in which one is accustomed to act, think or feel (Barrick, Mount, & Gupta, 2003; Kohoutek, 2000; Smékal, 2009).

The Dark Triad is a concept formed by three interrelated personality traits – Machiavellianism, subclinical narcissism and subclinical psychopathy. These traits are considered to be the socially aversive personality characteristics that have received the most empirical attention (Paulhus & Williams, 2002). As Allport said (in Furnham, Richards, & Paulhus, 2013), it has always been a challenge to draw a line between a “normal” and an “abnormal” personality. While the concepts of narcissism and psychopathy have their origins in the clinical literature and still exist in diagnostic systems as personality disorders, the construct of Machiavellianism does not originate in personality disorders, but rather is named after Nicola Machiavelli, a Florentine diplomat (Furnham et al., 2013; Wilson Near, & Miller, 1996).

The issue of what actually stands behind the Dark Triad was addressed in a study by Marcus, Preszler and Zeigler-Hill (2018). They found that the core of the Dark Triad was interpersonal manipulation and indifference. Both held the Triad together and were firmly connected to each other and to each of the three dimensions. According to Paulhus and Williams (2002), each of the traits of the Dark Triad has some features in common with the other two, namely a tendency to promote oneself, social malice, dishonesty, emotional coldness and aggression. Some authors approach the triad as a social strategy (which they also call the agent's social style) that is characterized by strong selfishness and the ability of people to get what they want from their surroundings (Jonason, Li, & Teicher, 2010). Other characteristics of people who score high on the scales of the Dark Triad include a low degree of altruism and prosociality and a high degree of independence and competitiveness. They are sociable, open, and able to cope with difficulties and face risks, but do so only for their own benefit (Jonason et al., 2010; Jones & Paulhus, 2011).

People with traits of the Dark Triad are characterized by manipulation of people around them, especially colleagues and subordinates. Each type uses different strategies. Narcissists use the least “dark” strategy and instead focus on leaving a good impression, on compliments and praise. On the other hand, psychopaths use strategies of the opposite nature, tending to intimidate and threaten. Finally, Machiavellians are exceptional manipulators and therefore have no problem adapting and effectively alternating between the two strategies, depending on what is most beneficial to them in a given situation (Furnham et al., 2013; Pražák, 2014). The tendency to exploit is common to all three traits. In terms of differences, Machiavellians and subclinical psychopaths are characterized by a focus on specific goals, while subclinical narcissists focus on abstract ones (Jones & Paulhus, 2011).

Regarding the origin of these traits, a sample of 278 adult twins showed that all of the traits of the Dark Triad are influenced by both genetics and the environment. For the given sample, the hereditary component was mild to strong in psychopathy and narcissism, while only very weak in Machiavellianism. Machiavellianism, on the other hand, has shown to be strongly influenced by the environment, which may mean that Machiavellian behavior tends to be learned and influenced by experience (Vernon, Villani, Vickers, & Harris, 2008; Wilson et al., 1996).

One study on the Dark Triad and adolescents showed a relationship between subclinical psychopathy and cyber-aggression. This research also showed a difference between boys and girls. Boys scored higher in the dimension of Machiavellianism and psychopathy (Pabian, De Backer, & Vandebosch, 2015). Fatima's (2016) research also points to Pabian's research, whose results also confirm that psychopathy is an important factor in predicting bullying in adolescents. They claim that both subclinical psychopaths and Machiavellians have the ability to manipulate other people, which may result in a better ability to choose a victim of bullying. Although adolescents with dark qualities tend to be vulgar or aggressive, their status among classmates tends to be high. Usually they

are considered leaders (Cillessen & Rose, 2005). The specific personality traits of adolescents undoubtedly include narcissism, which is probably related to a crisis of identity (Hill & Edmonds, 2017).

2.1 Machiavellianism

We can approach Machiavellianism as a strategy of social behavior that involves deception, self-interest, and manipulating others with the intention of gaining something in our favor (Jakobwitz & Egan, 2006; Wilson et al., 1996). According to the psychological literature, this strategy is appropriate and beneficial in some situations but not in others. Evolutionary theories take a different view; although they approach Machiavellianism as an ability to manipulate other people, they consider it to be a fundamental feature of social intelligence and an important factor in the development of human intelligence itself (Wilson et al., 1996). Moreover, although Machiavellians are very good liars they cannot be considered completely bad people, because they do not break the rules but rather have an exceptional ability to deftly circumvent them. The opposite is also true. Those whose rate of Machiavellianism is not high cannot be considered social models. Such people also deceive and cheat but the motivation is different in this case (Wilson et al., 1996). Paulhus and Williams (2002) characterize individuals with a high degree of Machiavellianism as people who are manipulative, cold, vindictive, and in need of control over their surroundings. One of the most important factors in characterizing a Machiavellian personality is the pursuit of long-term success, which they seek to ensure in any way, emphasizing callousness and caution, but also courage and a realistic approach. Machiavellians have thought through their tactics in detail and take risks only if there is very little chance that they will fail on their own (Jones & Paulhus, 2011). Research by Muris, Meesters, and Timmermans (2013) showed that Machiavellianism, together with psychopathy, correlated significantly with the aggressive and delinquent behavior of young people. Those who achieve high values on the scale of Machiavellianism are very unlikely to help other people without making any profit themselves (Wilson et al., 1996).

2.2 Narcissism

The construct of subclinical narcissism arose from the attempt of Raskin and Hall (1979) to separate from a disorder, which is defined in the DSM, its “normal”, subclinical version. The aspects that the subclinical and clinical forms of narcissism have in common include, for example, superiority and grandiosity (Paulhus & Williams, 2002). To understand narcissism, it may be useful to distinguish its three components. The first component is the person himself, who is characterized by positivism and selfishness. This is followed by insufficiently empathic and superficial relationships with other people. The last component is self-regulation, by which the narcissistic individual helps himself to gain attention, admiration and success (Campbell, Hoffman, Campbell, & Marchisio, 2011). Subclinical narcissistic personality is characterized by traits such as a sense of importance and uniqueness, ideas and fantasies of unlimited success, the need for constant attention, the exploitation of others, dominance and the expectation of favor (Emmons, 1987; Jonason, Wee, Li, & Jackson, 2014). Those who score high on the narcissism scale are described as selfish, exalted, and believing that they are worth more than others (Paulhus & Williams, 2002). These people have a strong sense of self-worth and are very effective at making a good first impression (Hirschi & Jaensch, 2015). They take every opportunity to establish their belief in their own uniqueness (Jones & Paulhus, 2011).

Many studies are currently focused on the application of narcissism to various modern spheres. For example, research by Young and Pinsky (2006) shows that celebrities have a significantly higher level of narcissism than students or the general population. Narcissists are characterized by a desire for recognition, but also for power. In the context of a profession, these qualities can motivate them more strongly to achieve goals, whether work or personal. As a result, they try to become more involved, and try to be visible and present themselves. Being able to perform in the best light can make them more likely to get the job they are applying for (Hirschi & Jaensch, 2015). On the other hand, another consequence may be the behavior of narcissistic individuals, which is examined mainly in high-ranking

people, such as politicians and executives, for whom this feature is characteristic. Their behavior is referred to in research as destructive (Campbell et al., 2011).

2.3 Psychopathy

According to Cleckley (in McDonald, Donnellan, & Navarrete, 2012), subclinical psychopathy was originally described as a combination of impulsive and antisocial tendencies that are accompanied by low levels of anxiety, fear and regret. This was also the reason why the results distinguished between two factors, one that reflected interpersonal affective traits and another that concerned an antisocial lifestyle (McDonald et al., 2012). These two factors can also be distinguished as two types of psychopathy. Primary psychopathy presents traits such as selfishness, indifference or the absence of anxiety. Secondary psychopathy refers to the mentioned style, characterized for example by irresponsible behavior (Jakobwitz & Egan, 2006). People with high scores on the psychopathy scale tend to take risks and are callous and fierce (Paulhus & Williams, 2002). The basic characteristics of subclinical psychopathy include high impulsivity, excitement seeking, low empathy, and anxiety (Paulhus & Williams, 2002). Similar to Machiavellianism, the ability to lie without guilt and the subsequent use of others can be found in individuals achieving high scores on the psychopathy scale (Fatima, 2016). Unlike the Machiavellians, however, they do not always know how to orient themselves in their lies. Other psychopathic characteristics include impatience, irresponsibility, aggression, and a tendency to engage in risky behavior. They are unable to learn from their own mistakes (Jones & Paulhus, 2011). Hassall Boduszek, and Dhingra (2015) compared the degree of subclinical psychopathy between psychology students and business students. He found that students studying business achieved significantly higher scores. This confirmed his assumption that the field of business provides individuals with the opportunity to compete with other companies and thus achieve success, which leads to satisfaction of their “psychopathic” need for dominance.

3 Career choice

Choosing a career is typical for the period of adolescence. Career decision-making or career choice is defined as a construct that involves the process by which an individual makes decisions about career, all the circumstances that accompany that process, and the ways in which an individual makes a final decision (Swanson & D'Achiardi in Sharma, 2014). Of all decisions, choosing a profession is one of the most difficult because it is not momentary, but concerns the future of the individual and has a long-term impact on their future life (Hall et al., 1997; Katz, Cohen, Green-Cohen, & Morsiano-davidpur, 2018). Because career choices are not just common everyday dilemmas, it can sometimes be helpful to have an expert who provides career counseling services.

Adolescence is a life period of unique opportunities. This is one of the reasons why it is crucial for professional development. Adolescent boys and girls need to find a place in society and make plans for the future (Hall et al., 1997). In early adolescence, the stability of their professional interests tends to be lower. It reaches its imaginary peak between the ages of 18 and 22 and may fall slightly again around the thirtieth year (Ion, Nye, & Iliescu, 2017).

Choosing a profession involves difficult thinking and choosing from many options. The choice itself is preceded by the selection of a secondary school, which may or may not be tied to a specific field. Vocational secondary schools generally prepare students for a specific profession or tertiary study (Říčan, 2006). The whole process is important in the lives of adolescents and is influenced by many factors. An individual ultimately chooses by comparing and re-evaluating different alternatives, weighing the pros and cons and, finally, considering the preferences for different professions (Sharma, 2014). As for adolescence, an interesting topic is the development of work aspirations. We can understand work aspirations as an individual's hope that he will achieve what he wants, or as a desire for a certain dream job. They are also of great importance in choosing a profession and are influenced

by the leisure-time and other activities that children and young people engage in (Lee, Skinner, & McHale, 2018).

3.1 Career choice and personality

Personality traits are related to professional orientation in some way. The main figure behind the concept of linking personality and professional interests is John Holland, who argued that professional interests could form one aspect of the human personality (Barrick et al., 2003; Schneider, McLarnon, & Carswell, 2017). Linking and exploring these two areas is a widespread topic in research. Similar studies often use the Big Five, the traditional five-factor personality model, which is combined with other interest questionnaires.

3.1.1 Dark Triad and career choice

Regarding the relationship between the choice of profession and the features of the Dark Triad, the fact that they actually exist and are significant was confirmed by Schneider and his colleagues (2017) in their survey. They suggest that introducing the Dark Triad into existing personality methodologies may contribute to better interpretations in research, as well as in the consulting sphere. Research by Kowalski, Vernon, and Schermer (2017), whose title raised the question of whether there are dark career choices, used a seven-factor model of job interests. The results showed significant positive correlations between the following factors: narcissism and artistic (creative arts, music, journalism), social (social sciences, teaching), biological (nature, adventure) and business (sales, law), psychopathy and scientific (mathematics, physics), and biological and business. As Jonason et al. (2014) explain, narcissists need to feel recognized and admired, they need to feel social superiority, and they like to be in contact with other people. This also explains the positive relationship in the mentioned professional areas. Unlike narcissism, psychopathy is more characterized by avoidance of helping others and a tendency to circumvent rules. These people do not tend to work as teachers and nurses, but rather own businesses and hold business professions (Jonason et al., 2014). Machiavellianism was not positively related to any of the factors in this research. Significant negative correlations were found between the following factors: Machiavellianism and social, applied (office work) and work-style factors (safety at work, independence), psychopathy and social, and work-style factors (Kowalski et al., 2017). Jonason et al. (2014) set a similar goal. Their results indicated that psychopathy correlated positively with practical interests, and negatively with no factors. Machiavellianism showed a negative correlation with social and business professions. Machiavellians need to have power over other people and they need to have a certain status, which is the opposite of social professions (Jonason et al., 2014). Narcissism, as in previous research, showed a significantly positive relationship with artistic, business and cultural interests. Based on the research, we can say that certain personality traits can lead to the choice of a certain type of profession. On the other hand, we can point to the opposite relationship, and the fact that the work or work environment chosen by an individual itself reflects their own characteristics and interests (Houston, Harris, Howansky, & Houston, 2015).

4 Methods

4.1 The purpose of the study

The main goal of the study was to examine the intra-subject and inter-subject variability of the Dark Triad – Machiavellianism, narcissism and psychopathy – with respect to the professional intentions of a sample of third- and fourth-year high school students. Presented study investigated following research questions (RQ 1–2):

RQ1: Are there significant differences in Machiavellianism, narcissism and psychopathy between students with different professional intentions?

RQ2: Are there significant differences in Machiavellianism, narcissism and psychopathy within the various professional areas?

4.2 Participants

The research sample consisted of 181 participants, students in their third- and fourth-year at secondary regular schools in Slovakia. Participants were aged from 17 to 20 years ($M = 18.30$; $SD = .77$). Grammar school students accounted for 43.6% ($M = 18.56$; $SD = .71$); the remaining 56.4% were secondary vocational school students ($M = 18.11$; $SD = .76$). In terms of gender distribution, the sample consisted of 106 boys (58.6%) and 75 girls (41.4%). Boys were aged from 17 to 20 years ($M = 18.45$; $SD = .72$) and girls were the same ($M = 18.20$; $SD = .79$). The convenience and purposive sampling method was used.

4.3 Measures

Short Dark Triad (Čopková & Šafár, 2020). The scale is a Slovak version based on the original Short Dark Triad (Jones & Paulhus, 2014). It consists of 27 items that saturate the three subscales including Machiavellianism (*"Most people can be manipulated"*), narcissism (*"I insist on getting the respect I deserve"*) and psychopathy (*"I like to get revenge on authorities"*). Each dimension consists of 9 items. The respondent responds on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). For each of the subscales, the score is calculated separately as the sum of the points indicated by the respondent. There are 5 reverse-coded items in the questionnaire, which must be reversed before the final score can be calculated. The indicators of the internal consistency of the scales expressed by Cronbach's alpha coefficient were as follows: $\alpha_m = .654$; $\alpha_n = .654$; $\alpha_p = .629$.

Questionnaire of Professional Intentions (Džuka, 2006). The questionnaire consists of 68 items. The respondent responds on a 4-point Likert scale from 1 (strongly disagree) to 4 (strongly agree). The items represent a continuation of the introductory wording representing the intention of the respondent (*"I assume that after graduation I will mostly in my future profession..."*). The statements cover 7 factors representing professional areas representing Production (work in production or construction), 11 items (*"working with tools"*), $\alpha = .924$; Healthcare (work in healthcare or nursing), 10 items (*"operate on the sick"*), $\alpha = .909$; Business (work in the field of trade, advertising, marketing and management), 11 items (*"compile financial projects"*), $\alpha = .865$; Art (work as an artist or critic), 10 items (*"write articles for newspapers"*), $\alpha = .887$; Science (work in science and research), 10 items (*"work in laboratories"*), $\alpha = .900$; Law (work in the field of law, politics and public administration), 8 items (*"care and order"*), $\alpha = .819$; Education (educate, take care of others including animals), 8 items (*"educate children and young people"*), $\alpha = .752$.

4.4 Procedure and data analysis

Pencil-and-paper questionnaires were submitted to the respondents in the time period March 2019 – April 2019. Respondents were informed that completion of the questionnaire was voluntary and anonymous, and that the data would be processed only in this research study. All respondents agreed to participate in the survey. The collected data were subjected to statistical analysis in IBM SPSS Statistics v. 21.

There were no missing data in the data file. Testing the normality of the data distribution using the Kolmogorov-Smirnov test showed that the data are subject to a normal distribution ($p < .05$). Descriptive indicators of the normality of the data distribution indicated that the value of skewness and kurtosis did not exceed the criterion $> \pm 1$. Internal consistency was determined using Cronbach's alpha (α). We described the obtained data using other descriptive indicators (M , SD). We tested intra-subject variability using one-way ANOVA and inter-subject variability with ANOVA for repeated measures. The Bonferroni test was used as a post-hoc test with criterion $p_\alpha < .05$.

5 Results

The first steps in the analyses were to examine intra-subject variability of the Dark Triad between groups of students created according to their professional intentions. Table 1 presents the descriptive characteristics of Machiavellianism in seven areas of professional intentions. Testing the significance of differences in Machiavellianism between these groups of students showed that they did not differ in the Machiavellian trait ($F(6/174) = .833$; $p = .546$). However, from the descriptive indicators we can see that students inclined towards art scored the lowest in Machiavellianism, followed by students inclined towards law, healthcare, education, production and science. Students whose professional intentions are in the area of business scored the highest.

Table 1

Descriptive characteristics of Dark triad in seven areas of professional intentions

Professional intentions	Machiavellianism M (SD)	Narcissism M (SD)	Psychopathy M (SD)
Production	29.87 (5.23)	24.28 (4.44)	23.95 (4.38)
Healthcare	28.95 (5.54)	25.00 (6.08)	21.09 (5.66)
Business	30.67 (6.63)	26.79 (6.20)	23.27 (6.11)
Art	27.44 (5.47)	24.56 (4.94)	19.00 (5.41)
Science	30.43 (5.73)	23.95 (4.51)	20.71 (5.01)
Law	28.91 (4.46)	24.55 (5.90)	21.36 (5.97)
Education	29.03 (5.82)	24.08 (6.20)	20.65 (6.19)

Notes: M = Mean; SD = Standard deviation.

Testing the significance of differences in narcissism between these groups of students (see Table 1) showed that for the trait of narcissism, as for Machiavellianism, they do not differ from each other ($F(6/174) = .971$; $p = .447$). From the descriptive indicators, however, we can see that for narcissism, students inclined towards science scored the lowest, followed by those inclined towards education, production, law, art, and healthcare. The highest scores were again attained by students whose professional intentions lead to the sphere of business.

Testing the significance of differences in psychopathy between these groups of students showed that in psychopathy, in contrast to Machiavellianism and narcissism, they differed from each other ($F(6/174) = 2.607$; $p = .019$). Bonferroni's post-hoc testing showed significant differences in the level of psychopathy. Students with professional intentions in the field of production scored significantly higher than students with professional intentions in the fields of art ($p = .002$), science ($p = .032$) and education ($p = .010$). Students with professional intentions in the field of business scored significantly higher than students with professional intentions in the fields of art ($p = .009$) and education ($p = .049$). From the descriptive indicators, we can still see that in psychopathy, students tending towards art, education, science, healthcare, law and business scored the lowest. Students whose professional intentions lead to the sphere of production scored the highest.

Within-subject analysis brought more interesting results. Students whose professional intentions are focused on the area of production scored significantly differently in the features of the Dark Triad ($F(1,908; 72,495) = 29,367$; $p < .001$), while they scored significantly higher in Machiavellianism than narcissism ($p < .001$) and psychopathy ($p < .001$). Students whose professional intentions are focused on the area of healthcare also scored significantly differently in the features of the Dark Triad ($F(1,992; 41,830) = 18,287$; $p < .001$), while they scored significantly higher in Machiavellianism than narcissism ($p = .005$) and psychopathy ($p < .001$); as well as they scored significantly higher in narcissism than psychopathy ($p = .007$).

We obtained similar results in other areas of professional intentions. Students whose professional intentions focus on the area of business also scored significantly differently in the features of the Dark

Triad ($F(1,951; 62,422) = 20,696; p < .001$), while they scored significantly higher in Machiavellianism than narcissism ($p = .001$) and psychopathy ($p < .001$); as well as they scored significantly higher in narcissism than psychopathy ($p = .008$). Students whose professional intentions are focused on the area of art scored significantly differently in the features of the Dark Triad ($F(1,698; 28,865) = 16,459; p < .001$), while they scored significantly higher in Machiavellianism than narcissism ($p = .025$) and psychopathy ($p < .025$); as well as they scored significantly higher in narcissism than psychopathy ($p = .005$). Students whose professional intentions are focused on the area of science scored significantly differently in the features of the Dark Triad ($F(1,955; 39,095) = 31,339; p < .001$), while they scored significantly higher in Machiavellianism than narcissism ($p < .001$) and psychopathy ($p < .001$); as well as they scored significantly higher in narcissism than psychopathy ($p = .011$). Students whose professional intentions are focused on the field of law scored significantly differently in the features of the Dark Triad ($F(1,772; 17,724) = 11,001; p = .001$), while they scored significantly higher in Machiavellianism than narcissism ($p = .011$) and psychopathy ($p = .011$).

Moreover, students whose professional intentions are focused on the area of education scored significantly differently in the features of the Dark Triad ($F(1,964; 70,708) = 37,255; p < .001$), while they scored significantly higher in Machiavellianism than narcissism ($p < .001$) and psychopathy ($p < .001$); as well as they scored significantly higher in narcissism than psychopathy ($p = .001$). Overall, we can assess that the most dominant feature of the Dark Triad is Machiavellianism and the least pronounced is psychopathy, across all spheres of professional intentions of high school students. This is also indicated by the graphical representation (see Chart 1).

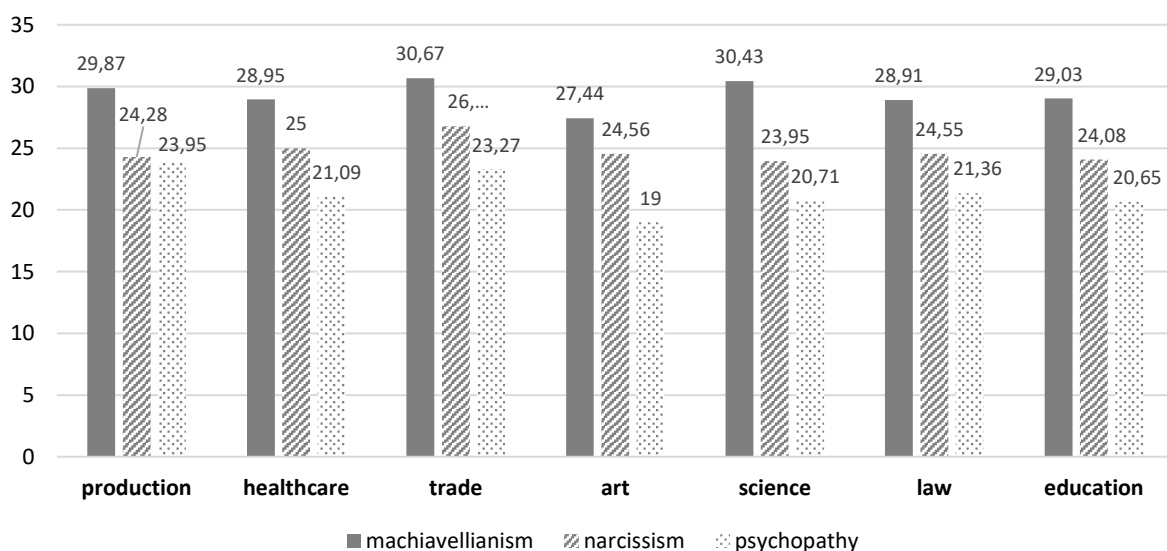


Chart 1 Dark Triad and professional intentions

6 Conclusion

The aim of the presented study was to examine intra-subject and inter-subject variability of the features of the Dark Triad – Machiavellianism, narcissism and psychopathy – with respect to the professional intentions of third- and fourth-year high school students. A sample of students in their final years of schooling was chosen because this is a time when high school students have to start making decisions, namely decide definitively how and where their professional life will continue. At many schools, at the end of the third year, students choose subjects for the graduation year only from the area they plan to pursue either at university or directly at work. In the fourth year, they are already directly choosing specific universities or heading for working life. It is therefore appropriate to assume that they should have some idea of what they want to do in life.

As adolescence is a period of forming an identity and reaching personal maturity, it is not surprising that the choice of profession begins to be linked to the issue of personality. A leading author who suggested that professional interests could form one aspect of human personality is John Holland (Barrick et al., 2003; Schneider et al., 2017). If we speak about personality, until recently, not only in terms of professional orientation but also in research in general, there has been a tendency to concentrate primarily on the so-called bright side of the personality; the best representative of this is the Big Five model (Oluf & Furnham, 2015).

In the field of professional orientation, it is often combined with other interest questionnaires (Schneider et al., 2017). Although currently we can see an increase in the popularity of the Dark Triad concept in the research sphere, the findings regarding professional orientation and career choice are still limited. It is obvious that people who exhibit the features of the Dark Triad (i.e. Machiavellianism, narcissism and psychopathy) are more likely to look for professions in which they can demonstrate their power more easily. These include law, economics, business and politics. In these professions, in addition to exercising the power typical of Machiavellianism, they have the opportunity to show and experience the excitement that is characteristic of narcissism or to emotionally separate what is typical of psychopathy. However, this applies to people whose professional role is already part of their identity. The issue that interested us in this context was whether it is possible to identify differences in the Dark Triad in relation to professional intentions in individuals without the experience of professional practice (the professional role is not yet part of their identity).

The results of our research indicate that students with different professional intentions do not differ in the level of Machiavellianism. Nevertheless, based on the highest score achieved, the results may indicate that Machiavellian traits are most pronounced among students inclined toward the sphere of Business. Assuming that the professional intention of “Business” includes an orientation towards work in advertising, marketing and management (Džuka, 2006), this result is not surprising. Working in these areas requires specific mastery of persuasion and manipulation, along with the ability to work in a highly competitive and ever-changing environment (Paulhus & Williams, 2002). In this context, Machiavellians are characterized as “social chameleons”, as they possess this mastery. For Machiavellianism, as well as for working in advertising or marketing, it is typical to say what people want to hear. On the other hand, Machiavellian individuals have a lack of empathy, social interest, and prosocial behavior. This corresponds with the findings of our research group, because students who tend towards the art and social spheres such as healthcare or education scored lower in Machiavellianism. On the contrary, these professions involve individuals who are prosocial, empathetic, human, patient, honest, moral, sincere, and humble (BACP, 2018; Heinonen, Lindfors, Laaksonen, & Knekt, 2012; Wampold & Carlson, 2011). These are the exact opposite of Machiavellian traits. A similar result was obtained by Jonason et al. (2014), who identified negative relationships between Machiavellianism and social professions.

Regardless of the sphere of professional intentions, students scored significantly higher in Machiavellianism compared to narcissism and subclinical psychopathy.

In addition, due to the professional intentions of students in our research group, we did not find significant differences in the degree of narcissism. However, the results suggested that narcissistic traits were most pronounced among students with professional intentions in the field of business. Again, working in advertising, marketing, management, or business requires exactly what narcissists possess – high self-esteem, exploitation of others, desire for power, a degree of arrogance and penetrability, the ability to make a good first impression, and desire for ideas of success (Emmons, 1987; Hirschi & Jaensch, 2015; Jones & Paulhus, 2011). The unifying element of the sphere of business and narcissism is also the belief that one is better than others, which is crucial in a highly competitive environment. Undoubtedly, the social status brought by working in this sphere is also attractive for people with narcissistic tendencies. Our result corresponds to other studies in which narcissism has

been associated with an inclination towards business, art, or law (Jonason et al., 2014; Kowalski et al., 2017). On the other hand, students with an inclination to work in science and education had the lowest level of narcissistic traits in our research. Professions in this area are characterized by an orientation towards others, not oneself (Géringová, 2011; Kopřiva, 1997), which is in contrast to the characteristics of narcissism. Successful performance in these professions also does not depend on reaching out to masses of people or creating a positive impression on others.

We obtained the most significant results in psychopathy, where students with professional intentions in the field of production showed psychopathic traits to a greater extent than those students who were more oriented towards art, science, and education. Production, in the sense of a profession where it is necessary to control machines or use tools, quite logically does not place any special demands on the personality of the worker, compared to professions where the essence of the work lies in direct contact with other people and the worker's influence on another person. For example, work in production does not directly require being empathetic or prosocial, as its essence does not lie in working with people. Emotional coldness or distraction from others does not complicate performance. On the other hand, the artistic profession is directly based on working with emotions, while education is based on the ability to work and influence other people in a good direction. Jonason et al. (2014) also pointed out that people with psychopathic traits do not tend towards professions as a teacher or nurse, but rather pursue entrepreneurial and business professions. This coincides with another result of ours, where students with professional intentions in the field of business showed psychopathic traits to a greater extent than those students who were more oriented towards art and education. This result is not surprising, as it is necessary to be able to assert oneself in the sphere of business, and this is difficult without characteristics such as ruthlessness, perseverance, aggression, and the absence of remorse, which are typical for subclinical psychopaths. Kowalski et al. (2017) also pointed to a negative correlation between psychopathy and the social sphere.

For our sample of high school students, we obtained statistically significant results when testing for which of the Dark Triad features is the most dominant. Regardless of the sphere of professional intentions, students scored the highest in Machiavellianism. This result is not surprising, as Bratek et al. (2015) pointed to the dynamics of the degree of Machiavellianism during professional practice. In their research, a higher level of Machiavellianism was shown by the aspirants for the performance of the profession; this rate decreased with the length of practice. If we consider the behavior typical for the period of adolescence, it is possible to see a clear intersection with the features characteristic of Machiavellianism. Adolescence is a period when a young person tries to find a place in society and fights for power with authorities, thereby trying to confirm his own competence; he manipulates the environment in order to achieve his goals and is inventive in communication. All this also applies to Machiavellianism. It is natural that the level of narcissism lags behind Machiavellianism, as young people are sometimes extremely relational and sensitive to their appearance, and are often not satisfied with their performance. This is true despite the fact that the phenomenon of adolescent egocentrism appears in this period of development. Muris et al. (2013) also point to the correlation of Machiavellianism with the delinquent behavior of young people.

We consider the main contribution of our study to be the enrichment of the still relatively poor research in the field of the Dark Triad and its relations with the professional career of an individual. The results of our study suggest that at the level of professional intentions, students do not differ in the features of the Dark Triad. The likely reason for this is that professional intentions do not yet indicate what the individual will actually do for employment. Although he may tend towards a certain field, he may not have the intellectual, social or practical skills to actually work in it. We agree with the opinion of Schneider and his colleagues (2017), who recommend that the introduction of the Dark Triad into existing personality methodologies can contribute to better interpretations in research, as well as in counseling.

The limitations of our research lie primarily in the sample size, which we cannot consider to be representative. Based on the Questionnaire of Professional Intentions (Džuka, 2006), the sample was

divided into 7 groups. Given the number of respondents, this meant that the groups representing individual professional intentions were small. As some respondents attended secondary school with a general focus and some with a vocational focus, the results could be influenced by the current profiling of students, which significantly limited the possibility of generalizing the results to the population of all secondary school students. On the other hand, we consider it necessary to take into account the fact that it is not possible to ignore the existing difference in the focus of secondary school, which may affect the final results. Therefore, in the future, we recommend conducting the same or similar research on a larger sample of respondents, distinguishing between a sample of students with a general secondary education and a vocational secondary education. With these measures, it can be assumed that there will be greater variability in the variables.

We also see certain limitations in the measures used. As the Questionnaire of Professional Intentions (Džuka, 2006) was created 14 years ago, it would be appropriate to consider revising it and adapting it to current labor market conditions. For example, the fastest growing is Information technology, which is not addressed by any item in the questionnaire. The subscales of the Slovak version of the Short Dark Triad achieved relatively low reliability values. This may be due to the fact that the questionnaire was primarily designed for an adult sample of the population, not for adolescents. It is assumed that adolescents do not yet have life experiences that would correspond to the content of the items in the questionnaire (e.g. "I enjoy sex with people I barely know"). Therefore, we consider it beneficial to think about whether it would not be appropriate to develop a version of the questionnaire that would better reflect the needs of the adolescent population.

The present study aimed, among other things, to remind us how important it is to take into account the role of personality in choosing a profession, as it affects not only individuals but the whole society through the exercise of a profession in a given area. Therefore it is beneficial if schools and teachers do not forget that a school is not only an educational institution, but also plays an irreplaceable role in the raising of an individual; it shapes the student not only as a human being, but also as a future professional who is a full member of society. Therefore, we consider it necessary to think about improving control mechanisms in the professional profiling of students, so that individuals with aversive personality traits do not engage in professions that require a prosocial approach. Indeed, several research findings suggest that the occurrence of the Dark Triad traits in helping professionals is not rare (Babiak, 1995; Bakir et al., 2003; Bucknall, Burwaiss, MacDonald, Charles, & Clement, 2015; Pegrum & Pearce, 2015; Selingson, 1992). Even a person with a determination to help others may have a desire to abuse the power over clients he has acquired in his profession.

In terms of further research, it would be interesting to look at this issue more comprehensively in terms of personality and include in the analyses the features of the Big Five, i.e. neuroticism, extraversion, openness, agreeableness and conscientiousness.

Declaration of conflicting interests

No potential conflict of interest was reported by the authors.

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