

Research Article

The Effect of Dark Triad Traits on Decision-Making Styles

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Abstract

The aim of present study was to explain the relationships of Dark Triad with decision-making styles. We assumed an association of decision-making styles with the Dark Triad traits that represent aversive personality traits, because previous studies identified relationships between the Dark Triad and the Big Five features and similarly, the relationships of the Big Five traits with decision-making styles have been confirmed. The research was conducted on a sample of 127 participants ($M = 40.65$ years; $SD = 4.68$). The sample consisted of 55.1% women ($n = 70$) and 44.9% men ($n = 57$). The data were subjected to correlation analysis and structural equation modeling. Machiavellianism correlated significantly positively with avoidant, dependent, and spontaneous decision-making styles. Narcissism correlated significantly positively with spontaneous decision-making style and significantly negatively with rational decision-making style. Psychopathy correlated significantly positively with avoidant and spontaneous decision-making style and significantly negatively with rational decision-making style. The value of the results lies in revealing what decision-making strategies are used by people with different socially aversive personality traits. Finding explanations for why some people use non-adaptive decision-making styles and experience the negative results of their decisions in real life, which cause their overall discomfort, can be explained by their dark features.

Keywords: Machiavellianism; narcissism; psychopathy; decision-making styles; Dark Triad; Big Five; personality.

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Life brings many situations in which people meet others whose behavior is out of the norm. Their behavior can be eccentric, calculating or even aggressive. Many times, the context of a given situation is accountable for their behavior, but often their behavior is conditioned by who they are - their personality. Taking a closer look at the classic factor concepts of personality, it is possible to notice that in their interpretation there is an obvious emphasis on adaptive personality traits, the so-called "brighter" side. [Oluf and Furnham \(2015\)](#) described the Big Five as such a concept. However, less attention was paid to the fact that each person has to some extent also maladaptive personality traits, the so-called "dark" side. The concept that has attracted experts in this direction in recent years is the concept of the Dark Triad.

An individual confronted with a decision-making situation usually proceeds in a way that has worked for them in the past. There are different ways people approach these situations, but they are usually guided by "emotions" or "mind". This general way of decision-making consists of individual differences in the way of obtaining information, its interpretation and consideration of possible solutions. Understanding how individuals approach decision-making and how it subsequently affects the outcome of their decisions is of interest to several researchers ([Harren, 1979](#); [Scott & Bruce, 1995](#)). Following the example of [Bavořár \(2018\)](#), we decided to examine what decision-making strategies individuals choose in relation to the level of aversive personal features they have.

Dark Triad

Although the Dark Triad phenomenon ([Paulhus & Williams, 2002](#)) is a relatively new concept compared to classical theories of personality, its individual components - Machiavellianism, narcissism and psychopathy - have been used by experts for much longer. While the concepts of narcissism and psychopathy are based on the clinical literature and are still



perceived as personality disorders in diagnostic systems, the construct of Machiavellianism originates in philosophy (Furnham et al., 2013; Wilson et al., 1996).

The reason why the concept of dark triad was created is that the negative personality traits like Machiavellianism, narcissism and psychopathy had the attention of experts rather separately. This created a significant contrast to theories such as Big Five that conceptualizes single bright personality traits (Oluf & Furnham, 2015) into a certain system.

Machiavellianism, narcissism, and psychopathy have no common origin in research. According to the best authors' knowledge, the personality characteristics associated with the Dark Triad concept share certain commonalities. Features of the Dark Triad are characterized as self-assertion, emotional coldness, aggression, lack of honesty and absence of humility, a socially malicious character with behavioral tendencies to support oneself and dishonesty (Lee & Ashton, 2014; Paulhus & Williams, 2002).

Machiavellianism is characterized by emotional separation and a tendency to manipulate in order to achieve one's own goal regardless of others (Al Ain et al., 2013). Narcissism is characterized by exaggerated self-love, inflated self-confidence, a sense of importance and superiority over others, an extremely positive but at the same time vulnerable self-image (Morf & Rhodenwalt, 2001). Psychopathy is characterized by features such as high impulsivity, seeking excitement, low empathy, low anxiety (Paulhus & Williams, 2002), lack of concern for others, lack of guilt and remorse, and emotional shallowness (Forsyth & O'Boyle, 2012).

The concept of the Dark Triad represents personality traits occurring in the general population. These are maladaptive personality traits that have a negative impact in many ways on the experiencing and behavior of their possessors, but do not reach such a level that they are identified as personality disorders.

Since the features of the Dark Triad occur in the normal population, it is possible to point to its connection with other structural models of personality, such as the Big Five model. Previous research findings have pointed to the negative relationship of Machiavellianism with agreeableness (Jakobowitz & Egan, 2006; Malesza et al., 2019; Mejzlíková et al., 2018; Odiakosa, 2018; Paulhus & Williams, 2002; Vernon et al., 2008) and conscientiousness (Jakobowitz & Egan, 2006; Malesza et al., 2019; Paulhus & Williams, 2002; Vernon et al., 2008) and a positive relationship with neuroticism (Jakobowitz & Egan, 2006; Vernon et al., 2008). Narcissism correlated negatively with neuroticism (Mejzlíková et al., 2018; Odiakosa, 2018), positively with extraversion (Jakobowitz & Egan, 2006; Mejzlíková et al., 2018;



Odiakosa, 2018; Paulhus & Williams, 2002) and negative with agreeableness (Jakobowitz & Egan, 2006; Mejzlíková et al., 2018; Malesza et al., 2019; Paulhus & Williams, 2002). Psychopathy had a positive relationship with openness (Paulhus & Williams, 2002), a negative relationship with agreeableness (Jakobowitz & Egan, 2006; Malesza et al., 2019; Mejzlíková et al., 2018; Odiakosa, 2018; Paulhus & Williams, 2002; Vernon et al. al., 2008) and also negative with conscientiousness (Jakobowitz & Egan, 2006; Malesza et al., 2019; Mejzlíková et al., 2018; Paulhus & Williams, 2002; Vernon et al., 2008). The positive association of narcissism with extraversion points to the ability to engage in warm and friendly interpersonal relationships to a greater extent than in psychopathy and Machiavellianism. The negative association of psychopathy with conscientiousness reflects the uncontrolled, undisciplined, and impulsive behavior of individuals with this trait. The negative correlation of conscientiousness with Machiavellianism can be explained by the reluctance to conform to moral rules and values, which is common in individuals with this trait, despite their goal-oriented behavior, planning, and self-discipline (Muris et al., 2017).

The HEXACO model or the "Big Six" adds to the Big Five a dimension of honesty/humility, reflecting prosocial and antisocial behavior. People who have a higher rate of this factor are considered to be honest, fair and humble. The low rate of this factor reflects the characteristics of the Dark Triad, as all three traits are strongly associated with it (Lee & Ashton, 2014; Lyons, 2019).

Decision-making styles in personality context

There are two aspects to which the authors adhere when defining the decision-making style. Some consider decision-making style to be a relatively stable characteristic of an individual that influences their perception of a particular situation and subsequent progress in the decision-making process (Harren, 1979). It is a response method that people use in decision-making situations and it depends on the specific situation, the task and the individual (Thunholm, 2004). On the other hand, there is an idea that decision-making style is a learned pattern of behavior used in a decision-making situation and does not represent a personality trait, but rather the habit of reacting in a certain way in a specific situation (Scott & Bruce, 1995). Like the definition, the labeling of decision-making styles is inconsistent in the literature. Scott and Bruce (1995) identified five different decision-making styles based on previous theoretical and empirical findings:

The rational style is characterized by a logical and prudent approach consisting in an exhaustive search for information and evaluation of alternatives. Individuals using this style



can recognize the consequences of their decisions. It is characterized by internal control, which indicates the awareness that the individual has the destiny in their own hands, and if a problem occurs, they tend to solve it. Individuals who tend to have an intuitive style pay attention to detail, are more open to alternatives when formulating a problem, and use imagination, feelings and impressions in their decision-making. They make their decisions quickly, without unnecessary thinking. A dependent style is typical for people seeking support and leadership from others, reflecting their uncertainty in their ability to make decisions, which testifies to the perception of external control over their fate. Avoidant style is associated with a rejection of personal responsibility for decision-making and a tendency to avoid it, whether by denying it or delaying it. People who tend to use this style when making decisions perceive external control of their fate. Spontaneous decision-making style is characteristic for those individuals who try to go through the entire decision-making process as quickly as possible and therefore make quick, urgent, and impulsive decisions (Harren, 1979; Scott & Bruce, 1995).

Decision-making styles are often explored in relation to other personality characteristics, mostly to Big Five dimensions. When focusing on the connection of decision-making styles with the Big Five, the mutual connection of individual decision-making styles with certain specific personality factors was confirmed in several researches. Bavořár (2018) summarized these results in his publication. Rational decision-making style was positively associated with agreeableness, conscientiousness, and openness, negatively with neuroticism. Intuitive decision-making style was positively correlated with extraversion, agreeableness, conscientiousness, and openness. Avoidant decision-making style showed negative correlations with extraversion, conscientiousness, openness and positive with neuroticism. Dependent decision-making style was positively associated with agreeableness and neuroticism, negatively with extraversion. Spontaneous decision-making style correlated positively with extraversion and negatively with conscientiousness.

The present study

According to Scott and Bruce (1995), the relationship between the traits of the Dark Triad and the five decision-making styles has not been clearly elucidated in previous research findings. However, since the relationship of the Dark Triad with the Big Five dimensions has been confirmed in several studies (Jakobowitz & Egan, 2006; Malesza et al., 2019; Mejzlíková et al., 2018; Odiakosa, 2018; Paulhus & Williams, 2002; Vernon et al., 2008) and similarly, the relationships of the Big Five dimensions with decision-making styles have been confirmed (Bavořár, 2018; Avsec, 2012; Di Fabio & Kenny, 2012; Geisler & Allwood, 2013),



there is an opportunity for finding connections between the Dark Triad traits and decision-making styles. These considerations are also supported by [Bavolár's \(2018\)](#) assertion, who pointed out that rational and intuitive decision-making styles, perceived as adaptive strategies, are associated with the positive poles of Big Five personality traits, while avoidant and spontaneous decision-making styles are perceived as less adaptive associated with more negative shades of Big Five personality traits.

The aim of the research was to clarify the relationships of the features of the Dark Triad - Machiavellianism, narcissism, and psychopathy with decision-making styles - rational, intuitive, dependent, avoidant, and spontaneous. Then, the contribution of Dark triad traits to the variability of decision-making styles was examined.

Research question 1:

Are there any significant and strong relationships between Dark Triad traits and decision-making styles?

Research question 2:

Which trait of Dark Triad contributes to the variability of decision-making styles the most?

Method

Sample

The survey involved 127 respondents. The sample consisted of 70 women (55.1%) and 57 men (44.9%). The age of the respondents ranged from 35 to 55 years. The average age of the respondents was 40.65 years ($SD = 4.68$), for women 40.50 ($SD = 0.582$) and for men 40.82 ($SD = 0.592$). Of the other demographic characteristics we surveyed, most respondents stated that they live in marriage ($n = 85$; 66.9%), most respondents had children ($n = 94$; 74%), the second degree of university education was also reported by the majority of respondents ($n = 84$; 66.1%). Convenience and purposive sampling method has been used.

Measures

Short Dark Triad ([Čopková & Šafár](#), in review). 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 - Machiavellianism (9 items; "Most people can be manipulated."), narcissism (9 items; "I insist on getting the respect I deserve.") and psychopathy (9 items; "I like to get



revenge on authorities."). Each dimension consists of 9 items. The respondent responds on a 5-point likert scale (1 = strongly disagree; 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, what must be reversed before calculating the final score. Internal consistency coefficients (Cronbach's alpha) were $\alpha_m = .772$; $\alpha_n = .739$; $\alpha_p = .679$.

General Decision-Making Styles - GDMS (Bavořár & Orosová, 2015). The Slovak version of the original Scott and Bruce questionnaire (1995) was used. The scale consists of 25 items, is divided into five subscales for each decision style: rational (5 items; "I make decisions in a logical and systematic way."), intuitive (5 items; "When I make decisions, I tend to rely on my intuition."), dependent (5 items; "Rarely I make important decisions without consulting other people."), avoidant (5 items; "I often consciously postpone important decisions.") and spontaneous (5 items; "I often make impulsive decisions."). Respondents answer on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Internal consistency coefficients (Cronbach's alpha) were - rational style ($\alpha = .764$), intuitive style ($\alpha = .825$), dependent style ($\alpha = .812$), avoidant style ($\alpha = 0,886$) and spontaneous style ($\alpha = .812$).

Procedure

The questionnaires were submitted to respondents in the period March 2020 - April 2020 in an electronic version created in the Google Docs-Form web application. Respondents were informed that completing the questionnaire is voluntary and anonymous and that data will only be processed in the framework of this research study. All respondents expressed their agreement to participate in the research. The collected data were analyzed in IBM SPSS Statistics 21 and IBM Amos 23 software.

There were no missing data in the dataset. Testing the normality of data distribution using the Kolmogorov-Smirnov test showed that the data are normally distributed ($p \geq .05$). Descriptive indicators of the normality of data distribution indicated that the value of the skewness and kurtosis did not exceed the criterion $> \pm 1$. The internal consistency was determined using Cronbach's alpha (Cronbach α). The obtained data were described using other descriptive indicators (mean, standard deviation). Relationships between variables were tested by Pearson correlation coefficient; complex relationships between variables were tested by structural equation modeling (SEM).

Results

With the first step of the analysis, was answered the question of what are the relationships between the features of the Dark Triad and the decision-making styles. Correlation analysis pointed to several significant relationships. The exact values of the correlation coefficients are given in Table 1.

Table1.

Pearson correlation of Dark Triad and General Decision-Making Styles.

	<i>M</i>	<i>SD</i>	MACH	NAR	PSY	RAC	INT	DEP	AVO	SPO
MACH	25.62	6.50	1							
NAR	23.23	6.26	.358**	1						
PSY	16.13	4.81	.474**	.270**	1					
RAC	20.84	2.89	-.121	-.177*	-.258**	1				
INT	17.97	3.90	.111	.088	.054	-.142	1			
DEP	16.69	3.96	.193*	-.013	.129	.003	.167	1		
AVO	11.23	4.89	.322**	.006	.295**	-.335**	.205*	.469**	1	
SPO	10.68	3.01	.178**	.176*	.296**	-.454**	.428**	.175*	.510**	1

MACH=Machiavellianism; NAR=narcissism; PSY=psychopathy; RAC=rational; INT=intuitive; DEP=dependent; AVO=avoidant; SPO=spontaneous; * $p < 0.05$; ** $p < 0.01$

Machiavellianism correlated significantly positively with dependent ($r(125) = .193$; $p = .030$), avoidant ($r(125) = .322$; $p < .001$) and spontaneous ($r(125) = .178$; $p = .045$) decision-making styles. In all three cases, however, these were weak relationships. Narcissism had a significant negative relationship with rational decision-making style ($r(125) = -.177$; $p = .047$) and a significant positive relationship with spontaneous decision-making style ($r(125) = .176$; $p = .047$). These relationships were also weak. Psychopathy had stronger relationships with decision-making styles. With a rational decision-making style, it was a negative relationship ($r(125) = -.258$; $p = .003$), with an avoidant ($r(125) = .295$; $p = .001$) and spontaneous ($r(125) = .296$; $p = .001$) decision-making style, this relationship was positive. It follows that individuals with Machiavellian traits should choose a dependent, avoidant, and spontaneous style when making decisions. Individuals with narcissistic traits are most inclined to spontaneous decision-making style, and individuals with psychopathy traits are most inclined to avoidance and spontaneous decision-making styles. The results also suggest that narcissistic and psychopathic individuals use an irrational decision-making style.

The results of the correlation analysis created the preconditions for examining the relationship between the Dark Triad and decision-making styles in a more comprehensive



way. Therefore, a hypothetical model was created. It was assumed that the Dark Triad contributes the variance of decision-making styles. There were two latent variables in the model. The first was the Dark Triad, which has been found to be a global factor saturated by three manifest variables - Machiavellianism, narcissism, and psychopathy (Jones & Paulhus, 2014; Malesza et al., 2019; Salessi & Omar, 2018). The second latent variable was general decision-making styles, which were saturated by five manifest variables - rational, intuitive, dependent, avoidant and spontaneous decision-making style. According to Harren (1979) and Scott and Bruce (1995), an intuitive and rational decision-making style shares certainty in decision-making and taking responsibility for decisions. Dependent and rational decision-making styles are characterized by individuals not avoiding decisions. Finally, the authors admit that individuals with dependent and evasive decision-making styles are similar in external control of their behavior. Based on this information, covariations between intuitive and rational style, between dependent and rational style, dependent and evasive decision-making style were added in the model.

The hypothetical model was analyzed using the Maximum likelihood method. The values of the model suitability indicators indicated that the model was in relative agreement with the data ($\chi^2(16) = 26.313$; $p = .05$; SRMR = 0.0564; CFI = .946; RMSEA = .072; TLI = 0.906). Figure 1 presents a model with standardized parameter estimates.



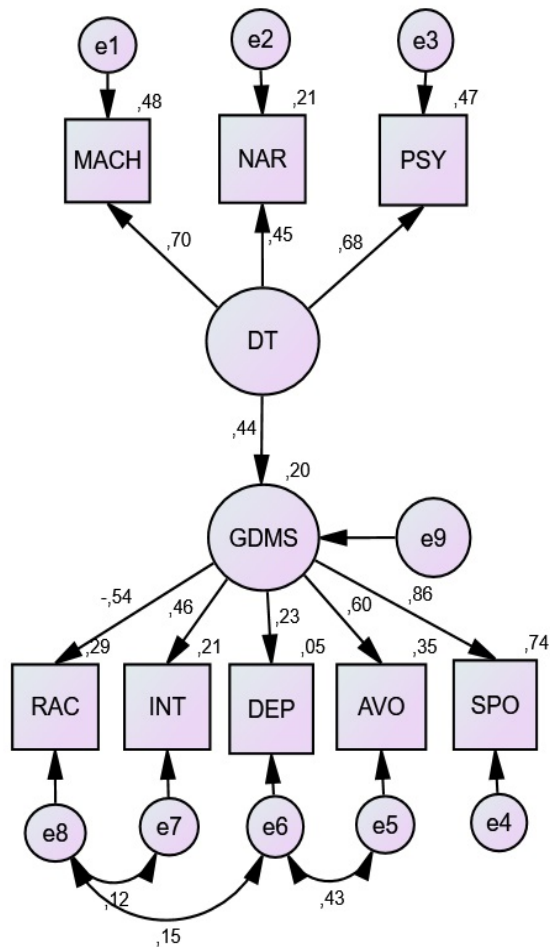


Figure 1. Tested model 1 – standardized estimates ($N=127$).

According to the tested model Dark Triad explained 20% ($R^2 = .20$) variance of decision-making styles. Next, we present standardized regression weights (β) of predictions for direct effects between variables in the model. Due to the structure of the model, it was of particular interest the direct effect of the Dark Triad on decision-making styles. This effect was significant and positive ($\beta = .443$; $SE = .077$; $p < .001$). The analyzes also included testing the significance of indirect effects between variables. We were able to identify five significant indirect effects. The dark triad had a significant negative indirect effect on rational decision-making style ($NE = -0.238$; $p = .014$). Furthermore, the Dark Triad had a significant positive indirect effect on intuitive ($NE = .205$; $p = .008$), dependent ($NE = 0.101$; $p = .012$), avoidant ($NE = 0.264$; $p = .013$) and spontaneous ($NE = 0.381$; $p = .015$) decision style.

The given result was considered to be relatively robust, therefore it was created a second hypothetical model. The second hypothetical model assumed the same relationships, but the latent variable Dark Triad was replaced by three manifest variables - Machiavellianism, narcissism and psychopathy. The covariance between these three variables was added because we still assumed that these features shared common elements (Lee & Ashton, 2014; Paulhus & Williams, 2002).

It was also analyzed the second hypothetical model using the Maximum likelihood method. The values of the model suitability indicators indicated that the model was in relative agreement with the data ($\chi^2(14) = 23.836; p = .048; SRMR = 0.0547; CFI = .949; RMSEA = .075; TLI = 0.897$). Figure 2 presents a model with standardized parameter estimates.

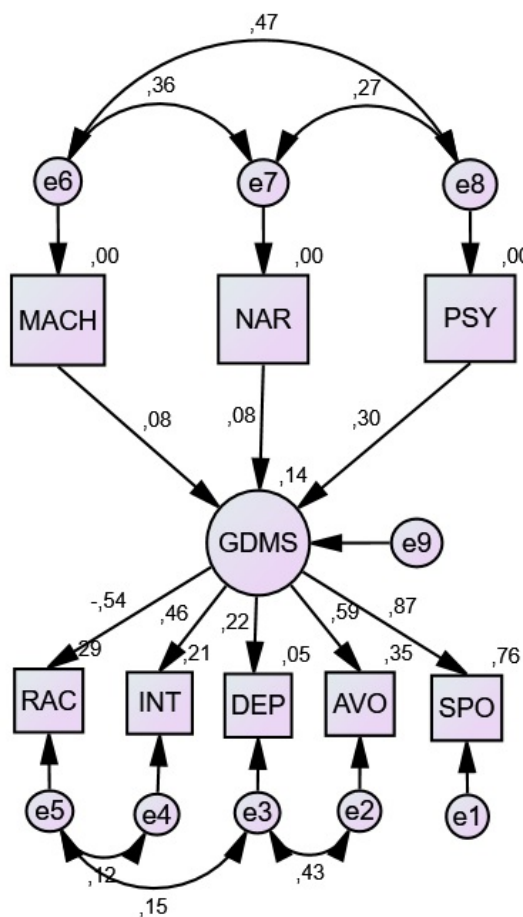


Figure 2. Tested model 2 – standardized estimates (N = 127).

According to the tested model the Dark Triad - Machiavellianism, narcissism and psychopathy - explained 14% ($R^2 = .14$) variance of decision-making styles. Next, are

presented standardized regression weights (β) of predictions for direct effects between variables in the model. Only one significant positive direct effect of psychopathy on decision styles was identified ($\beta = .298$; $SE = 0.058$; $p = .005$). The analyzes also included testing the significance of indirect effects between variables. Again, it was identified five significant indirect effects. Psychopathy had a significant negative indirect effect on rational decision-making style ($NE = -0.160$; $p = .007$). Furthermore, psychopathy had a significant positive indirect effect on intuitive ($NE = 0.136$; $p = .006$), dependent ($NE = 0.066$; $p = .008$), avoidant ($NE = 0.175$; $p = 0.009$) and spontaneous ($NE = 0.259$; $p = .014$). decision - making style.

From the above results, it follows that decision-making styles are mostly associated with psychopathy out of all features of the Dark Triad.

Discussion

The primary goal of the present study was to explain the relationships of the features of the Dark Triad - Machiavellianism, narcissism and psychopathy with decision-making styles - rational, intuitive, dependent, avoidant and spontaneous. It was of interest the extent to which the features of the Dark Triad contribute to the variability of decision-making styles. It was assumed that if previous studies identified relationships between the Dark Triad and the Big Five features (Jakobowitz & Egan, 2006; Malesza et al., 2019; Mejzlíková et al., 2018; Odiakosa, 2018; Paulhus & Williams, 2002; Vernon et al., 2008) and similarly, the relationships of the Big Five traits with decision-making styles have been confirmed (Avsec, 2012; Bavořár, 2018; Di Fabio & Kenny, 2012; Geisler & Allwood, 2013), there should be an association with the Dark Triad traits that represent aversive personality traits.

Results showed that Machiavellian traits are associated with avoidant, dependent, and spontaneous decision-making styles. This result corresponds to the fact that Machiavellianism and dependent decision-making style have a positive relationship with neuroticism (Bavořár, 2018; Jakobowitz & Egan, 2006; Vernon et al., 2008), which is characterized by emotional instability (Watson et al., 1988). Emotional instability itself in decision-making, for example, by uncertainty in the ability to make decisions and is associated with Machiavellian feelings of the constant emotional tension that Machiavellians experience in achieving their goals at the expense of others (Al Aïn et al., 2013). Machiavellianism and avoidant decision-making style combine a positive relationship with neuroticism and a negative relationship with conscientiousness (Bavořár, 2018; Jakobowitz &



Egan, 2006; Vernon et al., 2008). These findings are supported by the fact that Machiavellians like to bend the rules (Wilson et al., 1996) and relinquish personal responsibility, which is also typical of avoidant decision-making, where decisions are accompanied by anxiety and decision-making tension (Harren, 1979; Scott & Bruce, 1995). The negative relationship with conscientiousness (Jakobowitz & Egan, 2006; Malesza et al., 2019; Paulhus & Williams, 2002; Vernon et al., 2008), which is characterized by self-discipline and adherence to rules (Paunonen & Ashton, 2001) corresponds to the reluctance of Machiavellians to adapt to moral rules and values despite their planned efforts to achieve goals (Muris et al., 2017). The tendency to avoid making decisions by denying or delaying this process (Harren, 1979; Scott & Bruce, 1995) and also the perception of external control of destiny is at odds with the nature of conscientiousness. Machiavellianism and spontaneous decision-making style associate a negative relationship with conscientiousness (Bavořár, 2018; Jakobowitz & Egan, 2006; Malesza et al., 2019; Paulhus & Williams, 2002; Vernon et al., 2008), because spontaneous decision-making style consists of rapid and impulsive decisions (Harren, 1979; Scott & Bruce, 1995), which do not take into account rules that are often violated by Machiavellians (Wilson et al., 1996).

According to results, narcissistic traits are associated with spontaneous and irrational decision-making style in the opposite direction to rational, because we have identified a negative relationship between narcissism and rational decision-making style. Narcissism and spontaneous decision-making style have a positive relationship with extraversion (Bavořár, 2018; Jakobowitz & Egan, 2006; Mejzlíková et al., 2018; Odiakosa, 2018; Paulhus & Williams, 2002; Jakobowitz & Egan, 2006). Extraversion is manifested by spontaneity, fast reactions, communicativeness, sociability, and fervor in relationships (Muris, et al., 2017; Watson & Clark 1997), which is also somewhat typical of narcissism because narcissists need to have a positive response from others, which would prove their own value (Morf & Rhodenwalt, 2001). Therefore, they are able to establish intensive relationships with other people very quickly. This information is a clear contrast to the rational decision-making process that is characterized by a prudent approach and consideration of the consequences of one's own actions (Harren, 1979; Scott & Bruce, 1995).

Psychopathy has shown positive relationships with avoidant, spontaneous and irrational decision-making styles. Psychopathy has a negative relationship to conscientiousness associated with avoidant decision-making style as well (Jakobowitz & Egan, 2006; Malesza et al., 2019; Mejzlíková et al., 2018; Paulhus & Williams, 2002; Vernon et al., 2008). In avoidant decision-making, this is manifested by the postponement of decisions and the



rejection of personal responsibility for decisions (Harren, 1979; Scott & Bruce, 1995), which corresponds to the absence of guilt or remorse in subclinical psychopaths (Forsyth & O'Boyle, 2012). Similarly, a negative relationship with conscientiousness is characteristic of psychopathy and spontaneous decision-making style, as subclinical psychopaths are characterized by their impulsivity and low anxiety (Paulhus & Williams, 2002). Similar to narcissism, psychopathy is in conflict with the rational decision-making style, which is positively associated with conscientiousness and agreeableness (Bavolár, 2018). Why subclinical psychopaths are not conscientious, we explained by their impulsivity (Muris et al., 2017), low agreeableness can be explained by their emotional shallowness and lack of interest in other people (Forsyth & O'Boyle, 2012).

These results support Bavolár's (2018) reasoning that non-adaptive decision-making styles are associated with the more negative poles of classical Big Five personality traits, which correspond to just such properties that saturate the construct of the Dark Triad.

By comprehensive testing of relationships using structural equations modeling, we found that the Dark Triad explains 20% of the variance of decision-making styles. Through more detailed testing, we found that psychopathy has the largest share in this among the features of the Dark Triad. It had a negative indirect effect on rational decision-making style, on all others it had a positive indirect effect. This suggests that irrational, intuitive, dependent, avoidant, and spontaneous decision-making styles should have some element in common and share it with psychopathy at the same time. Based on theoretical background, we can assume that this connecting element may be the speed and impulsivity in decision making, which is associated with lower certainty in the correctness of the final decision (Harren, 1979; Paulhus & Williams, 2002; Scott & Bruce, 1995).

Limitations of the study

As limitation is considered the limited number of respondents, what was mainly due to the situation that arose as a result of the COVID-19 pandemic. That is why the results should be justified by an insufficiently large research set, although opinions on this parameter differ in literature. The most common operation is with at least 200 cases (Kline, 2011), a sample of 100-150 cases is required to be sufficiently large (Tabachnik & Fidell, 2001), but it is no exception to encounter relatively small samples that are considered sufficient to be used with the method (e.g. 5-10 cases/parameter; Kline, 2011). For this reason, it is recommended to avoid generalization and to interpret the results with some restraint. On the other hand, it is a suggestion for further research in this area. The face validity of the Short Dark Triad scale



could also have a limiting effect, as it is clear from the wording of the items what were respondents asked about. In this context, the participants may have produced socially desirable responses that would not put them in a bad light.

Conclusion

The benefit of the conducted study is perceived in the enrichment of the previous findings concerning the relations of decision-making styles with personality characteristics. So far, several studies have been conducted that focused on both adaptive and non-adaptive personality traits (Big Five, HEXACO, emotional intelligence, impulsivity, procrastination, hypervigilance) and their relationship to decision-making styles, but a study that would link them to the concept of the Dark Triad absent. The value of the obtained results lies in revealing what decision-making strategies are used by people with different socially aversive personality traits. Finding explanations for why some people use non-adaptive decision-making styles and experience the negative results of their decisions in real life, which cause their overall discomfort, can be explained by their dark features. Future research could focus on examining decision-making styles in relation to the negative aspects of personality and expand this area of knowledge on a larger research sample across different demographic groups in order to compare them. Likewise, the effort to confirm previous research findings in relation to moral decision-making within the features of the Dark Triad, using other methodologies in a larger research set and thus enriching this area of research, remains an open challenge.

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Competing Interests

The authors have declared that no competing interests exist.

References

- Al Aïn, S., Carré, A., Fantini-Hauwel, C., Baudouin, J. Y., & Besche-Richard, C. (2013). What is the emotional core of the multidimensional Machiavellian personality trait? *Frontiers in Psychology, 4*(454), 1-8. <https://doi.org/10.3389/fpsyg.2013.00454>
- Avsec, A. (2012). Do emotionally intelligent individuals use more adaptive decision-making styles?. *Studia Psychologica, 54*(3), 209-220.
- Bavol'ár, J. (2018). *Štýly rozhodovania. Teoretické ukotvenie a praktické aplikácie*. [Decision making styles. Theoretical anchoring and practical applications]. Univerzita Pavla Jozefa Šafárika.
- Bavol'ár, J., & Orosová, O. (2015). Decision-making styles and their associations with decision-making competencies and mental health. *Judgment Decision Making, 10*(1), 115-122.
- Čopková, R. & Šafár, L. (n.d). Psychometric properties of Slovak version of Short Dark Triad (SD3). In review.
- Di Fabio, A., & Kenny, M. E. (2012). The contribution of emotional intelligence to decisional styles among Italian high school students. *Journal of Career Assessment, 20*(4), 404-414. <https://doi.org/10.1177/1069072712448893>
- Forsyth, D. R., & O'Boyle, E. H. (2012). Ethics position theory and unethical work behavior. In D. Forsyth (Ed.). *Making Moral Judgements: Psychological Perspectives on Morality, Ethics, and Decision-Making* (pp. 221-236). Taylor & Francis.
- Furnham, A., Richards, S. C., & Paulhus, D. L. (2013). *Social and Personality Psychology Compass, 7*(3), 199-216. <https://doi.org/10.1111/spc3.12018>



- Geisler, M., & Allwood, C. M. (2018). Relating decision-making styles to social orientation and time approach. *Journal of Behavioral Decision Making*, 31(3), 415-429. <https://doi.org/10.1002/bdm.2066>
- Harren, V. A. (1979). A model of career decision making for college students. *Journal of Vocational Behavior*, 14(2), 119-133.
- Jakobwitz, S., & Egan, V. (2006). The dark triad and normal personality traits. *Personality and Individual Differences*, 40(2), 331-339. <https://doi.org/10.1016/j.paid.2005.07.006>
- Jones, D. N., & Paulhus, D. L. (2014). Introducing the Short Dark Triad (SD3): A Brief Measure of Dark Personality Traits. *Assessment*, 21(1), 28-41. <https://doi.org/10.1177/1073191113514105>
- Kline, R. B. (2011). Convergence of structural equation modeling and multilevel modeling. In M. Williams (Ed.), *Handbook of methodological innovation*. Thousand Oaks, Sage.
- Lee, K., & Ashton, M. C. (2014). The Dark Triad, the Big Five, and the HEXACO model. *Personality and Individual Differences*, 67, 2-5. <https://doi.org/10.1016/j.paid.2014.01.048>
- Lyons, M. (2019). *The Dark Triad of Personality: Narcissism, Machiavellianism, and Psychopathy in Everyday Life*. Academic Press.
- Malesza, M., Ostaszewski, P., Büchner, S., & Kaczmarek, M. C. (2019). The adaptation of the Short Dark Triad personality measure—psychometric properties of a German sample. *Current Psychology*, 38(3), 855-864. <https://doi.org/10.1007/s12144-017-9662-0>
- Mejzlíková, T., Preiss, M., Maliňáková, J., Raisová, M., & Bolceková, E. (2018). Česká validační studie škály Krátká temná trojice (Short Dark Triad, SD3). [Czech Validation Study of the Short Dark Triad (SD3)] *Aplikovaná psychologie*, 3(5), 255-270.



- Morf, C. C., & Rhodenwalt, F. (2001). Unraveling the paradoxes of narcissism: A dynamic self-regulatory processing model. *Psychological Inquiry, 12*(4), 177-196.
https://doi.org/10.1207/S15327965PLI1204_1
- Muris, P., Merckelbach, H., Otgaar, H., & Meijer, E. (2017). The malevolent side of human nature: A meta-analysis and critical review of the literature on the dark triad (narcissism, Machiavellianism, and psychopathy). *Perspectives on Psychological Science, 12*(2), 183-204. <https://doi.org/10.1177/1745691616666070>
- Odiakosa, T. (2018). *Examining associations between the Dark Triad and the Big Five Personality Traits*.
https://www.researchgate.net/publication/337889195_Examining_Associations_between_the_Dark_Triad_and_the_Big_Five_Personality_Traits
- Oluf, G.A., & Furnham, A. (2015). The relationship between bright-and dark-side personality traits. *Personality and Individual Differences, 87*, 206-211.
<https://doi.org/10.1016/j.paid.2015.08.002>
- Paulhus, D. L., & Williams, K. M. (2002). The dark triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of Research in Personality, 36*(6), 556-563. [https://doi.org/10.1016/S0092-6566\(02\)00505-6](https://doi.org/10.1016/S0092-6566(02)00505-6)
- Paunonen, S. V., & Ashton, M. C. (2001). Big Five factors and facets and the prediction of behavior. *Journal of Personality and Social Psychology, 81*, 524–539.
<https://doi.org/10.1037/0022-3514.81.3.524>
- Salessi, S., & Omar, A. (2018). Psychometric properties of a scale to measure the dark side of personality. *Estudos de Psicologia (Campinas), 35*(2), 159-170.
<https://doi.org/10.1590/1982-02752018000200005>
- Scott, S. G., Bruce, R. A. (1995). Decision-making style: The development and assessment of a new measure. *Educational and Psychological Measurement, 55*(5), 818-831.
<https://doi.org/10.1177/0013164495055005017>



Tabachnick, B. G., & Fidell, L. S. (2001). *Using Multivariate Analysis*. Harper Collins College Publishers.

Thunholm, P. (2004). Decision-making style: habit, style or both?. *Personality and Individual Differences*, 36(4), 931-944. [https://doi.org/10.1016/S0191-8869\(03\)00162-4](https://doi.org/10.1016/S0191-8869(03)00162-4)

Vernon, P. A., Villani, V. C., Schermer, J. A., & Petrides, K. V. (2008). Phenotypic and genetic associations between the Big Five and trait emotional intelligence. *Twin Research and Human Genetics*, 11(5), 524-530. <https://doi.org/10.1375/twin.11.5.524>

Watson, D., Clark, L. A. (1997). Extraversion and its positive emotional core. In R. Hogan, J. Johnson, & S. Briggs, S. (Ed.), *Handbook of Personality Psychology* (pp. 767-793). Academic Press.

Watson, D., Clark, L. A., & Carey, G. (1988). Positive and negative affectivity and their relation to anxiety and depressive disorders. *Journal of abnormal psychology*, 97(3), 346.

Wilson, D. S., Near, D., & Miller, R. R. (1996). Machiavellianism: A synthesis of the evolutionary and psychological literatures. *Psychological Bulletin*, 119(2), 285.

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