Study addiction and 'dark' personality traits: a cross-sectional survey study among emerging adults

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ABSTRACT

Background: Research has shown that personality traits can have an important role in the development and maintenance of behavioral addictions. However, the relationship between dark personality traits (i.e., Machiavellianism, psychopathy, narcissism, sadism, spitefulness) and 'study addiction' has yet to be investigated.
Objectives: The purpose of the present study was to examine the associations of dark traits with study addiction among the total sample, males, and females separately, while adjusting for the Big Five personality traits (i.e., extroversion, neuroticism, agreeableness, openness, conscientiousness).
Methods: A total of 716 university students completed an online survey, including questions assessing the aforementioned variables.
Results: Hierarchical regression analysis suggested that being female, neuroticism, conscientiousness, Machiavellianism, and sadism were positively associated with study addiction. However, dark personality traits (i.e., Machiavellianism, sadism) were significantly related to study addiction only in males but not in females.
Conclusions: Findings of this preliminary study suggest that dark personality traits may be better at explaining male addictive studying patterns and that gender should be taken into account when investigating the role of personality in the development of study addiction.

KEYWORDS
Study addiction; Dark Triad; spitefulness; sadism; Big Five

Abstract

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associated with study addiction. However, dark personality traits (i.e., Machiavellianism, sadism) were significantly related to study addiction only in males but not in females. *Conclusions*: Findings of this preliminary study suggest that dark personality traits may be better at explaining male addictive studying patterns and that gender should be taken into account when investigating the role of personality in the development of study addiction.

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Introduction

Study addiction

      'Study addiction' has recently been proposed as a behavioral addiction (e.g., Andreassen et al., 2014; Atroszko et al., 2016a). Viewed as a type of work addiction, study addiction has been defined as "being overly concerned with studying, to be driven by an uncontrollable studying motivation, and to put so much energy and effort into studying that it impairs private relationships, spare-time activities, and/or health" (Atroszko et al., 2015, p. 75). Study addiction and work addiction appear to be closely related, sharing the core addiction symptoms of salience, mood modification, tolerance, withdrawal, conflict, relapse, and problems (Astroszko et al., 2016b). Researchers also suggest that study addiction may even be an early form of (or indicative of developing) work addiction (Atroszko et al., 2016a; Astroszko et al., 2016b; Griffiths et al., 2018). Due to these behavioral and conceptual similarities, study addiction has been included within the theoretical framework of work addiction (Atroszko et al., 2015).

      Intuitively, it might be assumed that there are only positive outcomes associated with increased studying time, such as high academic achievement and personal academic success. However, as noted by Griffiths et al. (2018), when a behavior is defined as an addiction (i.e., study addiction) the negative long-term impact will always outweigh any short-term benefits. When employed as a maladaptive coping behavior, pathological studying may have serious negative functional consequences (Atroszko et al., 2018). Previous research has shown that study addiction has been associated with poor quality of life, poor general health, and poor sleep quality (Atroszko et al., 2015). Although study addiction has been proposed as a pathological behavioral addiction (Atroszko et al., 2016a), is conceptualized as a possible precursor to work addiction (Atroszko et al., 2016a; Astroszko et al., 2016b; Griffiths et al., 2018), and is associated with serious negative outcomes for those experiencing it (Atroszko et

al., 2018), there is a paucity in research specifically exploring the behavior. Moreover, research exploring predictors of study addiction, in an attempt to both understand and manage this behavior, is considerably limited. Nevertheless, a few recent studies have argued that problematic overstudying should be considered obsessive-compulsive-related disorder than addiction (Loscalzo & Giannini, 2018), and showed that addictive studying is present even among secondary school students (Bisht & Godiyal, 2016). Obsessive overstudying among study addicts may be related to elevated worry, functional impairments in academic, social, and well-being areas, lower positive affect and higher negative affect (Loscalzo & Giannini, 2020), emphasizing that transforming studying into and obsessive and compulsive behavior could be problematic. Consequently, the present study explores the associations between gender, personality, and study addiction. More specifically, the study explores study addiction in relation to the Big Five of personality and dark personality traits.

Personality and addiction

The Big Five and addiction. The Big Five model of personality (Costa & McCrae, 1992), comprising of trait extroversion (i.e., friendliness, cheerfulness), neuroticism (i.e., anxiety, self-consciousness), agreeableness (i.e., trust, cooperation), openness (i.e., imagination, liberalism), and conscientiousness (i.e., self-efficacy, cautiousness; Donnellan et al., 2006), has been related to a variety of addictions, both offline and online. In relation to offline addictions, high trait neuroticism, low agreeableness, and low conscientiousness have been found to predict addiction potential in a sample of university students (Zargar & Ghaffari, 2009). Furthermore, a meta-analysis study concluded that high trait neuroticism, low agreeableness, and low conscientiousness have also been found to predict excessive alcohol involvement (Malouff, Thorsteinsson, Rooke, & Schutte, 2011). Food addiction has also been related to high neuroticism, low extraversion, and low conscientiousness (Brunault et al., 2018). A large-scale study with 3,785 Australian adults suggested that conscientiousness,

agreeableness, and neuroticism were associated with the general propensity to develop an addictive disorder for alcohol, nicotine, cannabis, and gambling (Dash et al., 2019).

In relation to online addictions, all Big Five personality traits have been found to predict general internet addiction (see Zhou et al., 2017), and a meta-analysis reported significant positive relationships between neuroticism and internet addiction, and significant negative relationships between extroversion, agreeableness, openness, and conscientiousness and internet addiction (Kayis et al., 2016). The Big Five traits have also been associated with online addictive behaviors including videogame addiction (high neuroticism, low extroversion, and low agreeableness; Vollmer et al., 2014), Facebook addiction (high extroversion, low conscientiousness, and low openness; Kanat-Maymon et al., 2018; and high neuroticism; Tang et al., 2016), Instagram addiction (low agreeableness; Kircaburun & Griffiths, 2018a), and Twitter addiction (low agreeableness, low conscientiousness, low extroversion; Kircaburun, 2016). Additionally, direct, significant positive associations have been shown for neuroticism and extroversion and smartphone addiction (Roberts et al., 2015), and these traits have also been shown to mediate the relationship between stress and smartphone addiction (Cho et al., 2017).

Previous research has also demonstrated associations between low conscientiousness, high neuroticism, and study addiction (Andreassen et al., 2013), with neuroticism related to an escalation in study addiction over time (Atroszko et al., 2016a). Despite these findings, research examining the Big Five personality traits and study addiction is comparatively limited, and there is considerable opportunity for replication and extension. In addition to exploring the Big Five personality traits as predictors of study addiction, the present study also explores the associations between dark personality traits and study addiction.

Dark personality traits and addiction. Dark personality traits, including Machiavellianism, psychopathy, narcissism, sadism, and spitefulness, have also been

associated with a variety of addictions, both offline and online. The propensity for these traits to be related to addictive behavior are largely attributed to the risk-taking and sensation seeking behaviors associated with many of these dark traits (Jauk & Dieterich, 2019).

In offline addictions, Machiavellianism, narcissism, and trait psychopathy (as assessed by antisocial personality) are all significantly related to addiction potential (Sadri Damirchi, Esrafily, & Mesbahi, 2019). Trait psychopathy has been positively associated with substance use and addiction in both criminal populations (Hopley & Brunelle, 2012) and community populations (Stenason & Vernon, 2016). Moreover, Machiavellianism, narcissism, and psychopathy have all been significantly related to disordered gambling, although only psychopathy was uniquely related when Machiavellianism and narcissism were controlled for (Trombly & Zeigler-Hill, 2017). Only one previous study has positively associated study addiction to narcissism (Atroszko et al., 2019), although other dark personality traits may also be associated with study addiction.

In online addictions, Machiavellianism, narcissism, psychopathy, sadism, and spitefulness have all been positively associated with problematic internet use (Kircaburun & Griffiths, 2018b). Trait Machiavellianism, narcissism, and psychopathy have been reported as significant predictors of problematic social media use (Kircaburun et al., 2019). Additionally, Machiavellianism has been associated with Internet Use Disorder (Sindermann et al., 2018), psychopathy has been associated with social media addiction (Chung et al., 2019; Demircioğlu & Göncü Köse, 2018), and narcissism has been associated with Facebook addiction (Brailovskaia et al., 2020). Both narcissism and sadism have been associated with online gaming addiction (Kim et al., 2008; Kircaburun et al., 2018), and both spitefulness and narcissism have been associated with smartphone addiction (Balta et al., 2019; Pearson & Hussain, 2017). Researchers have also noted that individuals with higher levels of dark

personality traits may be particularly vulnerable to developing online behavioral addictions (Kircaburun & Griffiths, 2018b).

The present study

The Big Five personality traits (i.e., extroversion, neuroticism, agreeableness, openness, conscientiousness) and dark personality traits (i.e., Machiavellianism, psychopathy, narcissism, sadism, spitefulness) have all demonstrated significant associations with addictive behaviors – both offline and online. Based on these significant relationships, there is good rationale to expect these traits to associate with other behavioral addictions including study addiction. Consequently, combined with the importance of exploring personality and addictions (Jauk & Dieterich, 2019), the aim of the present study was to explore associations between the Big Five personality traits, dark personality traits, and study addiction. Finally, given that gender has previously been demonstrated to moderate the relationship between personality traits and behavioral addictions (see Arpaci & Unver, 2020), the associations between Big Five personality traits, dark personality traits, and study addiction were explored in the total sample, and separately for males and females.

Methods

Participants, procedure, and ethics

A total of 716 Turkish university students (58% female), aged between 19 and 44 years (mean = 21.89 years, *SD* = 2.33) completed an online survey. Sample sizes for each gender were above the recommended thresholds (n= 250) for obtaining stable correlation estimates (Schönbrodt & Perugini, 2013). The survey was promoted in online courses of a distance learning center at [university masked for blind review]. All of the participants were informed about the details of the study and that participation was anonymous and voluntary. Participants had to give their informed consent in order to complete the survey. Students were not compensated for their participation. Ethical approval for the study was received from the

research team's university's ethical board before the recruitment of the participants, and complied with the Helsinki declaration.

Measures

Bergen Study Addiction Scale (BStAS): The BStAS (Atroszko et al., 2015) was used to assess study addiction after Turkish adaptation. Because of this adaptation confirmatory factor analysis (CFA) was applied using AMOS 23 software. CFA indicated good fit to the data (χ^2 = 41.28, df = 11, $p<.001$, RMSEA = .06 CI 90% [.04, .08], SRMR = .04, CFI = .98, GFI = .98). The BStAS was developed reflecting core elements of addiction (i.e., salience, mood modification, tolerance, withdrawal, conflict, relapse, and problems) outlined in the components model of addiction (Griffiths, 2005). The scale comprises seven items (e.g., "*How often during the last year have you spent much more time studying than initially intended?*") rated on a five-point Likert scale ranging from "*never*" to "*always*". Higher scores indicate a greater risk of study addiction. The internal consistency coefficient was high in the present study (Cronbach's α = .80).

Big-Five Personality Traits: The dimensions of the Big Five personality traits were assessed using single item for each personality dimension (i.e., extroversion, neuroticism, agreeableness, openness, conscientiousness). Each personality trait was defined according to widely used definitions (Rammstedt & John, 2007; Zuckerman et al., 1993) and participants were asked to rate how much these traits suit them, from 1 = *"absolutely disagree"* to 7 = *"absolutely agree"* (e.g., "I am an *extrovert* [reverse coded] = introverted in social situations and relations, reserved, not outgoing and sociable; I am *neurotic* = emotionally unstable, easily irritated, tends to find fault with others; I am *agreeable* = understanding and easygoing in social relations, not conflicting; I am *open to new experience* = having an active imagination, being open to new experience, being less conservative in life; I am *conscientious* = doing a thorough job, being planned, organized, and trustworthy in doing tasks and duties).

Single items were used to minimize survey fatigue and because previous research has found them to be as effective as longer psychometric scales (e.g., Özsoy et al., 2017).

Dark Personality Traits: The dark personality traits were assessed adapting the Single Item Narcissism Scale – Turkish (Özsoy et al., 2017) into all the dark personality traits, including Machiavellianism, psychopathy, sadism, and spitefulness. Each personality dimension was defined using existing definitions (Jonason & Webster, 2010; Marcus et al., 2014; O'Meara, Davies, & Hammond, 2011; Özsoy et al., 2017) and participants were asked to rate how much these traits suit them, from 1 =*"absolutely disagree"* to 7 = *"absolutely agree" (e.g., I am a narcissist* = selfish, self-centered; *I am Machiavellian* = manipulate and exploit others towards their own end, deceit or lie to get their way; *I am psychopath* = callous, insensitive, lack remorse, not concerning about morality of their actions; *I am sadist* = enjoying inflicting pain on others, tend to intentionally hurt others; *I am spiteful* = willing to harm oneself in order to hurt others). Single items were again used to minimize survey fatigue.

Data analysis

Descriptive statistics, skewness, and kurtosis values, and correlation analysis were used to analyze the correlations among study addiction, Big Five factor traits, and dark personality traits. Before carrying out hierarchical multiple regression analysis, distribution normality, and multicollinearity were checked by examining skewness, kurtosis, VIF, and tolerance values. Variables were not transformed nor were non-parametric tests used because skewness and kurtosis values were within the thresholds for normality (see Kline, 2011 [±3 and ±8 respectively] and West, Finch, & Curran, 1995 [±2 and ±7 respectively]). Analyses using *t*-tests were used to compare score differences between males and females. Cohen's *d* values were examined to determine the robustness of the *t*-tests results.

Results

Descriptive statistics, skewness and kurtosis values, and correlations among study addiction, Big Five factor traits, and dark personality traits are shown in Table 1. Results indicated that study addiction was positively correlated (albeit weakly) with neuroticism, agreeableness, conscientiousness, narcissism, Machiavellianism, psychopathy, sadism, and spitefulness. *t*-tests results are given in Table 2. Males had significantly higher mean scores relating to Machiavellianism (t[714] = 2.63, *p* = .01), psychopathy (t[714] = 4.61, *p* = .001), sadism (t[714] = 3.65, *p* = .001), and spitefulness (t[714] = 3.19, *p* = .001), whereas females had significantly higher mean scores relating to study addiction (t[714] = -3.99, *p* = .001), neuroticism (t[714] = -3.64, *p* = .001), agreeableness (t[714] = -2.73, *p* = .01), and conscientiousness (t[714] = -3.84, *p* = .001). The aforementioned differences had small effect sizes with Cohen's *d* values ranging between 0.09 and 0.34.

Hierarchical regression analysis (Table 3) was applied to examine the personality predictors of study addiction for the total sample, males, and females (while controlling for gender) using SPSS 23 software. VIF and tolerance values, being lower than 5 and higher than .20 respectively (Kline, 2011), indicated that multicollinearity was non-existent. Being male was negatively associated with study addiction among the total sample (β = -.11, *p* < .01). Study addiction was positively related to neuroticism and conscientiousness in all three samples. Machiavellianism and sadism were positively associated with study addiction in the total sample and among males whereas psychopathy was negatively related to study addiction only in the total sample (β = -.15, *p* < .05). Dark personality traits were not significantly associated with study addiction among males. The models explained 15% of the variance in study addiction in the total sample, 19% among males, and 9% among females.

Discussion

The purpose of the present study was to investigate the relationship of dark personality traits (i.e., narcissism, Machiavellianism, psychopathy, sadism, spitefulness) with study

addiction in the total sample, males, and females while controlling for Big Five personality dimensions (i.e., extroversion, neuroticism, agreeableness, openness, conscientiousness). Partially consistent with expectations, being female, neuroticism, conscientiousness, Machiavellianism, and sadism were positively associated with study addiction among the total sample. The relationship between two of the Big Five personality traits (i.e., neuroticism, conscientiousness) and study addiction were consistent in both males and females. However, dark personality correlates of study addiction were significant only among males. Moreover, psychopathy was non-significant in the model among males and females but it was negatively significantly related to study addiction among the total sample.

The finding that neuroticism and conscientiousness were positively associated with study addiction in both males and females was in line with the small number of existing studies that have reported positive association of neuroticism and conscientiousness with study addiction among Polish and Norwegian students (Andreassen et al., 2013; Atroszko et al., 2015). The relationship between neuroticism and study addiction may be explained by the fact that neurotic individuals are more affected by the academic pressures, socioeconomic factors, and negative emotions, which leads them to engage in more excessive studying (Atroszko et al., 2016a). This is somewhat expected given that study addiction has been conceptualized by some as an obsessive and compulsive behavior and that neurotics are more prone to developing obsessive-compulsive disorder (Loscalzo & Giannini, 2020; Schreuder et al., 2017).

Moreover, the highly predictive role of overall academic performance of students on future job opportunities may put more pressure on neurotic students in developing addictive studying patterns (Atroszko et al., 2016a). Furthermore, conscientious students are prone to complete their academic tasks on time and highly motivated to be successful in their classes, which may lead them to develop pathological studying behaviors over time (Andreassen et al.,

2013). Despite the negative association of conscientiousness with other behavioral addictions (e.g., social media addiction, smartphone addiction), conscientious individuals are organized, industrious, and hardworking and these features help explain this particular addiction to studying because these traits may facilitate individuals' susceptibility to developing addictive studying patterns (Andreassen et al., 2013). Moreover, neuroticism and conscientiousness were associated with study addiction among both males and females, a finding that has been reported in the addiction literature more generally (Griffiths, 2017). However, study addiction was more prevalent among females compared to males. However, the prevalence rates for various addictions tends to be higher among males than that for females (Griffiths, 2009). For study addiction, it may be that the more obsessive aspects of studying are associated with those who are neurotic and conscientious. Further examination is warranted concerning gender differences and study addiction.

The dark personality traits of Machiavellianism and sadism were positively related to study addiction among males. This finding is consistent with the previous studies that found that Machiavellianism is positively associated with addiction potential and addictive use of online activities and smartphones (Balta et al., 2019; Kircaburun et al., 2019; Sadri Damirchi et al., 2019; Sindermann et al., 2018). It appears that Machiavellianism is one of the personality traits that leads to vulnerability for developing addiction among males. It is not surprising to find that Machiavellians are more susceptible to engage in addictive studying given that those high on Machiavellianism are self-centered ambitious individuals who are prone to do anything necessary to achieve their goal (Christie & Geis, 1970). Consequently, they might be expected to demonstrate excessive studying behavior in attempts to beat their competitors and increase their chance for finding better jobs after graduation. For some, engaging in excessive study may become addictive.

Sadistic males also scored higher on study addiction when compared to females and males who scored lower on sadism. This may appear surprising but adaptively sadistic individuals are hard-working, goal-oriented, and competitive individuals who are driven to prove their significance (O'Meara et al., 2011). All these features make males with higher sadistic impulses more vulnerable for developing addictive studying behavior. The dark personality traits associated with addictive studying only among males is consistent with the extant literature suggesting that males are better characterized by darker traits (Balta et al., 2019). Antisocial personal motivations more robustly explain male's excessive, problematic, and addictive behaviors compared to females (Craker & March, 2016; Kircaburun et al., 2018).

Limitations and conclusion

While the results of the present study are novel, several limitations should be taken into account. First, the personality dimensions were assessed using single item scales adapted from a recent study (Özsoy et al., 2017). Using a single item to assess a personality trait is likely to be less successful in capturing the essential content and features of different personalities (Jones & Paulhus, 2014). However, given that the obtained correlations in the present study are similar to those of others that used longer psychometric assessment tools (e.g., Özsoy et al., 2017), it is contended that these single-item questions adequately assessed personality traits. Second, the present study used a cross-sectional design in which the directions of the relationships between the variables examined cannot be determined. Future studies should adopt longitudinal design in order to examine causal relationships among the variables studied here. Third, the present study collected data utilizing self-report online surveys. This is prone to specific limitations and biases including social desirability and memory recall. Future studies should collect data using more in-depth methodologies (e.g., qualitative investigations).

Despite the aforementioned limitations, the present study offers several valuable contributions to the behavioral addictions literature. The study is the first to examine the association of dark personality traits with study addiction among males and females while controlling for Big Five personality traits. The preliminary results suggest that individuals' personality explains a modest proportion of their proneness to engaging in addictive studying behavior. More specifically, neuroticism and conscientiousness are important correlates of study addiction in both males and females. Furthermore, in addition to Big Five personality traits, dark personality traits could provide additional explanation to male engagement in addictive studying. Based on the results here, it appears that some males are motivated to become study addicts via the contributions of their anti-social personality features (i.e., Machiavellianism, sadism). These preliminary results should be replicated with larger study groups from other parts of the world. However, health professionals and clinicians may take dark personality features into consideration before developing prevention strategies for over-studying, problematic studying, and study addiction.

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TABLES

Table 1. *Mean scores, standard deviations, skewness-kurtosis values, and Pearson's correlations of the study variables (N=716)*

	1	2	3	4	5	6	7	8	9	10	11
1. Study addiction	-										
2. Extroversion	-.07	-									
3. Neuroticism	.14***	-.29***	-								
4. Agreeableness	.10**	-.11**	.06	-							
5. Openness	.07	.11**	-.02	.33***	-						
6. Conscientiousness	.28***	.10**	-.09*	.21***	.37***	-					
7. Narcissism	.10**	-.18***	.25***	-.13***	-.11***	-.06	-				
8. Machiavellianism	.13**	-.17***	.18***	-.13**	-.18***	-.14***	.57***	-			
9. Psychopathy	.09*	-.25***	.21***	-.17***	-.24***	-.12**	.48***	.60***	-		
10. Sadism	.15***	-.27***	.13**	-.16***	-.28***	-.12**	.48***	.58***	.82***	-	
11. Spitefulness	.13**	-.22***	.24***	-.19***	-.26***	-.17***	.46***	.50***	.65***	.67***	-
12. Men	-.15***	-.05	-.14***	-.10**	.04	-.14***	.05	.10**	.17***	.14***	.12**
M	18.86	5.18	3.61	4.75	5.37	4.73	2.52	2.05	1.85	1.63	2.17
SD	6.11	1.75	1.93	1.71	1.61	1.73	1.67	1.60	1.53	1.44	1.68
Skewness	.22	-.68	.26	-.59	-.95	-.41	1.00	1.56	1.90	2.43	1.47
Kurtosis	-.23	-.57	-1.03	-.42	.28	-.66	.13	1.58	2.82	5.05	1.30

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

Table 2. *Comparison of the scores of study variables between males and females*

	Males (N=302)	Females (N=414)	*t*-test	Cohen's *d*
Study addiction	17.80 ± 6.00	19.63 ± 6.08	-3.99***	.30
Extroversion	5.09 ± 1.77	5.26 ± 1.73	-1.28	.10
Neuroticism	3.30 ± 1.88	3.83 ± 1.95	-3.64***	.28
Agreeableness	4.55 ± 1.82	4.90 ± 1.61	-2.73**	.20
Openness	5.45 ± 1.62	5.31 ± 1.60	1.15	.09
Conscientiousness	4.45 ± 1.84	4.94 ± 1.61	-3.84***	.28
Narcissism	2.62 ± 1.73	2.45 ± 1.63	1.30	.10
Machiavellianism	2.23 ± 1.68	1.92 ± 1.53	2.63**	.19
Psychopathy	2.15 ± 1.65	1.63 ± 1.39	4.61***	.34
Sadism	1.85 ± 1.63	1.46 ± 1.26	3.65***	.27
Spitefulness	2.41 ± 1.85	2.00 ± 1.53	3.19***	.24

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

Table 3. *Summary of hierarchical regression analyses predicting study addiction*

		β(t)		
		All (N=716)	Males (N=302)	Females (N=414)
Block 1	Males	-.11(2.97**) $R^2_{Adj} = .02;$ $F_{(1,714)} = 15.91;$ $p < .001$		
	Extroversion	-.01(-.26)	.01(.15)	-.01(-.11)
	Neuroticism	.12(3.14**)	.14(2.21*)	.10(2.00*)
Block 2	Agreeableness	.05(1.22)	.03(.50)	.05(.86)
	Openness	.02(.40)	.08(1.30)	-.02(-.37)
	Conscientiousness	.29(7.62***)	.23(3.89***)	.32(6.15***)
		$R^2_{Adj} = .11;$ $F_{(6,709)} = 15.50;$ $p < .001$	$R^2_{Adj} = .09;$ $F_{(5,296)} = 6.91;$ $p < .001$	$R^2_{Adj} = .09;$ $F_{(5,408)} = 9.14;$ $p < .001$
	Narcissism	-.40(-.91)	-.05(-.76)	-.03(-.45)
	Machiavellianism	.11(2.27*)	.19(2.61*)	.07(1.03)
Block 3	Psychopathy	-.15(-2.24*)	-.18(-1.84)	-.06(-.62)
	Sadism	.20(3.07**)	.35(3.69***)	.03(.26)
	Spitefulness	.10(1.91)	.06(.69)	.12(1.75)
		$R^2_{Adj} = .15;$ $F_{(11,704)} = 12.16;$ $p < .001$	$R^2_{Adj} = .19;$ $F_{(10,291)} = 7.81;$ $p < .001$	$R^2_{Adj} = .09;$ $F_{(10,403)} = 5.28;$ $p < .001$

Note. The values in the brackets depict *t*-values of the variables. * $p < .05$; ** $p < .01$; *** $p < .001$