

PRIMENJENA
PSIHOLOGIJA



No4, 2021

Contents

- 397 Passing the torch: Second-generation research on the Dark Triad/Tetrad traits
Peter K. Jonason and Bojana M. Dinić
- 407 Does a visitor of dark tourism sites have a dark personality? A study of potential visitors of dark tourism sites in Serbia
Tamara Jovanović, Maja Mijatov and Metod Šuligoj
- 443 The Dark Tetrad and aesthetic preferences: the role of the dark side of personality in the aesthetic preference for paintings
Lana Tucaković and Slobodan Marković
- 465 The Dark Core of personality: Individual's expression of locus of control and spirituality
Bruno Bonfá-Araujo, Ariela Raissa Lima-Costa, Leila Maria Ferreira Couto, Makilim Nunes Baptista and Nelson Hauck-Filho
- 483 The Effects of the Dark Triad Traits on the Five Pillars of Positive Psychology: The Moderation Effect of Gender
Beata Grabovac and Jelena Šakotić Kurbalija
- 509 Dark Tetrad and psychological distress among male violent offenders and male community adults
Milan Oljača, Selka Sadiković, Bojana M. Dinić and Valentina Baić


	Dark Triad traits as predictors of adherence to traditional masculine norms in men
539	George Van Doorn and Jacob Dye
	Frustration elevates arousal in individuals high on the psychopathy scale: The role of approach, not avoidance motivation
571	Dino Krupić
597	Acknowledgment of Reviewers

Introduction to the special issue of *Primenjena psihologija: Dark Traits in Applied Context*

Passing the torch: Second-generation research on the Dark Triad/Tetrad traits


Peter K. Jonason  

University of Padua, Italy and Cardinal Stefan Wyszyński University, Poland

Bojana M. Dinić 

Department of Psychology, Faculty of Philosophy, University of Novi Sad

When people think of personality traits, they tend to think only of socially desirable ones like extraversion or empathy. Rarely do they consider so-called darker aspects of personality as something that has relevance outside the clinical or pathological space. However, if traits exist along continua and only excessive and rigid manifestations of them translate to problems, traits like narcissism and psychopathy may have relevance to understand human nature and the nature of personality in general (Rad et al., 2018). In the last twenty years, a remarkable amount of research has been done to catalogue and understand subclinical manifestations of the Dark Triad traits (e.g., Dinić & Jevremov, 2021; Furnham et al., 2013; see Figure 1). The Dark Triad traits are narcissism, Machiavellianism, and psychopathy (Paulhus & Williams, 2002), all of which are moderately-to-highly intercorrelated (Muris et al., 2017) with shared characteristics of callousness and manipulation (Jones & Figueredo, 2013) highly linked to antagonism trait (Dinić et al., 2021). Narcissism is associated with a sense of grandiosity, entitlement, egotism, self-orientation, and a lack of empathy (Turner & Webster, 2018), Machiavellianism is associated with manipulative behaviors, cynicism, the exploitation of others, and a ruthless lack of morality (Jones, 2016), and

 Corresponding author: Peter K. Jonason, University of Padua, Department of General Psychology, Via Venezia, 12, 35131 Padova PD, Italy, or email: peterkarl.jonason@unipd.it

psychopathy is associated with recklessness, cruel and callous attitudes, antisocial behavior, and a lack of remorse (Cale & Lilienfeld, 2002). Candidate traits have been offered to add to the group like sadism (Chabrol et al., 2009), forming Dark Tetrad, and spitefulness (Marcus et al., 2014), both of which also try to capture sub-clinical manifestations of socially undesirable personality traits.

This surge of research has been enabled by three factors. First, research on these traits started just about the same time as researchers started adopting internet methods for data collection. Most of this research draws on samples of social media users and community members through online services like Mechanical Turk. This means researchers were enabled, like never before, to collect copious amounts of quality data quickly and, therefore, flood journals with studies about whatever they were interested in like ghosting in romantic relationships, happiness, and the use of cosmetics. Second, prior attempts to study these traits relied on isolated and sometimes lengthy scales. In a situation in which quick screening of dark traits is enough for the research goals, brief measures were created (e.g., Jonason & Webster, 2010; Jones & Paulhus, 2014) to expedite and streamline the measurement of all three traits. These scales proved useful when studying English speaking and non-English speaking participants which further enabled research on these traits in mostly non-Western countries like Serbia, Japan, and Brazil. Third, research in this area was especially helped by the integration of these traits within a life history theory paradigm (e.g., Jonason et al., 2010) which is taken from evolutionary biology/ecology which suggests organisms can be described by patterns of trade-offs between survival (e.g., maturation, parenting effort) and reproductive (e.g., mating effort, interest in casual sex).

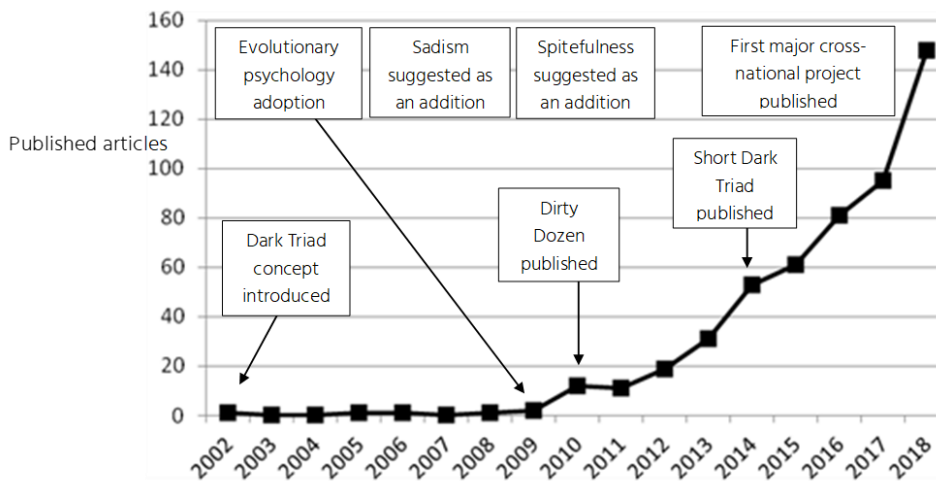


Figure 1. Bibliometric count of citation rates and major milestones in the study of the Dark Triad traits.

Note. Figure—minus milestones—is from Dinić and Jevremov (2021).

Unfortunately, the research tends to come predominantly from three researchers from Canada, the United States, and Australia because the most productive and cited researchers in this field (e.g., Paulhus, Jonason, and Jones, respectively, see Dinić & Jevremov, 2021) work or worked in those places. While there are notable exceptions of dark traits research outside these countries, this research tends to come from a limited number of researchers from different countries with focus on how the Dark Triad/Tetrad traits manifest in specific national or cultural contexts. Recent attempts to redress this relied on data from a cross-national project (Jonason et al., 2020) where researchers captured data from 49 nations (see Figure 2) to understand how people differ in the Dark Triad traits from country to country and how sex differences in the traits might be sensitive to variance in country-level factors.

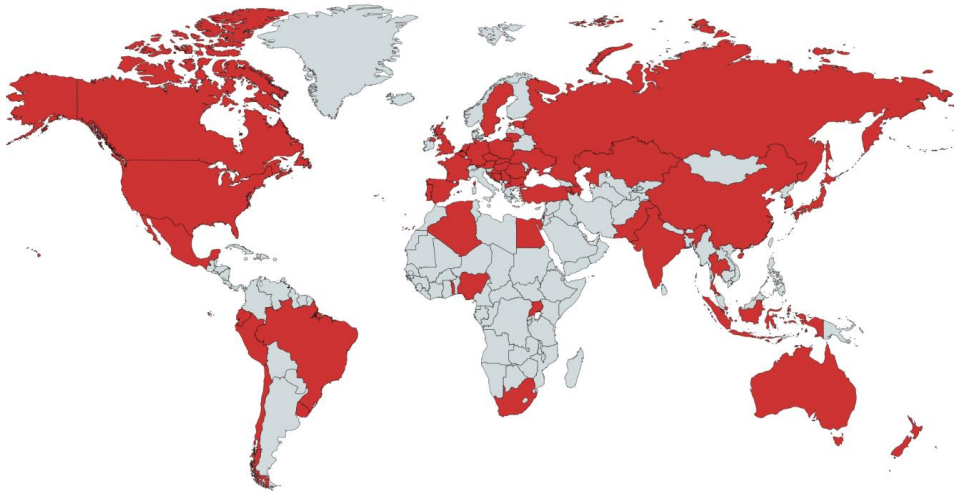


Figure 2. Geographic distribution of data collected in Jonason et al. (2020).

This is where this special issue steps in, with work from the second generation of Dark Triad/Tetrad researchers who are from under-represented countries. Researchers from this special issue draw on data or come from Serbia, Brazil, Hungary, Australia, and Croatia and all of which touch on new topics that have relevance for three applied contexts (i.e., tourism/business, aesthetics, and mental health) and help researchers better understand the nature of how these traits manifest in subclinical ways and samples. In the first study conducted in Serbia, Jovanović, Mijatov, and Metod examined how the Dark Tetrad traits predicted a unique kind of tourism preferences characterized by trip to conflict-laden or dangerous places, building on work that suggests the traits are associated with “sensational interests” (James et al., 2014). When engaged in this kind of tourism, people may do so for various reasons like compassion and curiosity which are predicted by different traits. For instance, interest exhibitions about conflict and danger were associated with Machiavellianism and interest in conflict or battle sites was associated with more psychopathy. Similarly, in the second study by Tucaković and Marković conducted in Serbia, researchers examined how the Dark Tetrad traits predicted aesthetic preferences for paintings. That is personality traits may predict the kinds of art people enjoy (Jonason et al., 2015). Researchers

presented the participants with 15 different paintings reflecting five different motives (i.e., religious, abstract, oriental, violence, and landscape), and showed that narcissism was associated with liking violent paintings and psychopathy was associated with a dislike of religious painting, suggesting that one can infer some degree of narcissism if he/she sees a painting on someone's wall or Facebook page and infer the lack of psychopathy if someone has religious paintings as part of their external displays to the world. In the third paper, we move from applied aspects of the traits in the tourism and aesthetics context to the mental health context. Researchers from Brazil, Bonfá-Araujo, Lima-Costa, Couto, Baptista, and Hauck-Filho, focused on the utility of the so-called Dark Core of personality (i.e., the shared variance among the traits; Moshagen et al., 2020) in predicting individual differences in locus of control and religiousness to understand how people cope with emotional distress. The Dark Core was better linked to external as opposed internal locus of control which then leads to spiritual coping strategies. In the fourth study, researchers from Serbia, Grabovac and Šakotić-Kurbalija, collected data from Hungarian adults living in Serbia and focused on the foundations of positive psychology (i.e., well-being, savoring, creative and executing efficiency, self-regulation, and resilience). As expected, narcissism (self-reported) showed positive correlations with all five and psychopathy has opposite associations with all but resilience. Machiavellianism provided a mixed profile with positive correlations for savoring and creative executive efficiency but associated with less self-regulation and resilience and no relationship with well-being. These mixed profiles further support the idea that each trait is distinct and warrants personalized attention (but see Miller et al., 2022). In the next paper, researchers from Serbia, Oljača, Sadiković, Dinić, and Baić, expanded previous research on relationships between Dark Tetrad traits and clinical outcomes (Dinić et al., 2020) and collected data from both men convicted of murder and rape and a community sample of men. The researchers revealed that violent offenders were more psychopathic and had more problems in social and general functioning, but had lower narcissism compared to the community members. Furthermore, while both psychopathy

and physical aspect of sadism showed the main effects on various clinical outcomes, only the physical sadism was linked to risk-taking in community members, but not in violent offenders. Next, if we take our lead from the APA commission on masculinity and building on prior research on sex roles (Jonason & Davis, 2019; Waddell et al., 2020), the sixth study conducted on English-speaking participants by researchers from Australia, Van Doorn and Dye, showed that aspects of each of the Dark Triad traits manifest a different “style” of traditional masculinity, but it was only the leadership, exhibitionism, and vanity aspects of narcissism that revealed any negative associations with forms of masculinity (i.e., self-reliance, emotional control). The most robust correlations were for the winning and risk-taking aspects of traditional masculinity which may align with arguments from evolutionary psychologists about sex roles (Janicke et al., 2016) and the traits (Jonason et al., 2010). And last, in a rare study relying on electrodermal activity and game theory, researcher from Croatia, Krupić, frustrated participants and showed that those characterized by psychopathy experience stronger emotional reactions when faced the threat of loss, which is partially a function of an approach motivation, not a lack of avoidance motivation.

For researchers in the Dark Triad/Tetrad traits, expanding the breadth of topical coverage and the range of psychological, national, cultural, and philosophical frames is essential to improve the area. Researchers from different frames will bring unique insights to spark debate, resolve controversies, and draw attention to new matters of concern. The work presented here by this international array of second-generation researchers speaks both to old and new issues in the field. Old issues like what is the Dark Core, and if it is a viable concern (see Dinić & Jevremov, 2021), and new issues like the relationships between the traits and touristic and aesthetic preferences. We encourage researchers from around the world to draw their attention to issues surrounding dark traits to make research on these traits rival the Big Five/HEXACO traits in magnitude, breadth, and quality.

References

- Cale, E., & Lilienfeld, S.O. (2002). Sex differences in psychopathy and antisocial personality disorder: An integrative review. *Clinical Psychology Review*, 22, 1179–1207. [http://doi.org/10.1016/s0272-7358\(01\)00125-8](http://doi.org/10.1016/s0272-7358(01)00125-8)
- Chabrol, H., Van Leeuwen, N., Rodgers, R., & Séjourné, N. (2009). Contributions of psychopathic, narcissistic, Machiavellian, and sadistic personality traits to juvenile delinquency. *Personality and Individual Differences*, 47, 734–739. <http://doi.org/10.1016/j.paid.2009.06.020>
- Dinić, B.M., & Jevremov, T. (2021). Trends in research related to the Dark Triad: A bibliometric analysis. *Current Psychology*, 40, 3206–3215. <https://doi.org/10.1007/s12144-019-00250-9>
- Dinić, B.M., Sadiković, S., & Wertag, A. (2020). Factor mixture analysis of the Dark Triad and Dark Tetrad. Could sadism make a difference? *Journal of Individual Differences*, 42(2), 74–83. <https://doi.org/10.1027/1614-0001/a000331>
- Dinić, B.M., Wertag, A., Sokolovska, V., & Tomašević, A. (2021). The good, the bad, and the ugly: Revisiting the Dark Core. *Current Psychology*. Online First. <https://doi.org/10.1007/s12144-021-01829-x>
- Furnham, A., Richards, S.C., & Paulhus, D.L. (2013). The Dark Triad of personality: A 10 year review. *Social and Personality Psychology Compass*, 7, 199–216. <https://doi.org/10.1111/spc3.12018>
- James, S., Kavanagh, P., Jonason, P.K., Chonody, J.M., & Scrutton, H.E. (2014). The Dark Triad, schadenfreude, and sensational interests: Dark personalities, dark emotions, and dark behaviours. *Personality and Individual Differences*, 68, 211–216. <http://dx.doi.org/10.1016/j.paid.2014.04.020>
- Janicke, T., Häderer, I.K., Lajeunesse, M.J., & Anthes, N. (2016). Darwinian sex roles confirmed across the animal kingdom. *Science Advances*, 2, e1500983. <http://dx.doi.org/10.1126/sciadv.1500983>
- Jonason, P.K., & Davis, M.D. (2018). A gender role view of the Dark Triad traits. *Personality and Individual Differences*, 125, 102–105. <https://doi.org/10.1016/j.paid.2018.01.004>

-
- Jonason, P.K., & Webster, G.D. (2010). The dirty dozen: A concise measure of the dark triad. *Psychological Assessment*, *22*, 420–432. <https://doi.org/10.1037/a0019265>
- Jonason, P.K., Koenig, B., & Tost, J. (2010). Living a *fast* life: The Dark Triad and Life History Theory. *Human Nature*, *21*, 428–442. <http://dx.doi.org/10.1007/s12110-010-9102-4>
- Jonason, P.K., Richardson, E.N., & Potter, L. (2015). Self-reported creative ability and the Dark Triad traits: An exploratory study. *Psychology of Aesthetics, Creativity, and the Arts*, *9*, 488–494. <https://doi.org/10.1037/aca0000037>
- Jonason, P.K., Žemojtel-Piotrowska, M., & Piotrowski, J. et al. (2020). Country-level correlates of the Dark Triad traits in 49 countries. *Journal of Personality*, *88*, 1252–1267. <https://doi.org/10.1111/jopy.12569>
- Jones, D.N. (2016). The nature of Machiavellianism. In V. Zeigler-Hill & D.K. Marcus (Eds.), *The dark side of personality: Science and practice in social, personality, and clinical psychology* (pp. 87–108). American Psychological Association. <https://doi.org/10.1037/14854-005>
- Jones, D.N., & Figueredo, A.J. (2013). The core of darkness: Uncovering the heart of the Dark Triad. *European Journal of Personality*, *27*, 521–531. <https://doi.org/10.1002/per.1893>
- Jones, D.N., & Paulhus, D.L. (2014). Introducing the Short Dark Triad (SD3): A brief measure of dark personality traits. *Assessment*, *21*, 28–41. <https://doi.org/10.1177/1073191113514105>
- Marcus, D.K., Zeigler-Hill, V., Merce, S.H., Norris, A.L. (2014). The psychology of spite and the measurement of spitefulness. *Psychological Assessment*, *26*, 563–574. <https://doi.org/10.1037/a0036039>
- Miller, J.D., Sharpe, B.M., & Lynam, D.R. (2022, in press). Controversies surrounding the Dark Triad—A call to action. In P.K. Jonason (Ed.). *Shining light on the dark side of personality: Measurement properties and theoretical advances*. Hogrefe Publishing.
- Moshagen, M., Zettler, I., & Hilbig, B.E. (2020). Measuring the dark core of personality. *Psychological Assessment*, *32*, 182–196. <https://doi.org/10.1037/pas0000778>

-
- 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*, 183–204. <https://doi.org/10.1177/1745691616666070>
- Paulhus, D.L., & Williams, K.M. (2002). The dark triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of Research in Personality*, *36*, 556–563. [https://doi.org/10.1016/S0092-6566\(02\)00505-6](https://doi.org/10.1016/S0092-6566(02)00505-6)
- Rad, M.S., Martingano, A.J., & Ginges, J. (2018). Toward a psychology of Homo sapiens: Making psychological science more representative of the human population. *Proceedings of the National Academy of Sciences*, *115*, 11401–11405. <https://doi.org/10.1073/pnas.1721165115>
- Turner, I.N., & Webster G.D. (2018). Narcissism and dark personality traits. In A. Hermann, A. Brunell, & J. Foster (Eds). *Handbook of trait narcissism* (pp. 195-203). Springer.
- Waddell, C., Van Doorn, G., March, E., & Grieve, R. (2020). Dominance or deceit: The role of the Dark Triad and hegemonic masculinity in emotional manipulation. *Personality and Individual Differences*, *166*, 110160. <https://doi.org/10.1016/j.paid.2020.110160>



Research Article

Does a visitor of dark tourism sites have a dark personality? A study of potential visitors of dark tourism sites in Serbia

Tamara Jovanović ¹ , Maja Mijatov¹  and Metod Šuligoj² 

¹ *Department of Geography, Tourism and Hotel Management, Faculty of Sciences, University of Novi Sad, Serbia*

² *Department for management in tourism, Faculty of tourism studies – Turistica, University of Primorska, Slovenia*

ABSTRACT

Dark tourism can be defined as form of tourism that is related to death and suffering and is often a subject of debate whether it is a deviant form of tourism. Previous research on dark tourism in vulnerable post-conflict areas, such as South-Eastern Europe, has overlooked the nature of visitor personalities. Accordingly, the aim of the present study was to determine which basic and Dark Tetrad traits are related to preference of dark tourism sites. The sample consisted of 227 participants from Serbia (73.6% women). Using a multivariate general linear model, it was found that Machiavellianism was positively related to the preference for dark exhibitions and psychopathy to preference for visiting conflict/battle sites, while sadism was negatively related to preference for fun factories as an additional type of dark tourism sites. Narcissism showed no relation with the preference of dark tourism sites. Hence, only agreeableness and honesty-humility showed a significant and positive association with the preference of dark tourism sites (dark exhibitions and conflict/battle sites). These results provide a novel insight into dark sites visitors' personalities.

Keywords: dark tourism, preference of dark tourism sites, Dark Tetrad, HEXACO, Big Five, Serbia

UDC: 159.923.072:338.48

DOI: 10.19090/pp.2021.4. 407-442

Received: 03.09.2021.

Revised: 18.10.2021.

Accepted: 07.11.2021.



Copyright © 2021 The Author(s).

This is an open access article distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

✉ Corresponding author email: tamara.jovanovic@dgt.uns.ac.rs

Introduction

Relationship between death, on the one hand, and tourism, on the other, is identified as a specific consumption form called dark tourism and this phenomenon has been researched for more than 20 years, starting with Rojek's (1993) highlights of important term 'black spot' (pp. 137). Furthermore, in their initial research, Foley and Lennon (1996), as well as Seaton (1996) described the concept of dark tourism as travel encounters with death. Besides defining it as a 'dark' one, other authors also researched this type of tourism, labelling it as thanatourism (Christou & Hadjielia Drotarova, 2021; Jagiellonski, 2015; Lee et al., 2011; Lloyd-Parkes et al., 2021), fright tourism (Bristow, 2020; Bristow & Jenkins, 2020; Bristow & Newman, 2004), trauma tourism (Clark, 2006, 2009), grief tourism (Lewis, 2008; Sharpley & Stone, 2009), morbid tourism (Blom, 2000; da Silva, 2018) and death tourism (Biran et al., 2014). However, authors, such as Dunkley et al. (2007, 2011) and Sun and Lv (2021), summarized the main terms used in the available literature and they indicated that the concept of 'dark tourism' is represented in a majority of such research, considering the fact that it clearly implies the sense of 'darkness' in this unique selective type of tourism, throughout visiting the sites related with death, various types of disaster and human sufferings (Iliev, 2020; Light, 2017).

Dark tourism sites might be classified by different wide themes, such as warfare, as well as the other historical circumstances, disasters (including the natural ones), bizarre traditions, paranormal, poverty and other tragic events that are generally associated with death (Reid, 2016; Tan & Lim, 2018). These perspectives and frameworks make dark tourism sites easy to identify (Bhati et al., 2020). In respect to that, it could be said that tourists are visiting destinations with the main focus on battlefields, death camps, war cemeteries, ossuaries, prisons, points of massacres, coups and execution, graveyards, memorials, places of explosions, earthquakes, places linked to the various mythologies and legends and other sites of mass injuries and terrorism (Popovic & Korstanje, 2020), which can be located in urban or rural areas (Šuligoj, 2019). The intensity of darkness of such sites depends on the

perception of victimization of death, while participants in dark tourism consider their visits to such sites as an act to show the respect to victims, but even to recall the pain of the 'heroes' of a particular hard moment, in order to make them 'immortal' in local or wider society (Osbaldiston & Petray, 2011).

The South-Eastern Europe (former state of Yugoslavia) has been at the centre of many regional and international conflicts, and the 20th century was marked by a series of bloody conflicts (Kennell et al., 2018). Consequently, many (military) cemeteries, charnel houses and other 'sacred' sites stand as evidence to the numerousness of victims and their national heterogeneity, as well as to contemporary attitudes towards the victims of war, which has changed over time. Many sites have become attractive to (international) visitors (dark tourism), although this issue has been politicized and consequently, sharply divides societies in post-Yugoslav countries (Kennell et al., 2018; Naef, 2019; Šuligoj & Kennell, 2021). Research into the dark tourism in post-conflict Bosnia-Herzegovina (Causevic & Lynch, 2013; Wise & Mulec, 2014) and Croatia (Baillie, 2013; Goulding & Domic, 2010; Šuligoj, 2016, 2017) dominate, while Serbian commemorative practices and related dark tourism tend to be overlooked by the domestic and international scholars. Young visitors who were not involved in the conflict are a particularly appropriate target group for the preservation of the memory of the victims and for the development of dark tourism (Šuligoj & Jovanović, 2019).

Šuligoj & Kennell (2021) highlighted dark leisure practices of participants (e.g., ethno-nationalism, intolerance, physical violence) that may characterize attendance at dark commemorative events. While it is difficult to attribute these problematic behaviours to all visitors, it is nonetheless interesting to note the nature of these visitors' personalities. Exploring this in a sensitive post-conflict context such is area of the former Yugoslavia thus seems rather justified. Taking into account that there are no available studies that explore the typology of visitors of dark sites, only motives for visiting, the main purpose of the present study is to determine what personality traits are related to dark tourism sites preference. Specifically, the aim is to explore the association of dark traits (Dark Tetrad) and basic personality traits (Big

Five plus HEXACO's honesty-humility) with the preference of eight different types of dark tourism sites.

Dark tourism and dark traits

Psychological mechanisms of facing fears are often considered as acceptable contemporary practice for dealing with stressful and frightening situations (Biran & Buda, 2018; Stone, 2018). In respect to that, dark tourism, as a specific type of consumption, is often perceived as a psychological buffer against the common and widely spread fear of death, which is often deeply-rooted among the people (Biran & Buda, 2018; Iliev, 2020). Contrary to the main findings of earlier conceptual studies (Foley & Lennon, 1996; Seaton, 1996), which indicated death as a primary motive for visiting the dark sites, Iliev (2020) pointed out that numerous contemporary 'dark' tourists are motivated by their interest in cultural heritage, learning and education opportunities for understanding what actually happened within so-called 'dark' destinations. Authors, such as Ashworth and Isaac (2015), Buda (2015), Nawijn and Fricke (2015) and Tucker (2016) even perceived the concept of dark tourism as an emotional experience that might be characterized as negative but also positive, to some extent (considering an increase of emotions, such as hope, love, pride, fascination, interest, gratitude), or mixed, with accompanying consequences for the life of dark tourism participants. In respect to that, the concept of dark tourism is often considered as an entire process of searching for a personal deeper experience (Iliev, 2020).

Besides the "terror management theory", "mortality mediation model", "dystopian dark tourism", there are limited efforts oriented towards understanding the tourists that are prone to visit the dark sites (Iliev, 2020). In terms of "the terror management theory", Pyszczynski et al. (2021) pointed out that it is focused on the role of the awareness of death in various aspects of peoples' life. On the other hand, Brown (2016), Raine (2013) and Leevit (2012) indicated that visiting the dark sites is considered as a manner of lessening anxiety about death within the "mortality mediation model", while Stone (2012) even pointed out that it represents a kind of a "filter" between life and

death. Podoshen et al. (2015) expanded the “mortality mediation model”, by adding the element of “dark aesthetics”, which allow tourists to be involved in a simulation as a manner of alleviating the fear of death and dystopia, labelling it as a “dystopian dark tourism”.

Alongside dark sites, a dark side of human behaviour has always frightened and fascinated people (Brud et al., 2020; Schreiber & Marcus, 2020). One of the models of researching the dark side of personality is labelled as the Dark Tetrad and represents a unique combination of four socially aversive traits: narcissism, Machiavellianism, psychopathy and sadism (e.g., Paulhus, 2014). Narcissism and psychopathy emerged from labels of personality disorders that were later adapted for describing the traits within the subclinical personality sphere (Paulhus & Williams, 2002; Paulhus & Jones, 2015). On the other hand, Machiavellianism, considered as a trait label, is based on psycho-linguistic analyses of Italian philosopher Nicolò Machiavelli and his highlights regarding the cold and manipulative styles of political leadership (Christie & Geis, 1970; Paulhus & Jones, 2015). Finally, sadism can be described as a tendency to humiliate others, general cruelty and intentional desire to inflict sexual, physical and psychological suffering on others with the goal to enjoy or assert dominance (Buckels et al., 2013; O’Meara et al., 2011).

Dark Tetrad traits contain several common characteristics, mostly related to the lack of empathy, instrumental attitude and behaviour towards other people, including the egoism in its essence, as well as pronounced tendency towards interpersonal manipulation and exploitation (e.g., Paulhus, 2014). However, each trait of Dark Tetrad could also be distinguished by several basic differences. More precisely, psychopathy is characterised by impulsiveness (Jones & Paulhus, 2011; Paulhus & Jones, 2015; Paulhus & Williams, 2002), Machiavellianism is related to the skills of strategic thinking and planning (Jones & Paulhus, 2009), while narcissism is expressing the personal tendency and strivings towards strengthening the various self-issues (Back, 2018). Narcissism is somewhat different from psychopathy and Machiavellianism (Rogoza & Ciecuch, 2020), considering the fact that it contains assertive self-enhancement through self-promotion, besides

antagonistic facets (such as a self-protection on the basis of a self-defence, for example, see Back, 2018). While those high on Machiavellianism and narcissism would generally avoid aggression, those high on sadism and psychopathy tend to be more impulsive and are prone to aggression. However, sadistic aggression differs from psychopathic since sadists are constantly looking for cruelty and would act unprovoked even if their aggression would be costly both in time and effort (Buckels et al., 2013). Psychopathic aggression is almost always low cost and instrumental (Woodworth & Porter, 2002). Sadistic impulse can be adaptive or maladaptive meaning that it can be some form of humiliation of a consenting partner but it can also be an act of a psychotic murderer (O'Meara et al., 2011). Even though most of the studies focus on the sexual aspect of sadistic behaviour, sadism does not necessarily have to be manifested through sexual behaviour (Berger et al., 1999; Millon, 1996). For example, it can be seen in occupational setting or in sports preference (O'Meara et al., 2011).

Big Five and/or HEXACO models can be considered as appropriate for the explanation of the core of “evil” within the study of Dark Tetrad (Book et al., 2016). Low emotionality, agreeableness, conscientiousness and honesty-humility are consistently shown to predict higher Dark Tetrad scores (Book et al., 2016; Dinić et al, 2021; Lee et al., 2013; Meere & Egan, 2017). Honesty-humility is often the most significant predictor and there are numerous studies that are focused on relations between dark traits, on the one hand, and honesty-humility, on the other (Djeriouat & Trémolière, 2014; Hodson et al., 2018; Howard & Van Zandt, 2020; Meere & Egan, 2017). Meere and Egan (2017) state that those with higher Dark Tetrad scores are usually manipulative, like to show their wealth and power and see themselves above others. Interestingly, Hodson et al. (2018) go as far as to conclude that there is a complete overlap between Dark triad and low honesty-humility.

A literature review and detailed insight into the relevant findings related to the concept of dark tourism consumption pointed out that the main subjects of the previously conducted studies were mostly focused on a dark tourism motivation and experiences (Çakar, 2020; Mangwane et al., 2019).

However, the recent studies are highlighting the fact that aforementioned concepts are advancing and evolving, which is putting the additional tasks in front of the authors, by orienting their studies towards finding the new directions of researching the dark tourism (Iliev, 2020), as well as in a variety of socio-cultural contexts (Stone, 2011). Bhati et al. (2020) also stated the importance of researching the motivational factors that are not only important for understanding the entire decision making process for travelling, but also due to the fact that such factors might affect and shape the tourists' behaviour during and after their travelling. One of the most commonly used motivation theories in practice is indicating an importance of push and pull factors. Push motivation arises from intrinsic psychological motivators and individual-level factors and desire for travelling, while pull motivations are extrinsic and related to the main destination characteristics (Bhati & Pearce, 2017; Bhati et al., 2020; Bozic et al., 2017). Although history, cultural heritage and identity are identified as the strongest pull factors, location and artefacts/exhibits also represent significant factors for making a decision to visit dark tourism sites (Bhati et al., 2020). More precisely, concrete dark tourism site might have several attractive attributes and significance in historical and geographical senses. It means that such historical sites provide unique connection with the past and specific experience that enables a sense of travelling "back in time" (Azevedo, 2018; Bhati et al., 2020; Gaya, 2013). On the other hand, push factors were mainly researched on the basis of tourists' intrinsic motivation, such as expressed need for escaping, resting, relaxing, but also for gaining a kind of self-development and chasing for a specific adventure (Bhati et al., 2020). However, there is a question in which manner other standardized theories related to personality, such as the Dark Tetrad, shape the tourists' selection of visiting the dark tourism sites.

The dark personality is widely researched in different aspects of human functioning, such as a health behaviour (Dębska et al., 2021), work behaviour (Forsyth et al., 2012), entrepreneurial orientation (Kraus et al., 2018), behaviour within universities (Perry, 2015), social networks (Christou et al., 2020), as well as in the field of a tolerance towards unethical behaviour

(Peixoto et al., 2021), etc. In terms of the sector of tourism, narcissism was mainly researched through its effects on social representations of tourist selfies, as a need and one of the main drivers of individual self-expression (Pearce & Moscardo, 2015; Taylor, 2017; 2020). There is one available research that connects digital narcissism of teenagers, expressed through self-portraits, with horror sites such as concentration camps (Hodalska, 2017). Research is qualitative and concludes that self-portraits are a way to promote a person and to connect them with the history of the site but they, in no means, relate the story of the horrors that occurred on that site (Hodalska, 2017). Khan et al. (2021) researched the negative effects of psychopathic leadership on employees' career satisfaction and turnover intentions in tourism enterprises, while Machiavellianism was researched in respect to its effects on sales executives of a resort timeshare company, showing that salespeople with expressed Machiavellian orientation are likely to be more successful in their business performances (Crofts et al., 2005). As for sadism, there are several studies that connect sadism to the dark tourism context (Korstanje & Ivanov, 2012; Korstanje, 2020; Kunwar & Karki, 2019). The question that these studies raise and that remains to be answered is whether dark tourism is a new form of repressed sadism i.e. sadist spectacle, an act of macabre taste of a modern tourist or is it an empathic experience of other's pain and suffering.

Finally, there are no available studies that directly examine the relationship of any personality traits and dark tourism preference. Many tourism studies have explored numerous typologies of tourists (Frew & Shaw, 1999; Hoxter & Lester, 1988; Plog, 1974) but none have examined a typology of a tourist in the context of dark tourism. Therefore, it is difficult to postulate any specific hypotheses given that there is no previous research directly associated with the goal of this study. However, we could make several general assumptions. Firstly, we expect that Dark Tetrad traits will be related to dark tourism preference (H1) since many dark tourism sites could be seen as the result of human dark behavior – low impulse control, vengefulness, aggression, selfishness and so on. Studies have shown that people are

attracted to destinations that are seen as a reflection of themselves (Ahn et al., 2013; Bjerke & Polegato, 2006; Božić, 2016) so we believe that this will also be the case in our study. Since there are numerous subcategories of dark tourism destinations, lighter (such as dark fun factories) as well as darker (such as concentration camps, see Stone, 2006), we assume that darker sites will yield more significant connections with the dark traits than lighter sites (H2). Our last assumption is that basic personality traits will also show effects on dark tourism site preference but not as much as dark traits (H3). Since low honesty-humility could be seen as the core of Dark Tetrad traits among basic personality traits, we believe that it will show highest and negative association with dark tourism site preference.

Method

Sample

The structure of the convenience sample can be seen in Table 1. The total sample consisted of 227 participants with the average age 25.30 ($SD = 8.96$, range 18-63). In the data gathering phase, 166 students filled out the questionnaire as part of course requirements while 61 participants came from the general population.

Table 1*Structure of the sample*

Variable	Category	Total
Gender	Male	58 (25.6%)
	Female	167 (73.6%)
	non-binary	2 (0.9%)
Place of living	Village	86 (37.9%)
	City	141 (62.1%)
Marital status	Single	106 (46.7%)
	in a relationship	72 (31.7%)
	common-law union	11 (4.8%)
	married	34 (15%)
	Divorced	4 (1.8%)
Monthly income	below 100€	60 (26.4%)
	100-300€	95 (41.9%)
	301-500€	23 (10.1%)
	501-700€	26 (11.5%)
	over 700€	23 (10.1%)
Experience with dark tourism sites	With	130 (57.3%)
	Without	97 (42.7%)

Instruments*Spectrum of eight dark tourism products*

To measure the preference of visiting dark tourism sites, a spectrum of eight dark tourism products developed by Stone (2006) was used (see Table 2). Stone (2006) has based his categorization on the number of victims, the level of suffering and the consequences of these tragic events. For each site an example from Serbia and surrounding countries, was provided and participants evaluated their preference of given sites on a 5-point Likert scale (1 - *I am not interested at all*, 5 - *I am completely interested*). Participants were also asked whether they have visited any of these sites (YES/NO) and what would be their reason to visit such sites. After that, participants chose one out of eight responses where seven were offered reasons for visiting dark tourism sites and the eighth response was that they are not interested in

visiting this type of destinations. The seven reasons to visit dark tourism sites are: 1) for better understanding of the conflicts/wars of the 20th century, 2) out of compassion for victims and survivors of conflicts/wars, 3) to pay tribute to all victims of conflicts/wars, 4) in memory of the victims from my family, 5) because of suggestions and experiences of friends and/or family, 6) to learn and experience something new and 7) out of sheer curiosity. The list of reasons was created based on the previous research on the topic of dark tourism (Çakar, 2020; Mangwane et al., 2019).

Mini IPIP-6

Mini IPIP-6 (Sibley, 2012, for Serbian adaptation see Međedović & Bulut, 2017) is a short version of IPIP with 24 items that measure six personality traits: extraversion, neuroticism, agreeableness, conscientiousness, and openness to experience from the Big Five model, and honesty-humility as the sixth factor from the HEXACO model. Each of the six traits is measured by four items that are rated on a 5-point Likert scale. Mini IPIP-6 has shown good alpha reliability ranging from .74 to .80 (Međedović & Bulut, 2017).

The Short Dark Triad (SD3)

Short Dark Triad (SD3: Jones & Paulhus, 2014, for Serbian adaptation see Dinić et al., 2018) is a brief measure of three dark personality traits: Machiavellianism, narcissism and psychopathy. It consists of 27 items, nine per each trait, measured on a 5-point Likert scale. In the study of Jones and Paulhus (2014) scales show acceptable alpha reliabilities ranging from .71 to .77 while for the Serbian sample reliabilities range from .70 to .80 (Dinić et al., 2018).

Short Sadistic Impulse Scale (SSIS)

Short Sadistic Impulse Scale (SSIS: O'Meara et al., 2011, for Serbian adaptation see Dinić et al., 2020) is a unidimensional measure of sadistic tendencies. It has 10 items with 5-point Likert scale responses. According to O'Meara et al. (2011), internal consistency is satisfactory, $\alpha = .86$. For the Serbian version, alpha reliability is .78 (Dinić et al., 2020).

Alpha reliabilities of the above mentioned measures in this study can be seen in Table 2.

Table 2

Psychometric characteristics of the measures in this study

Scale	No. of items	<i>M</i>	<i>SD</i>	<i>Sk</i>	<i>Ku</i>	Cronbach's Alpha
MiniIPIP6 Openness	4	3.87	.75	-.49	.25	.68
MiniIPIP6 Conscientiousness	4	3.64	.78	-.58	-.11	.71
MiniIPIP6 Extraversion	4	3.13	1.01	-.19	-.71	.84
MiniIPIP6 Agreeableness	4	4.03	.71	-.53	-.11	.72
MiniIPIP6 Neuroticism	4	2.99	.86	-.12	-.28	.75
MiniIPIP6 Honesty-Humility	4	3.49	.78	-.42	-.10	.73
SD3 Machiavellianism	9	2.86	.72	-.02	-.02	.81
SD3 Narcissism	9	2.65	.58	.15	1.03	.64
SD3 Psychopathy	9	1.93	.58	.96	1.84	.67
SSIS Sadism	10	1.34	.46	2.77	11.28	.76
fun factories*	1	3.29	1.32	-.43	-.94	
Exhibitions	1	3.67	1.16	-.65	-.32	
dungeons/prisons	1	3.70	1.34	-.83	-.49	
resting places	1	3.14	1.28	-.17	-1.05	
Shrines	1	3.28	1.12	-.23	-.49	
conflict/battle sites	1	3.66	1.20	-.73	-.36	
camps of genocide	1	3.57	1.37	-.63	-.85	
places where natural disaster occurred	1	2.95	1.35	-.05	-.121	

Note: grey colour depicts the level of darkness of a given dark tourism site estimated by Stone (2006).

Procedure

Data was collected online in the period from November 2019 till July 2021 using Google Forms platform. All the participants were informed that their answers will be anonymous and their participation is voluntary. As

mentioned in the Sample section, part of the participants were students that participated in the study as part of course requirements while the other part were participants from the general population recruited on Facebook using snowball sampling technique.

Results

All statistical analyses were conducted using IBM SPSS 23.0. Before conducting the analyses, we have excluded 17 participants that stated that they are not interested in visiting dark tourism sites. We have also excluded gender non-binary participants since there were only two of them, which is insufficient to make any adequate comparison. This resulted in the final sample of 208 participants.

First, we've examined the correlations between measured personality traits, dark and basic traits (Table 3). It is evident that honesty-humility is the only trait that negatively and significantly correlates with all Dark Tetrad traits. All but one correlation of dark and basic traits are negative. The only positive correlation is between extraversion and narcissism.

Table 3*Intercorrelations between dark and basic traits*

	1	2	3	4	5	6	7	8	9
1. sadism	1								
2. Machiavellianism	.17*	1							
3. narcissism	.17*	.42**	1						
4. psychopathy	.47**	.46**	.35**	1					
5. conscientiousness	-.31**	-.18*	-.09	-.35**	1				
6. extraversion	-.01	.01	.44**	.09	.12	1			
7. openness	-.22**	-.07	.11	-.04	.09	.26**	1		
8. agreeableness	-.28**	-.16*	-.06	-.35**	.10	.21**	.14*	1	
9. neuroticism	-.07	-.09	.07	-.11	.19**	.21**	.12	-.11	1
10. honesty-humility	-.22**	-.43**	-.48**	-.22**	.19*	-.12	.14*	.09	.09

Notes: *Correlation is significant at the .05 level (2-tailed). ** Correlation is significant at the .01 level (2-tailed).

To determine the effect of the selected personality traits on dark tourism site preference, multivariate general linear model (GLM) was used. We've tested all mentioned sociodemographic variables as well as sample variable (student vs. general population) but only gender and age showed significant influence on dark tourism site preference and were included in the final model. Thus, final model encompassed gender as a between factor while age and all personality traits were covariates of all eight dark tourism site preferences. Gender showed marginally significant effect on the preference of conflict/battle sites. Male participants preferred these sites more than female ($t = 3.09, p < .01$). Preference of four out of eight types of dark tourism sites was related to participant's age. Specifically, younger participants preferred more dark fun factories, dungeons, camps of genocide and places where natural disaster occurred. Interestingly, this trend was present for all dark sites except resting places where older participant had higher preference (but this was not statistically significant).

As for the dark traits, results showed that all Dark Tetrad traits, except narcissism, showed significant effects on dark destination preferences. Thus,

sadism is negatively related to preference of dark fun factories, Machiavellianism positively to dark exhibitions preference, while psychopathy is positively related to conflict/battle sites preference. Regarding basic traits, only agreeableness and honesty-humility showed significant effects on dark tourism site preference. Agreeableness is positively related to dark exhibitions, camps of genocide and conflict/battle sites preference while honesty-humility is positively related to dark exhibitions preference.

Table 4

Multivariate GLM: Significant effects of gender, age, basic and dark traits on dark tourism site preference (df=1)

Effects	Dark tourism site preference	β	R^2	F	p
Gender	conflict/battle sites	.14	.13	3.71	.06
Age	dark fun factories	-.14	.13	4.09	.04
	dungeons/prisons	-.15	.08	4.04	.05
	camps of genocide	-.15	.08	3.77	.05
	places where natural disaster occurred	-.23	.10	9.36	.00
Machiavellianism	exhibitions	.29	.16	11.33	.00
psychopathy	conflict/battle sites	.19	.14	4.12	.04
Sadism	dark fun factories	-.21	.13	6.75	.01
agreeableness	exhibitions	.27	.16	12.68	.00
	conflict/battle sites	.19	.14	5.97	.02
	camps of genocide	.18	.08	3.89	.05
honesty-humility	exhibitions	.21	.16	6.36	.01

We've also explored the reasons for visiting dark tourism sites. Nobody answered "because of suggestions and experiences of friends and/or family". Remaining six reasons can be divided into two categories: intellectual (for better understanding of the conflicts/wars of the 20th century, to learn and experience something new and out of sheer curiosity) and emotional (out of compassion for victims and survivors of conflicts/wars, to pay tribute to all

victims of conflicts/wars and in memory of the victims from my family). The most frequent reason was “to learn and experience something new” (39%) while “in memory of the victims from my family” was the least represented reason within this sample (1.9%). To better understand the relationship between independent and dependent variables (Table 4), we’ve explored the order of reasons by each predictor (Table 5). According to the findings for sociodemographic variables, men most frequently chose curiosity (30.4%) and to learn and experience something new (30.4%) while women also chose to learn and experience something new (42.1%) but also out of compassion for victims and survivors of conflicts/wars (19.1%). It would seem that women are more empathic while men tend to approach the topic intellectually. In terms of age, older participants strive towards remembrance while younger have stated both emotional and educational reasons (Table 5). On the other hand, for dark personality traits Machiavellianism and psychopathy, reasons are almost the same, predominantly intellectual. For higher sadism, compassion is a number one reason, which might be more in terms of identification with the victims, rather than empathy. Persons who have high sadism gravitate towards both categories equally stating intellectual and emotional reasons but with a more personal connotation (see Table 5). Finally, agreeableness and honesty-humility were more related to caring and sympathetic reasons to visit dark tourism sites.

Table 5

Rank of average responses and standard deviation of GLM predictors for reasons to visit dark tourism sites

	Reasons to visit	<i>M</i>	<i>SD</i>
age	pay tribute	33.89	6.15
	in memory of the victims from my family	29.00	16.75
	curiosity	25.64	8.91
	understanding the conflicts	25.00	9.02
	compassion	24.84	9.01
	learn and experience something new	22.95	7.08

sadism	compassion	1.44	0.71
	curiosity	1.34	0.40
	in memory of the victims from my family	1.33	0.17
	understanding the conflicts	1.30	0.33
	pay tribute	1.27	0.23
	learn and experience something new	1.25	0.35
Machiavellianism	curiosity	3.01	0.78
	learn and experience something new	2.95	0.68
	understanding the conflicts	2.89	0.68
	compassion	2.67	0.74
	in memory of the victims from my family	2.64	0.06
	pay tribute	2.22	0.72
psychopathy	curiosity	2.04	0.63
	understanding the conflicts	2.02	0.44
	learn and experience something new	1.90	0.59
	compassion	1.90	0.62
	in memory of the victims from my family	1.64	0.37
	pay tribute	1.61	.53
agreeableness	pay tribute	4.33	.63
	in memory of the victims from my family	4.19	.63
	learn and experience something new	4.12	.60
	compassion	4.12	.72
	understanding the conflicts	3.99	.62
	curiosity	3.74	.94
honesty-humility	in memory of the victims from my family	4.06	.32
	pay tribute	4.06	.86
	curiosity	3.60	.75
	understanding the conflicts	3.49	.67
	learn and experience something new	3.39	.78
	compassion	3.39	.90

Discussion and Conclusion

Based on the review of the available studies, this is the first research of the relationship between basic and dark personality traits and dark tourism site preference. Even though there were no previous findings that were directly related with this issue, we were able to formulate three general assumptions. First, we expected that all Dark Tetrad traits will be related to dark tourism site preference (H1). As mentioned earlier, these sites have always frightened and fascinated people (Brud et al., 2020; Schreiber & Marcus, 2020) and can even be associated with deviant behaviour (Šuligoj & Kennell, 2021). This is generally consistent with previous findings about characteristics of dark traits, such as: callousness, interpersonal manipulation and exploitation, impulsivity and reinforcement of various self-issues (e.g., Back, 2018; Jones & Paulhus, 2011; Paulhus & Jones, 2015; Paulhus & Williams, 2002). Consequently, H1 assumption was mostly confirmed considering the results that Machiavellianism, psychopathy and sadism are related with dark tourism site preference while there is no significant association with narcissism. The results show that Machiavellianism is positively related to preference of dark exhibitions, psychopathy to preference of visiting conflict/battle sites and sadism negatively to dark fun factories preference. Psychopathy and Machiavellianism are quite similar constructs however there are several distinctions such as higher level of impulsiveness among those high on psychopathy while those high on Machiavellianism are more concerned for their reputation and are therefore prone to plan ahead and build relationships (Jones & Paulhus, 2014). Our results indicate that both of these groups can identify themselves with dark tourism sites, however, those high on Machiavellianism might be more interested in understanding why the tragic event occurred while those high on psychopathy could be striving to enact their dark fantasies/imaginations. Dark exhibitions (which can be lighter in their essence than other researched dark sites) are structured and planned and there is a clear storyline which those high on Machiavellianism find attractive. On the other hand, those high on psychopathy are looking for a darker, more authentic place where a tragic event occurred, such as

conflict/battle site, in order to come into contact with residual aggression that this place could provide. Since aggression is often mentioned as one of the characteristics of psychopathy (Jones & Paulhus, 2010), spending time on such sites could help those with higher psychopathy imagine themselves as active participants.

On the other side, fun factories (the lightest of the dark sites) are seen as family friendly sights, with well defined activities and itineraries and truthful in their inauthentic content. There is no real suffering or macabre represented (Stone, 2006), which might explain the negative effect of sadism. Those high on sadism might prefer a more aggressive and cruel setting, with live interaction such as reenactments of battles or gladiator fights. Finally, Serbian dark tourism sites that were selected for this study are passive/commemorative, without some exciting, interactive and/or controversial content, representing past events that have ended years ago which could also explain why sadism was not related to the preference of any other dark tourism sites.

Narcissism yielded no connection with the preference of dark tourism sites. These are places where everything associates to the transience of life and remembrance of the deceased which might not be appealing to people with high narcissism who are generally self-absorbed (Back, 2018). Visiting these sites in Serbia does not help them in self-promotion and would not be socially acceptable to, for example, take selfies there. This is unlike the most globally recognizable places, for example, some Holocaust sites, Hiroshima Peace Memorial, the 9/11 Memorial, that might show different results.

As for the second assumption that darker sites will yield more significant connections with the dark traits than lighter sites, the results showed that this is not the case. More precisely, dark traits are related to dark fun factories, dark exhibitions and conflict/battle sites, where first two can be considered lighter and third is considered darker.

The last assumption that basic personality traits will be to some extent related with dark tourism site preference but not as much as dark traits was mostly confirmed. Only two out of six personality traits (agreeableness

and honesty-humility) showed significant connection with dark tourism site preference, i.e. exhibitions, conflict/battle sites and camps of genocide. Majority of dark traits (three out of four) showed significant relation with the preference of three types of dark tourism sites (dark fun factories, exhibitions and conflict/battle sites). Agreeableness is characterized by tolerance, empathy, lenient temperament and gentle nature (Graziano & Tobin, 2009) and this trait is positively related to the preference of dark exhibitions, conflict/battle sites and camps of genocide. It could be assumed that this preference among agreeableness is probably emotional in its essence, to empathize with the victims or heroes, to remember them and to honor their legacy. As for honesty-humility, results showed that it was positively related to dark exhibitions preference. This is contrary to what we have initially assumed. Low honesty-humility has often been equated with dark traits (e.g., Hodson et al., 2018) so it was expected that honesty-humility would have a negative relationship with dark tourism site preferences. There is indeed a significant negative correlation between honesty-humility and Dark Tetrad traits (Table 3) but it is weak to moderate, which means that the opposite pole of this trait is not analogous to dark traits, i.e. it has a distinct variance. What is interesting is that honesty-humility has no correlation with agreeableness which would mean that motives for their preference of dark exhibitions are different. It could mean that dark exhibitions provide a certain honest insight into what really happened and what was the real number of victims which would be appealing to those high on honesty-humility. Their underlying motive for wanting to visit dark exhibitions could, in some cases, be a sense of righteousness rather than empathy.

All, basic and dark, personality traits have shown the most significant connection with dark exhibitions and conflict/battle sites which have been identified by Stone (2006) as the two out of top three dark destinations (see Table 2). These sites are also the most frequently visited dark destinations since they are often a part of organized elementary school and high school trips. This means that the participants of these tours are mostly young and inexperienced and they are often unaware of what they are visiting, which

might explain the high percentage of those who indicated that they didn't have experience with dark tourism destinations (42.7%, see Table 1). This is consistent, for example, with Šuligoj and Jovanović's (2019) findings that the higher education system does not pay enough attention to these topics.

Besides testing the dark tourism site preference, we have examined what are the possible reasons for their interest in this specific type of tourism. None of the participants stated the reason because of suggestions and experiences of friends and/or family while only few mentioned in memory of the victims from my family. Suggestions could be important since visiting domestic dark tourism sites is usually a one-day excursion that is fundamentally linked to the collective memory context (Hirsch, 2008; Nora, 1989). Indeed, dark tourism sites offer the opportunity to transfer narratives among generations (Dunkley et al., 2011), which was also in the background of the above variables, which were surprisingly found to be less important/insignificant. Moreover, this is in line with the fact that the reason to learn and experience something new is the most common reason to visit dark tourism sites meaning that our participants consider tragic events as something distant and abstract and have the need to understand them. In addition, most of them are students so it is not surprising that intellectual reasons are predominant. Looking at the average age by selected reasons, previous statements are confirmed. To sum up the findings, participants who are younger, male, higher on Machiavellianism and psychopathy are motivated by intellectual reasons while older, female, higher on agreeableness and honesty-humility are primarily motivated by emotional reasons. In practical terms, these findings provide a knowledge basis for those in charge of managing the dark tourism locations, i.e. for creating the tours, thematic events and exhibitions and connections with other service providers that will be in line with the underlying motivators. In addition to managers of memorial sites or places of dark tourism, related experts such as historians, ethnologists, curators and promoters/marketers interested in different segments of visitors should also benefit from our results.

The combination of both basic and dark traits with Stone's classification of dark tourism sites is a methodological novelty that will be of interest to researchers. The main contribution of this study is whether dark tourism sites/destinations attract dark personalities, i.e. do these destinations promote dark spectacle that evokes morbid fascination or an experience of enlightenment followed by hope and gratitude among the visitors? Our findings support both scenarios; dark tourism could be perceived as morbid in its essence but can also have profound positive impact by increasing the awareness of how tragic events could be avoided in the future. The question is what would be the desirable visitor profile for this type of destination. Our assumption is that the goal of destination management organizations should be to promote, above all, empathy and remembrance which are important mostly to those who are older, female and could be described as sincere, tolerant and empathic. We believe that most of the participants are unaware of the gravity dark tourism destinations hold, especially the younger ones. Since we are daily exposed to the tragic events through media, it could be said that we've become numb to the macabre and we can also be manipulated this way (van Dijck, 2004). This might especially be true in the context of dark tourism destinations that represent historical events. History is often not perceived as "real enough", too separate from the modern life, subject to various interpretations, politicization and manipulation (see McKenna, 2012). This actually distances (young) people from important historical facts and the importance of preserving memory.

One of the limitations of this study is the sample structure. Most of the participants were female and students. Further research should be conducted on a more diverse sample. Also, this research was based on Stone's classification of dark tourism sites (2006), dividing these destinations into lighter and darker ones. This distinction might not be true anymore and further studies should include a scale to measure the level of "darkness" directly by participants. For example, exhibitions are nowadays much darker since technology provides re-enactment of the past events, with sound and picture which makes them more real to the visitors. Finally, the concept of

compassion should be further explored in this context since we were somewhat unsure whether the participants perceived it as the empathy towards the victims or the enactment of the given tragic event. Moreover, psychological aspects that have been overlooked in the past require further in-depth research to better understand visitors of dark tourism sites.

Funding

This research was supported by Ministry of Education, Science, and Technological Development of Republic of Serbia (Grant No. 176020) given to Tamara Jovanović and the authors acknowledge financial support of the Ministry of Education, Science and Technological Development of the Republic of Serbia (Grant No. 451-03-9/2021-14/ 200125).

Conflict of interest

We have no conflicts of interest to disclose.

Data availability statement

The dataset linked to this empirical research was not deposited in any of the data repositories, but can be obtained by contacting the author.

References

- Ahn, T., Ekinci, Y., & Li, G. (2013). Self-congruence, functional congruence, and destination choice. *Journal of Business Research*, 66(6), 719–723. <https://doi.org/10.1016/j.jbusres.2011.09.009>
- Ashworth, G. J., & Isaac, R. K. (2015). Have we illuminated the dark? Shifting perspectives on 'dark' tourism. *Tourism Recreation Research*, 40(3), 316–325. <https://doi.org/10.1080/02508281.2015.1075726>
- Azevedo, A. (2018). Lighthouse tourism: Is there a "dark" side? *International Journal of Tourism Cities*, 4(1), 54–67. <https://doi.org/10.1108/IJTC-03-2017-0019>
- Back, M. D. (2018). The narcissistic admiration and rivalry concept. In A. D. Hermann, A. B. Brunnel, & J. D. Foster (Eds.), *Handbook of trait narcissism*.

- Key advances, research methods, and controversies* (pp. 57–67). Cham: Springer. https://doi.org/10.1007/978-3-319-92171-6_6
- Baillie B. (2013). Memorialising the ‘Martyred City’: Negotiating Vukovar’s Wartime Past. In W. Pullan & B. Baillie (Eds) *Locating Urban Conflicts*. Palgrave Macmillan: London.
- Berger, P., Berner, W., Bolterauer, J., Gutierrez, K., & Berger, K. (1999). Sadistic personality disorder in sex offenders: Relationship to antisocial personality disorder and sexual sadism. *Journal of Personality Disorders*, 13(2), 175–186. <https://doi.org/10.1521/pedi.1999.13.2.175>
- Bhati, A., & Pearce, P. (2017). Tourist attractions in Bangkok and Singapore; linking vandalism and setting characteristics. *Tourism Management*, 63, 15–30. <https://doi.org/10.1016/j.tourman.2017.05.014>
- Bhati, A., Agarwal, M., Tjayaindera, D. N., Aung, R., Thu, M., & Nguyen, T. M. T. (2020). Dark tourism in South East Asia: Are young Asian travelers up for it? *International Journal of Hospitality & Tourism Administration*, 1–17. <https://doi.org/10.1080/15256480.2019.1708223>
- Biran, A., & Buda, D. (2018). Unravelling fear of death motives in dark tourism. In P. R., Stone, R. Hartmann, T. Seaton, R. Sharpley, & L. White (Eds.), *Handbook of dark tourism* (pp. 515–532). Basingstoke: Palgrave Macmillan.
- Biran, A., Liu, W., Li, G., & Eichhorn, V. (2014). Consuming post-disaster destinations: The case of Sichuan, China. *Annals of Tourism Research*, 47, 1–17. <https://doi.org/10.1016/j.annals.2014.03.004>
- Bjerke, R. & Polegato, R. (2006). How well do advertising images of health and beauty travel across cultures? A self-concept perspective. *Psychology and Marketing*, 23, 865–884. <https://doi.org/10.1002/mar.20137>
- Blom, T. (2000). Morbid tourism - A postmodern market niche with an example from Althorp. *Norsk Geografisk Tidsskrift. Norwegian Journal of Geography*, 54(1), 29–36. <https://doi.org/10.1080/002919500423564>

-
- Book, A., Visser, B. A., Blais, J., Hosker-Field, A., Methot-Jones, T., & Gauthier, N. Y. (2016). Unpacking more “evil”: What is at the core of the dark tetrad. *Personality and Individual Differences, 90*, 269–272. <https://doi.org/10.1016/j.paid.2015.11.009>.
- Božić, S. (2016). *Uticaj ličnosti turista na brend destinacije i turističko ponašanje na primeru lokaliteta kulturne rute* [The impact of tourist personality on destination brand and tourist behavior on example of the sites of the cultural route] (Unpublished doctoral dissertation). Faculty of Sciences, University of Novi Sad.
- Božić, S., Kennell, J., Vujičić, M. D., & Jovanović, T. (2017). Urban tourist motivations: Why visit Ljubljana? *International Journal of Tourism Cities, 3*, 382–398. <https://doi.org/10.1108/IJTC-03-2017-0012>
- Bristow, R. S. (2020). Communitas in fright tourism. *Tourism Geographies, 22*(2), 319–337. <https://doi.org/10.1080/14616688.2019.1708445>
- Bristow, R. S., & Jenkins, I. S. (2020). Geography of fear: Fright tourism in urban revitalization. *Journal of Policy Research in Tourism, Leisure and Events, 12*(2), 262–275. <https://doi.org/10.1080/19407963.2019.1631319>
- Bristow, R. S., & Newman, M. (2004). Myth vs. fact: An exploration of fright tourism. In K. Bricker (Ed.), *Proceedings of the 2004 northeastern recreation research symposium* (pp. 215–221). Northeastern Research Station: USDA Forest Service.
- Brown, L. (2016). Tourism and pilgrimage: Paying homage to literary heroes. *International Journal of Tourism Research, 18*(2), 167–175. <https://doi.org/10.1002/jtr.2043>
- Brud, P. P., Rogoza, R., & Ciecuch, J. (2020). Personality underpinnings of dark personalities: An example of Dark Triad and deadly sins. *Personality and Individual Differences, 163*, 110085. <https://doi.org/10.1016/j.paid.2020.110085>

- Buckels, E., Jones, D., & Paulhus, D. (2013). Behavioural confirmation of everyday sadism. *Psychological Science*, 24, 2201–2209. <http://dx.doi.org/10.1177/0956797613490749>.
- Buda, D. M. (2015). The death drive in tourism studies. *Annals of Tourism Research*, 50, 39–51. <https://doi.org/10.1016/j.annals.2014.10.008>
- Çakar, K. (2020). Investigation of the motivations and experiences of tourists visiting the Gallipoli Peninsula as a dark tourism destination. *European Journal of Tourism Research*, 24, 2405–2405.
- Causevic, S., & Lynch, P. (2013). Political (in) stability and its influence on tourism development. *Tourism Management*, 34, 145–157. <https://doi.org/10.1016/j.tourman.2012.04.006>
- Christie, R., & Geis, F. L. (1970). *Studies in Machiavellianism*. New York, NY: Academic Press.
- Christou, P. A., & Hadjelia Drotarova, M. (2021). Aura, thanatoplaces, and the construction of thanatourism emotions. *Journal of Heritage Tourism*, 1–19. <https://doi.org/10.1080/1743873X.2020.1869241>
- Christou, P., Farmaki, A., Saveriades, A., & Georgiou, M. (2020). Travel selfies on social networks, narcissism and the “attraction-shading effect”. *Journal of Hospitality and Tourism Management*, 43, 289–293. <https://doi.org/10.1016/j.jhtm.2020.01.014>
- Clark, L. B. (2006). Placed and displaced: Trauma memorials. In L. Hill, & H. Paris (Eds.), *Performance and place* (pp. 129–138). London: Palgrave Macmillan.
- Clark, L.B. (2009). Coming to terms with trauma tourism. *Performance Paradigm*, 5(2), 162–184.
- Crotts, J. C., Aziz, A., & Upchurch, R. S. (2005). Research note: Relationship between Machiavellianism and sales performance. *Tourism Analysis*, 10(1), 79–84. <https://doi.org/10.3727/1083542054547921>
- da Silva, W. C. (2018). Cities of the dead people originating cities for living humans: Study about the representativeness of the Alecrim Cemetery

- (Cemitério do Alecrim), Natal (RN, Brazil) as an attractive option for Morbid Tourism. *Turismo e Sociedade*, 11(3), 383–411.
- Dębska, M., Dębski, P., Polechoński, J., Rozpara, M., & Tomik, R. (2021). The Dark Triad of Personality in the Context of Health Behaviors: Ally or Enemy?. *International Journal of Environmental Research and Public Health*, 18(8), 4113. <https://doi.org/10.3390/ijerph18084113>
- Dinić, B. M., Bullut Allred, T. Petrović, B., & Wertag, A. (2020). A test of three sadism measures. Short Sadistic Impulse Scale, Varieties of Sadistic Tendencies, and Assessment of Sadistic Personality. *Journal of Individual Differences*. Online First. <https://doi.org/10.1027/1614-0001/a000319>
- Dinić, B. M., Petrović, B., & Jonason, P. K. (2018). Serbian adaptations of the Dark Triad Dirty Dozen (DTDD) and Short Dark Triad (SD3). *Personality and Individual Differences*, 134, 321–328. <https://doi.org/10.1016/j.paid.2018.06.018>
- Dinić, B. M., Wertag, A., Sokolovska, V., & Tomašević, A. (2021). The good, the bad, and the ugly: Revisiting the Dark Core. *Current Psychology*, 1–13. <https://doi.org/10.1007/s12144-021-01829-x>
- Djeriouat, H., & Trémolière, B. (2014). The Dark Triad of personality and utilitarian moral judgment: The mediating role of Honesty/Humility and Harm/Care. *Personality and Individual Differences*, 67, 11–16. <https://doi.org/10.1016/j.paid.2013.12.026>
- Dunkley, R. A., Morgan, N., & Westwood, S. (2007). A shot in the dark? Developing a new conceptual framework for thanatourism. *Asian Journal of Tourism and Hospitality*, 1(1), 54–63.
- Dunkley, R., Morgan, N., & Westwood, S. (2011). Visiting the trenches: Exploring meanings and motivations in battlefield tourism. *Tourism Management*, 32(4), 860–868. <https://doi.org/10.1016/j.tourman.2010.07.011>
- Foley, M., & Lennon, J. (1996). JFK and dark tourism: A fascination with assassination. *International Journal of Heritage Studies*, 2(4), 198–211. <https://doi.org/10.1080/13527259608722175>

- Forsyth, D. R., Banks, G. C., & McDaniel, M. A. (2012). A meta-analysis of the Dark Triad and work behavior: A social exchange perspective. *Journal of Applied Psychology, 97*(3), 557–579. <https://psycnet.apa.org/doi/10.1037/a0025679>
- Frew, E. A., & Shaw, R. N. (1999). The relationship between personality, gender, and tourism behavior. *Tourism Management, 20*(2), 193–202. [https://doi.org/10.1016/S0261-5177\(98\)00081-8](https://doi.org/10.1016/S0261-5177(98)00081-8)
- Gaya, E. (2013). *Understanding motivation of visitors at dark tourism sites: Case study of August 7th memorial park, Kenya* (Bachelor's thesis). Retrieved (May, 2021) from <https://www.theseus>.
- Goulding, C., & Domic, D. (2009). Heritage, identity and ideological manipulation: The case of Croatia. *Annals of Tourism Research, 36*(1), 85–102. <https://doi.org/10.1016/j.annals.2008.10.004>
- Graziano, W. G., & Tobin, R. M. (2009). Agreeableness. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 46–61). The Guilford Press.
- Hirsch, M. (2008). The Generation of Postmemory. *Poetics Today, 29*(1), 103–128. <https://doi.org/10.1215/03335372-2007-019>
- Hodalska, M. (2017). Selfies at horror sites: Dark tourism, ghoulish souvenirs and digital narcissism. *Zeszyty Prasoznawcze, 2*(230), 405–423.
- Hodson, G., Book, A., Visser, B. A., Volk, A. A., Ashton, M. C., & Lee, K. (2018). Is the dark triad common factor distinct from low honesty-humility?. *Journal of Research in Personality, 73*, 123–129. <https://doi.org/10.1016/j.jrp.2017.11.012>
- Howard, M. C., & Van Zandt, E. C. (2020). The discriminant validity of honesty-humility: A meta-analysis of the HEXACO, Big Five, and Dark Triad. *Journal of Research in Personality, 87*, 103982. <https://doi.org/10.1016/j.jrp.2020.103982>

-
- Hoxter, A. L., & Lester, D. (1988). Tourist behavior and personality. *Personality and Individual Differences*, 9(1), 177–178. [https://doi.org/10.1016/0191-8869\(88\)90045-1](https://doi.org/10.1016/0191-8869(88)90045-1)
- Iliev, D. (2020). Consumption, motivation and experience in dark tourism: A conceptual and critical analysis. *Tourism Geographies*, 1–22. <https://doi.org/10.1080/14616688.2020.1722215>
- Jagiellonski, U. (2015). Thanatourism: Experience, memory, ethics. *Magdalena Banaszkiwicz*, 3(35), 91–104. <https://doi.org/10.12797/Politeja.12.2015.35.07>
- Jones, D. N., & Paulhus, D. L. (2009). Machiavellianism. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 93–108). The Guilford Press.
- Jones, D. N., & Paulhus, D. L. (2010). Different provocations provoke aggression in psychopaths and narcissists. *Social Psychological and Personality Science*, 1, 12–18. <https://doi.org/10.1177%2F1948550609347591>
- Jones, D. N., & Paulhus, D. L. (2011). The role of impulsivity in the Dark Triad of personality. *Personality and Individual Differences*, 51(5), 679–682. <https://doi.org/10.1016/j.paid.2011.04.011>
- Jones, D. N., & Paulhus, D. L. (2014). Introducing the Short Dark Triad (SD3) a brief measure of dark personality traits. *Assessment*, 21, 28–41. <https://doi.org/10.1177%2F1073191113514105>
- Kennell, J., Šuligoj, M., & Lesjak, M. (2018). Dark events: Commemoration and collective memory in the former Yugoslavia. *Event Management*, 22(6), 945–963. <https://doi.org/10.3727/152599518X15346132863247>
- Khan, N. A., Khan, A. N., Moin, M. F., & Pitafi, A. H. (2021). A trail of chaos: How psychopathic leadership influence employee satisfaction and turnover intention via self-efficacy in tourism enterprises. *Journal of Leisure Research*, 52(3), 347–369. <https://doi.org/10.1080/00222216.2020.1785359>
- Korstanje, M. E. (2020). What is wrong with Dark Tourism Research?. *IJSSTH* (21), 9–13.

- Korstanje, M.E., & Ivanov, S. (2012). Tourism as a form of new psychological resilience: The inception of dark tourism. *Cultur*, 56–71.
<https://dx.doi.org/10.2139/ssrn.2168400>
- Kraus, S., Berchtold, J., Palmer, C., & Filser, M. (2018). Entrepreneurial orientation: The dark triad of executive personality. *Journal of Promotion Management*, 24(5), 715–735.
<https://doi.org/10.1080/10496491.2018.1405524>
- Kunwar, R. R., & Karki, N. (2019). Dark tourism: Understanding the concept and recognizing the values. *Journal of APF Command and Staff College*, 2(1), 42–59. <https://doi.org/10.3126/japfcsc.v2i1.26731>
- Lee, C., Bendle, L., Yoon, Y., & Kim, M. (2011). Thanatourism or peace tourism: Perceived value at a North Korean resort from an indigenous perspective. *International Journal of Tourism Research*, 14(1), 71–90.
<https://doi.org/10.1002/jtr.836>
- Lee, K., Ashton, M.C., Wiltshire, J., Bourdage, J.S., Visser, B.A., & Gallucci, A. (2013). Money, power, and sex: Prediction from the dark triad and honesty-humility. *European Journal of Personality*, 27, 145–154,
<http://dx.doi.org/10.1002/per.1860>
- Leevit, L. (2012). Solemnity and celebration: Dark tourism experiences at Hollywood Forever Cemetery. *Journal of Unconventional Parks, Tourism and Recreation Research*, 4(1), 20–25.
- Lewis, C. (2008). Deconstructing Grief Tourism. *International Journal of the Humanities*, 6(6), 165–169. <https://doi.org/10.18848/1447-9508/cgp/v06i06/42476>
- Light, D. (2017). Progress in dark tourism and thanatourism research: An uneasy relationship with heritage tourism. *Tourism Management*, 61, 275–301.
<https://doi.org/10.1016/j.tourman.2017.01.011>
- Lloyd-Parkes, E., Deacon, J. H., Grant, A., & Thomas, S. (2021). Emotional Overload! A Dialogic Autoethnography of Scholar-Participant-Consumer Reactions

- to the Marketing of Thanatourism. *The Qualitative Report*, 26(3), 992–1011. <https://doi.org/10.46743/2160-3715/2021.4733>
- Mangwane, J., Hermann, U. P., & Lenhard, A. I. (2019). Who visits the apartheid museum and why? An exploratory study of the motivations to visit a dark tourism site in South Africa. *International Journal of Culture, Tourism and Hospitality Research*, 13(3), 273–287. <https://doi.org/10.1108/IJCTHR-03-2018-0037>
- McKenna, M. (2012). Moral Responsibility, Manipulation Arguments, and History: Assessing the Resilience of Nonhistorical Compatibilism. *The Journal of Ethics*, 16, 145–174. <https://doi.org/10.1007/s10892-012-9125-7>
- Međedović, J., & Bulut, T. (2017). The Mini IPIP-6: Short, valid, and reliable measure of the six-factor personality structure. *Primenjena psihologija*, 10(2), 185–202. <https://doi.org/10.19090/pp.2017.2.185-202>
- Meere, M., & Egan, V. (2017). Everyday sadism, the Dark Triad, personality, and disgust sensitivity. *Personality and Individual Differences*, 112, 157–161. <https://doi.org/10.1016/j.paid.2017.02.056>
- Millon, T. (1996). *Disorders of personality: DSM-IV and beyond* (2nd ed.). New York, NY: Wiley.
- 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, 183–204. <https://doi.org/10.1177/17456916166666070>
- Naef, P. (2019). Memorial Entrepreneurs in post-conflict tourism. In R. K. Isaac, E. Çakmak & R. Butler (Eds.), *Tourism and Hospitality in Conflict Ridden Destinations* (pp. 171-174). Abingdon-on-Thames: Routledge.
- Nawijn, J., & Fricke, M.-C. (2015). Visitor emotions and behavioral intentions: The case of concentration camp Memorial Neuengamme. *International Journal of Tourism Research*, 17(3), 221–228. <https://doi.org/10.1002/jtr.1977>

- Nora, P. (1989). Between Memory and History: Les Lieux de Mémoire. *Representations*, 26, 7–24. <https://doi.org/10.2307/2928520>
- O'Meara, A., Davies, J., & Hammond, S. (2011). The psychometric properties and utility of the Short Sadistic Impulse Scale (SSIS). *Psychological assessment*, 23(2), 523–531. <https://psycnet.apa.org/doi/10.1037/a0022400>
- Osbaldiston, N., & Petray, T. (2011). The role of horror and dread in the sacred experience. *Tourist Studies*, 11(2), 175–190. <https://doi.org/10.1177/1468797611424955>
- Paulhus, D. L. & Williams, K. M. (2002). The Dark Triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of Research in Personality*, 36, 556–563. [https://doi.org/10.1016/s0092-6566\(02\)00505-6](https://doi.org/10.1016/s0092-6566(02)00505-6)
- Paulhus, D. L. (2014). Toward a taxonomy of dark personalities. *Current Directions in Psychological Science*, 23, 421–426. <https://doi.org/10.1177%2F0963721414547737>
- Paulhus, D. L., & Jones, D. N. (2015). Measures of dark personalities. In G. J. Boyle, D. H. Sahlofske & G. Matthews (eds.), *Measures of personality and social psychological constructs* (pp. 562–594). Academic Press.
- Pearce, J., & Moscardo, G. (2015). Social representations of tourist selfies: New challenges for sustainable tourism. BEST EN Think Tank XV The Environment-People Nexus in Sustainable Tourism: Finding the Balance, 59–73.
- Peixoto, Â., Gouveia, T., Sousa, P., Faria, R., & Almeida, P. R. (2021). Dark personality traits and tolerance towards unethical behaviors on entrepreneurship: A comparison between entrepreneurs and non-entrepreneurs. *Journal of White Collar and Corporate Crime*, 2631309X211029877. <https://doi.org/10.1177%2F2631309X211029877>
- Perry, C. (2015). The 'dark traits' of sociopathic leaders: Could they be a threat to universities?. *The Australian Universities' Review*, 57(1), 17–25.

- Plog, S. C. (1974). Why destination areas rise and fall in popularity. *Cornell Hotel and Restaurant Administration Quarterly*, 14(4), 55–58.
- Podoshen, J. S., Venkatesh, V., Wallin, J., Andrzejewski, S. A., & Jin, Z. (2015). Dystopian dark tourism: An exploratory examination. *Tourism Management*, 51, 316–328. <https://doi.org/10.1016/j.tourman.2015.05.002>
- Popovic, A., & Korstanje, M. E. (2020). Potential assessment of dark tourism in India. *International Journal of Management (IJM)*, 11(8), 1284–1296.
- Pyszczyński, T., Lockett, M., Greenberg, J., & Solomon, S. (2021). Terror management theory and the COVID-19 pandemic. *Journal of Humanistic Psychology*, 61(2), 173–189. <https://doi.org/10.1177%2F0022167820959488>
- Raine, R. (2013). A dark tourism spectrum. *International Journal of Culture, Tourism and Hospitality Research*, 7(3), 242–256. <https://doi.org/10.1108/IJCTHR-05-2012-0037>
- Reid, R. (2016). Is ‘Dark Tourism’ OK? Retrieved (August, 2021) from <http://www.nationalgeographic.com/travel/features/is-dark-tourism-ok-chernobyl-pripyat-disaster-sites/>
- Rogoza, R., & Ciecuch, J. (2020). Dark Triad traits and their structure: An empirical approach. *Current Psychology*, 39(4), 1287–1302. <https://doi.org/10.1007/s12144-018-9834-6>
- Rojek, C. (1993). *Ways of escape*. Basingstoke: MacMillan.
- Schreiber, A., & Marcus, B. (2020). The place of the “Dark Triad” in general models of personality: Some meta-analytic clarification. *Psychological Bulletin*, 146(11), 1021. <https://psycnet.apa.org/doi/10.1037/bul0000299>
- Seaton, A. (1996). Guided by the dark: From thanatopsis to thanatourism. *International Journal of Heritage Studies*, 2(4), 234–244. <https://doi.org/10.1080/13527259608722178>
- Sharpley, R., & Stone, P. R. (2009). (Re)presenting the macabre: Interpretation, kitschification and authenticity. In R. Sharpley, & P. R. Stone (Eds.), *The darker side of travel: The theory and practice of dark tourism* (pp. 109–128). Bristol: Channel View.

- Sibley, C. G. (2012). The Mini-IPIP6: Item Response theory analysis of a short measure of the big-six factors of personality in New Zealand. *New Zealand Journal of Psychology*, 41(3), 21–31.
- Stone, P. R. (2006). A dark tourism spectrum: Towards a typology of death and macabre related tourist sites, attractions and exhibitions. *Tourism: An International Interdisciplinary Journal*, 54(2), 145–160.
- Stone, P. R. (2011). Dark tourism: Towards a new post-disciplinary research agenda. *International Journal of Tourism Anthropology*, 1(3/4), 318–332. <https://doi.org/10.1504/IJTA.2011.043713>
- Stone, P. R. (2012). Dark tourism and significant other death: Towards a model of mortality mediation. *Annals of Tourism Research*, 39(3), 1565–1587. <https://doi.org/10.1016/j.annals.2012.04.007>
- Stone, P. R. (2018). Dark tourism in an age of ‘spectacular death’. In P. R., Stone, R., Hartmann, T., Seaton, R., Sharpley, & L. White (Eds.), *Handbook of dark tourism* (pp. 189–210). Basingstoke: Palgrave Macmillan.
- Šuligoj, M. & Kennell, J. (2021). The role of dark commemorative and sport events in peaceful coexistence in the Western Balkans. *Journal of Sustainable Tourism*, 1–19. <https://doi.org/10.1080/09669582.2021.1938090>
- Šuligoj, M. (2016). Memories of war and warfare tourism in Croatia. *Annales. Series Historia et Sociologia*, 26(2), 259–270.
- Šuligoj, M. (2017). Warfare tourism: an opportunity for Croatia? *Economic research-Ekonomska Istraživanja*, 30(1), 439–452. <http://dx.doi.org/10.1080/1331677X.2017.1305800>
- Šuligoj, M. (2019). Dark events of the Istrian countryside: An electronic media perspective. *Academica Turistica*, 12(2), 121–132.
- Šuligoj, M., Jovanović, T. (2019). Education for dark tourism: some contemporary facts and issues. In J. Gržinić, M. Kostić-Bobanović, D.M. Currie (eds.), *Tourism education in an age of change* (pp. 93-113). Pula: Juraj Dobrila University of Pula, Faculty of Economics and Tourism “Dr. Mijo Mirković”.

-
- Sun, J., & Lv, X. (2021). Feeling dark, seeing dark: Mind–body in dark tourism. *Annals of Tourism Research*, *86*, 103087. <https://doi.org/10.1016/j.annals.2020.103087>
- Tan, G., & Lim, S. (2018). The “Pearl of the Orient” as a dark tourism destination in Malaysia. *International Journal of Tourism Cities*, *4*(1), 68–80. <https://doi.org/10.1108/IJTC-04-2017-0023>
- Taylor, D. G. (2017). (Don't You) Wish You Were Here? Narcissism, Envy, and Sharing of Travel Photos Through Social Media. In P. Rossi (Ed.), *Marketing at the Confluence between Entertainment and Analytics* (pp. 821–824). Springer, Cham.
- Taylor, D. G. (2020). Putting the “self” in selfies: how narcissism, envy and self-promotion motivate sharing of travel photos through social media. *Journal of Travel & Tourism Marketing*, *37*(1), 64–77. <https://doi.org/10.1080/10548408.2020.1711847>
- Tucker, H. (2016). Empathy and tourism: Limits and possibilities. *Annals of Tourism Research*, *57*, 31–43. <https://doi.org/10.1016/j.annals.2015.12.001>
- van Dijck, J. (2004). Mediated memories: personal cultural memory as object of cultural analysis, *Continuum*, *18*(2), 261–277. <https://doi.org/10.1080/1030431042000215040>
- Wise, N.A., & Mulec, I. (2014). Semblances of ‘War Tourism’ in Sarajevo, Post-2005. *American Journal of Tourism Management*, *3*(1B), 1–9. <https://doi.org/10.5923/s.tourism.201402.01>
- Woodworth, M., Porter, S. (2002). In cold blood: Characteristics of criminal homicide as a function of psychopathy. *Journal of Abnormal Psychology*, *111*, 436–445. <https://doi.org/10.1037//0021-843X.111.3.436>



Research Article

The Dark Tetrad and aesthetic preferences: The role of the dark side of personality in the aesthetic preference for paintings

Lana Tucaković^{✉1}  and Slobodan Marković² 

¹ *Department of Psychology, Faculty of Philosophy, University of Belgrade*

² *Laboratory of Experimental Psychology and Department of Psychology, Faculty of Philosophy, University of Belgrade*

ABSTRACT

The role of so-called normal and dark personality traits in everyday preferences, interests, and choices is visible in different domains of life. However, a small number of studies have dealt with individual differences in dark personality traits and aesthetic preferences. The domain of dark personality traits is in recent studies generally conceptualized as the Dark Tetrad — comprised of Machiavellianism, narcissism, psychopathy, and sadism. Thus, the aim of this research was to examine the relationship between the Dark Tetrad and visual aesthetic preferences. The sample consisted of 170 participants ($M_{age} = 29.09$, $SD_{age} = 10.66$; 77.1 % females). Participants completed the Short Dark Triad and the Varieties of Sadistic Tendencies questionnaires, and also rated their familiarity and preference for 15 paintings with five different types of motives (religious, abstract, oriental, violence, and landscape). It was shown, based on looking at zero-order correlations that only narcissism positively correlates with the preference for paintings with violent motives. Also, a series of regression analyses were performed, which showed that the only significant regression model is the one that reflects the role of reduced psychopathy in the preference for religious motives. The first finding can be explained on the basis of stable findings on the relationship between narcissism and aggression, and also narcissism and violence. The second finding can be interpreted in the context that general religiosity has previously been shown to be negatively associated with psychopathy. It can be

concluded that dark personality traits are one of the factors that affect aesthetic preferences.

Keywords: dark personality traits, Dark Tetrad, aesthetic preferences, narcissism, psychopathy

UDC: 159.923.072:111.852

DOI: 10.19090/pp.2021.4. 443-463

Received: 22.04.2021.

Revised: 13.07.2021.

Accepted: 21.07.2021.



Copyright © 2021 The Author(s).

This is an open access article

distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

✉ Corresponding author e-mail: ana.tucakovic@f.bg.ac.rs

Introduction

The role of so-called normal and dark personality traits in everyday preferences, interests, and choices is visible in different domains of life, but only a few studies investigated this role in the field of aesthetic preferences (Bowes et al., 2018). For this reason, one may wonder whether individual differences in personality traits can be determinants of aesthetic preferences or whether aesthetic preferences are shaped only by random aesthetic experiences throughout life (Chamorro-Premuzic et al., 2009; Ercegovic et al., 2015). The dominant approach in examining the relationship between personality traits and art is precisely through the observation of aesthetic preferences, which is usually defined as the degree to which individuals like or dislike certain art movements or styles in visual art (Chamorro-Premuzic et al., 2007). It is assumed that researchers often choose this approach because of the ease of categorizing works of art into different art movements and styles (Chamorro-Premuzic et al., 2007).

According to Marković (2017), aesthetic preference or the experience of beauty-ugliness can be defined as a component of the everyday hedonic experience that is closely related to personal liking – for instance, one can like a particular design of cell phone or dislike Jean Dubuffet's paintings. In addition to aesthetic preference in this broader sense, there is a special aesthetic phenomenon such as the aesthetic experience. It is a qualitatively specific state of consciousness that is characterized by a fascination with artworks, their meaning, and compositional sophistication. In this paper, we will focus on the first meaning of aesthetic preference, such as liking of artworks because it better reflects more basic personal preferences (see Marković, 2017).

Studies of the relationship between normal personality traits (e.g., openness to experience, sensation seeking, etc.) and aesthetic preferences have been done for decades (Burt, 1933; Rawlings et al., 2000). However, during all this time, a small number of studies have dealt with individual differences in dark personality traits and aesthetic preferences (e.g.,

Newberry, 2017). Before we move on to the aim of this research, it will be described what is meant by dark personality traits and the studies that have been done so far in the field of personality traits and aesthetic preferences.

The Dark Tetrad

Previous studies have used three traits to describe immoral, deceitful, and antisocial individuals, using the unified term 'Dark Triad', namely subclinical narcissism, Machiavellianism, and subclinical psychopathy (Buckels et al., 2013; Međedović & Bulut, 2017). By narcissism is meant a subclinical version of the personality disorder defined according to the Diagnostic and Statistical Manual of Mental Disorders (DSM) and implies a feeling of superiority, dominance, privilege, grandiosity, high self-esteem, lack of empathy, as well as the need for other people to admire them. The construct Machiavellianism encompasses people who are cold, cynical, manipulative, and people perceive them as charming (Jonason et al., 2012; Paulhus & Williams, 2002). The central characteristics of psychopathy are the search for excitement, harsh social attitudes, interpersonal antagonism, egocentrism, flattened affect, high impulsivity, low anxiety, low empathy, lack of remorse, etc. (Jonason et al., 2012; Jonason et al., 2014). It was only later that the trait of sadism was added to this set of subclinical personality traits and the name was changed to 'Dark Tetrad' (Buckels et al., 2013; Međedović & Petrović, 2015). The psychological construct of sadism is broadly defined as experiencing feelings of satisfaction when other people are harassed or hurt (Baumeister & Campbell, 1999; Bulut, 2017).

Visual aesthetic preference and its relations with personality

Studies of the relationship between personality traits and artistic preferences have most often used the Big Five model of personality (e.g., Chamorro-Premuzic & Furnham, 2004; Chamorro-Premuzic et al., 2009; Chamorro-Premuzic et al., 2010). In most studies of this type, it has been shown that the trait of openness to experience plays a role in the formation

of aesthetic preferences, while other personality traits from the model (extraversion, conscientiousness, agreeableness, and neuroticism) have a greater influence on specific aesthetic preferences (Chamorro-Premuzic et al., 2009; Chamorro-Premuzic et al., 2010). Prior research also often studied links between the trait of sensation seeking and aesthetic preferences (e.g., Rawlings et al., 2000; Tobacyck et al., 1981; Zaleski, 1984; Zuckerman et al., 1993).

Participants with low scores on openness to experience and sensation seeking show a preference for more harmoniously structured (classicist, figural) images. On the other hand, the increase in scores on these traits leads to an increase in the preference for compositionally “chaotic” and more obscure (expressionist, more abstract) paintings (Feist & Brady, 2004; Furnham & Avison, 1997; Rawlings, 2000, 2003; Rawlings et al., 2000; Tobacyck et al., 1981; Zaleski, 1984; Zuckerman et al., 1993). Furthermore, studies have shown that the preference for pleasant or unpleasant (violent) artwork was associated with openness to experience and sensation seeking. For the trait of openness to experience, studies suggest that higher openness to experience is related to liking unpleasant (violent) artwork (Rawlings, 2000, 2003). For the relation of sensation seeking and the preference for violent paintings, conflicting findings are obtained, in most studies participants with high scores on the sensation seeking scales like unpleasant, violent paintings (Rawlings, 2000, 2003), while in one study it was shown that participants with a high score on a sensation seeking scale dislike unpleasant and violent paintings (Rawlings & Bastian, 2002). However, in general, normal personality traits explain a low percentage of variance in aesthetic preferences (Chamorro-Premuzic et al., 2010).

The relationship of personality traits from the Dark Tetrad with aesthetic preferences can be expected due to their association with sensation seeking and personality traits from the Big Five model (Newberry, 2017). Narcissism negatively correlates with agreeableness, while it positively correlates with extraversion, openness, and sensation seeking (Crysel et al., 2013; Paulhus & Williams, 2002). Machiavellianism is negatively associated with conscientiousness and agreeableness, while it is positively associated

with sensation seeking (Crysel et al., 2013; Paulhus & Williams, 2002). Psychopathy is associated with all normal personality traits; it is positively associated with extraversion, openness, and sensation seeking, while it is negatively associated with agreeableness, conscientiousness, and neuroticism (Crysel et al., 2013; Paulhus & Williams, 2002). Finally, sadism is positively associated with extraversion; while on the other hand, it is negatively associated with conscientiousness, agreeableness, and neuroticism (Book et al., 2016).

In addition to their relationship with normal personality traits, we can expect their relationship with aesthetic preferences due to the fact that they successfully predict preferences in the domain of entertainment (Battista, 2011; Bowes et al., 2018; Williams et al., 2001; Williams et al., 2007). Psychopathy is positively associated with a preference for aggressive and horror movies and rock music, it is negatively associated with a preference for pop music and romantic movies (Battista, 2011; Williams et al., 2001; Williams et al., 2007), while in one study it did not have clear and consistent associations with entertainment preferences (Bowes et al., 2018). Narcissism is not related in a specific manner to movie and music genres, but it showed a positive association with a preference for war and western movies (Bowes et al., 2018). Machiavellianism has been shown to be positively associated with watching aggressive films, albeit to a lesser degree than psychopathy (Williams et al., 2001). So far, the connection between sadism and preferences in the field of entertainment or art has not been investigated.

The present study

The aim of this research was to examine the relationship between personality and visual aesthetic preferences, more precisely the role that dark personality traits play in the preference for paintings with different main motives. Although previous research has shown that artistic preferences are influenced by stable normal personality traits (e.g., Feist & Brady, 2004; Furnham & Avison, 1997; Furnham & Walker, 2001; Rawlings, 2000, 2003; Rawlings et al., 2000; Tobacyck et al., 1981; Zaleski, 1984; Zuckerman et al., 1993),

to the best of our knowledge, no study has been conducted on the influence that the Dark Tetrad, as a set of stable dark personality traits, has on the formation of aesthetic preferences and more specifically on the preference for visual motives. We hypothesized that all traits from the Dark Tetrad would show positive associations with the preference for motives of violence in paintings. This was expected based on previous studies which showed that people with higher scores on dark personality traits show a preference for genres of music and movies which contain violent content (Battista, 2011; Bowes et al., 2018; Williams et al., 2001; Williams et al., 2007).

Method

Sample

The sample consisted of 170 participants, aged 18 to 66 years ($M_{\text{age}} = 29.09$, $SD_{\text{age}} = 10.66$; 77.1 % females). The participants were recruited via snowball method through social media. Participation in the study was on a voluntary basis and without financial compensation. The study was conducted in accordance with the Helsinki Declaration.

Instruments

The Short Dark Triad (SD3)

The Short Dark Triad (SD3; Jones & Paulhus, 2014). With this scale, personal dispositions towards the dark side of the personality were examined. This scale measures three dark personality traits — Machiavellianism, psychopathy, and narcissism. The scale contains 27 items. It was used in a self-report form. The participant gives answers on a five-point Likert scale (1 = *strongly disagree*; 5 = *strongly agree*). The scores on each of the subscales are obtained by averaging the responses on the items and recoding the inverse items. The psychometric properties of the scale on the sample can be seen in Table 1 in the Results section.

Varieties of Sadistic Tendencies (VAST)

Varieties of Sadistic Tendencies (VAST; Paulhus & Jones, 2015). This scale is designed to measure the propensity for sadistic behavior. In the scale, a distinction is made, in the form of subscales, between direct sadism and vicarious sadism. Direct sadism involves enjoying hurting others, either physically or verbally, while vicarious sadism involves enjoying watching others while someone else hurts them. The scale contains 16 items. For the purposes of this study, only the direct sadism subscale, which contains 7 items, was used to merge with the traits from the Dark Triad. The participant gives answers on a five-point Likert scale (1 = *strongly disagree*; 5 = *strongly agree*). The scores on the subscale are obtained by averaging the answers on the items and recoding the inversely formulated items. The psychometric properties obtained on the sample can be seen in Table 1 in the Results section.

Visual stimuli

Studies in the field of aesthetic preferences have used different categorizations of visual art and as a result, inconsistent findings are obtained regarding the relationship between aesthetic preferences and personality traits (Ercegovac et al., 2015). One of the pragmatic approaches to the categorization of visual art is the selection of paintings according to their predominant motive, which has been shown to be an important criterion in preferences in the visual domain (Ercegovac et al., 2015). This method of categorization was used in this study. The five categories of motives (Ercegovac et al., 2015) that were presented were religious motives (e.g., *The Elevation of the Cross*, Peter Paul Rubens), motives of violence (e.g., *The Revolt of Cairo*, Anne-Louis Girodet de Roussy-Trioson), oriental motives (e.g., *Bharat Mata*, Abanindranath Tagore), landscape motives (e.g., a painting by Claude Monet from his series *Haystacks*), and abstract motives (e.g., *Blue painting*, Wassily Kandinsky). Fifteen art paintings were selected (three paintings for each type of motive).

Aesthetic judgment

Each painting was shown with a question on a five-point Likert scale that measures the intensity of preference for a certain painting (1 = *I don't like it at all*; 5 = *I like it very much*). Participants were also asked to rate the familiarity of paintings on a five-point Likert scale (1 = *not known to me at all*; 5 = *very familiar to me*). Likert-type rating scales were chosen for measuring aesthetic preferences, as a standard way to evaluate paintings in psychology of art (e.g., Ercegovac et al., 2015; Stojilović & Marković, 2014). Descriptive statistics and psychometric properties for the preference and familiarity of paintings with different motives can be seen in Table 1 in the Results section.

Procedure

Instruments and visual material were placed on the Google Forms platform and distributed via social networks. The time for filling out the questionnaires and aesthetic judgment was not limited, but it took about 15 minutes to complete. Before filling out the questionnaires and aesthetic judgment, the participants gave their consent to participate in the study. After that, they answered a set of questions related to sociodemographic characteristics — gender and age. Participants were shown paintings in a randomized order, with questions related to the familiarity of the painting and the intensity of the preference for the painting. After aesthetic judgment, participants were given questionnaires related to the Dark Tetrad. After completing the questionnaire and aesthetic judgment, the participants were given the opportunity to comment on their impression of the study, as well as the contact e-mail of the researcher if they want to receive feedback on the study.

Results

Descriptive statistics and psychometric properties of analyzed measures

Descriptive statistics and psychometric properties of all measures used are given in Table 1. Analysis of aesthetic preferences of different motives showed a significant main effect ($F(4,676) = 41.53, p < .01$), while post hoc analyses showed that there are significant differences between almost all categories of motives, except between landscape and religious motives, as well as oriental and violent motives. It can be concluded that the participants liked the paintings with religious and landscape motives the most, while they liked the abstract paintings the least. Regarding the reliability of the preferences of artistic motives, the highest reliability was obtained for the preference for religious paintings, while the lowest reliability was obtained for the preference for paintings with oriental motives. It can be noticed that the average familiarity of paintings within different categories of motives is low; therefore, most of the artwork shown to the participants were unknown to them. Statistical analyses showed that there is a difference in familiarity between paintings with different motives ($F(4,176) = 50.18, p < .01$). Participants were most familiar with paintings with religious motives, while they were the least familiar with abstract and oriental paintings. Reliabilities are slightly lower for narcissism, psychopathy, and direct sadism compared to results from previous studies (Jones & Paulhus, 2014; Paulhus & Jones, 2015).

Table 1*Descriptive statistics and psychometric properties of all measures used*

Measure	<i>M (SD)</i>	<i>Min-Max</i>	α
Preference for abstract paintings	7.82 (2.76)	3-14	.50
Preference for landscape paintings	10.69 (2.60)	3-15	.62
Preference for oriental paintings	9.37 (2.58)	3-15	.45
Preference for religious paintings	10.44 (3.22)	3-15	.81
Preference for violent paintings	9.11 (3.55)	3-15	.76
Familiarity with abstract paintings	6.28 (3.28)	3-15	.63
Familiarity with landscape paintings	6.69 (3.14)	3-15	.64
Familiarity with oriental paintings	6.06 (2.94)	3-15	.64
Familiarity with religious paintings	8.86 (3.42)	3-15	.52
Familiarity with violent paintings	7.08 (3.21)	3-15	.61
Machiavellianism	2.94 (.69)	1-5	.74
Narcissism	2.71 (.67)	1-5	.68
Psychopathy	1.85 (.64)	1-4	.71
Direct sadism	1.66 (.54)	1-4	.55

Notes: *M* – mean; *SD* – standard deviation; *Min-Max* – minimum and maximum; α – Cronbach's alpha.

Relationship between aesthetic preferences of different motives and the Dark Tetrad

In order to get a preliminary insight into the association between aesthetic preferences of different motives and the Dark Tetrad, as well as intercorrelations of aesthetic preferences of different motives and the Dark Tetrad, Pearson correlation coefficients were calculated, which can be seen in Table 2. Based on Table 2, it can be observed that significant positive correlations were obtained between the preferences of all types of motives, except between the preferences of abstract and religious motives. It was obtained that the traits of the Dark Tetrad are low to highly correlated, which is in line with the findings from previous studies (e.g., Chabrol et al., 2017). Regarding the relation between aesthetic preferences and the Dark Tetrad,

only a low positive correlation was obtained between narcissism and the preference for violent motives in the paintings.

Table 2

Pearson bivariate correlations between aesthetic preferences and the Dark Tetrad

Measure	1	2	3	4	5	6	7	8	9
1. Preference for abstract paintings	-								
2. Preference for landscape paintings	.42**	-							
3. Preference for religious paintings	.14	.26**	-						
4. Preference for oriental paintings	.37**	.49**	.42**	-					
5. Preference for violent paintings	.30**	.33**	.70**	.53**	-				
6. Machiavellianism	-.07	-.03	.09	.04	.09	-			
7. Narcissism	.03	.11	.13	-.08	.18**	.30**	-		
8. Psychopathy	.04	-.01	-.12	-.08	-.02	.46**	.22**	-	
9. Direct sadism	-.02	-.05	-.05	-.10	-.00	.43**	.21**	.65**	-

Note: ** $p < .01$.

In order to see in more detail, the role of the Dark Tetrad in aesthetic preferences, a series of regression analyses were performed, where the traits of the Dark Tetrad were predictors, and the aesthetic preferences of different motives were criteria and analyses results can be seen in Table 3. The only significant regression model is the one in which the criterion variable is the aesthetic preference for religious motives, where psychopathy stands out as the only significant predictor and explains 6% of the variance, while in the statistically insignificant regression model, narcissism stands out, as seen in the correlation analysis, as a predictor of the preference for religious motives.

Table 3

Results (standardized regression coefficients, coefficients of multiple correlation, and percent of explained variance) of standard regression analyses with aesthetic preferences as criteria

The Dark Tetrad	Aesthetic preferences				
	Preference for abstract paintings	Preference for landscape paintings	Preference for religious paintings	Preference for oriental paintings	Preference for violent paintings
Machiavellianism	-.11	-.05	.16	.14	.08
Narcissism	.05	.14	.14	-.08	.18**
Psychopathy	.11	.03	-.22**	-.06	-.08
Direct sadism	-.05	-.08	.00	-.11	-.03
<i>R</i>	.12	.14	.24	.17	.21
<i>R</i> ²	.02	.02	.06	.03	.04
<i>F</i> (4)	.62	.88	2.61**	1.18	1.85

Note: ** $p < .01$.

Discussion and Conclusion

Visual aesthetic preferences

The analysis of aesthetic preferences showed that the participants preferred paintings with landscape and religious motives, while they expressed the lowest preferences for paintings with abstract motives. Additionally, it has been shown on the basis of correlations between preferences, that there is some kind of general preference for paintings regardless of the presented motive. This has been shown in almost all cases, except there was an absence of correlation between the preferences of abstract and religious motives. The preference for landscape paintings is understandable based on the results from previous research and can be explained by the universal preference for landscapes discovered by Komar and Melamid (1999), while the finding that paintings with religious motives

are also highly preferred is contrary to their previous findings. Landscape preference could also be explained by the greater presence of landscape paintings in people's daily lives compared to other examined motives (Ercegovac et al., 2015). Another potential explanation is that by being more present than other motives, that they are also a more socially desirable preference and that the results obtained are such due to the response style of the participants (Ercegovac et al., 2015). An additional interpretation of this finding is that artworks containing landscapes are created so that they can be processed in a way that relates to the coding of natural stimuli, for which the human visual system is highly adapted (Redies, 2015). More precisely, people prefer landscape paintings because they mimic natural scenes (Redies, 2015). The finding regarding religious preference may be explained by the idea that religious art evokes strong emotions, which are contained within the narrative of the art piece (Yanulevskaya et al., 2012). The lowest preference for abstract paintings is in line with cross-cultural findings on the aversion to unusual, abstract paintings versus realistic paintings (Komar & Melamid, 1999).

Visual aesthetic preferences and its relations with dark personality traits

Previous research has shown that normal personality traits are associated with aesthetic preferences (e.g., Chamorro-Premuzic & Furnham, 2004; Chamorro-Premuzic et al., 2009; Chamorro-Premuzic et al., 2010; Ercegovac et al., 2015; Feist & Brady, 2004). In this study, it was shown based on looking at zero-order correlations that only narcissism positively correlates with the preference for paintings with violent motives. This finding can be explained by a finding of similar type that people with higher narcissism prefer to watch westerns and war movies in which scenes of violence are frequent (Bowes et al., 2018). The finding can also be explained on the basis of stable findings on the association between narcissism and aggression, as well as narcissism and violence (Lambe et al., 2018). The tendency towards aggression and violence in narcissistic people is explained to exist in situations where there is an ego threat (Lambe et al., 2018).

When observing the group role of dark personality traits in the aesthetic preferences of different motives, the only significant regression model is the one that reflects the role of reduced psychopathy in the preference for religious motives. This finding can be interpreted in the context that general religiosity has been shown to be negatively associated with psychopathy, which is assumed to be, among other things, due to the fact that persons who have high scores on dark personality traits also have low scores on measures of empathy (Łowicki & Zajenkowski, 2017). The absence of an association between the Dark Tetrad and the preferences of other categories of motives can be explained by the fact that individual differences in personality traits do not significantly predict preference for certain types of stimuli, as shown by research with personality traits from the Big Five model (Swami & Furnham, 2014).

Limitations

One of the limitations of this study was the difference in the familiarity of paintings belonging to the categories of different motives, but considering that it was not a variable of interest in this study, it is assumed that it did not affect the main findings related to the association between the Dark Tetrad and aesthetic preferences. It would certainly be useful in future studies to try to determine the prevalence of familiarity for paintings with different motives in the Serbian population. A more heterogeneous sample in terms of gender in future studies could shed more light on the relationship between the Dark Tetrad and aesthetic preferences, due to the fact that men typically score higher on the Dark Tetrad (Jones & Paulhus, 2014). Additional knowledge would be brought to us by studies that include the so-called normal and dark sides of personality, by using the Big Five model and the Dark Tetrad model.

Conflict of interest

We have no conflicts of interest to disclose.

Data availability statement

The dataset linked to this research was not deposited in any of the data repositories; however, it can be obtained by contacting the corresponding author.

References

- Battista, M. E. (2011). Does Anyone Really Like Horror Movies? Personality and Automatic Affective Reactions to Frightening Films. (Doctoral dissertation, The University of Western Ontario, London, Ontario, Canada). Retrieved (April, 2021) from:
<https://ir.lib.uwo.ca/cgi/viewcontent.cgi?article=1174&context=etd>
- Baumeister, R. F., & Campbell, W. K. (1999). The intrinsic appeal of evil: Sadism, sensational thrills, and threatened egotism. *Personality and Social Psychology Review*, 3(3), 210–221.
https://doi.org/10.1207/s15327957pspr0303_4
- Book, A., Visser, B. A., Blais, J., Hosker-Field, A., Methot-Jones, T., Gauthier, N. Y., ... & D'Agata, M. T. (2016). Unpacking more “evil”: What is at the core of the dark tetrad?. *Personality and Individual Differences*, 90, 269–272.
<https://doi.org/10.1016/j.paid.2015.11.009>
- Bowes, S. M., Watts, A. L., Costello, T. H., Murphy, B. A., & Lilienfeld, S. O. (2018). Psychopathy and entertainment preferences: Clarifying the role of abnormal and normal personality in music and movie interests. *Personality and Individual Differences*, 129, 33–37.
<https://doi.org/10.1016/j.paid.2018.03.009>
- Buckels, E. E., Jones, D. N., & Paulhus, D. L. (2013). Behavioral confirmation of everyday sadism. *Psychological science*, 24(11), 2201–2209.
<https://doi.org/10.1177/0956797613490749>
- Bulut, T. (2017). The concept of sadism in the current empirical literature. *Zbornik Instituta za kriminološka i sociološka istraživanja*, 36, 23–41.

- Burt, C. (1933). The psychology of art. In C. Burt, E. Jones, & W. Moodie (Eds.), *How the mind works* (chap. 15). London: Allen and Unwin.
- Chabrol, H., Bouvet, R., & Goutaudier, N. (2017). The Dark Tetrad and antisocial behavior in a community sample of college students. *Journal of forensic psychology research and practice, 17*(5), 295–304. <https://doi.org/10.1080/24732850.2017.1361310>
- Chamorro-Premuzic, T., & Furnham, A. (2004). Art judgment: a measure related to both personality and intelligence?. *Imagination, Cognition and Personality, 24*(1), 3–24. <https://doi.org/10.2190/U4LW-TH9X-80M3-NJ54>
- Chamorro-Premuzic, T., Burke, C., Hsu, A., & Swami, V. (2010). Personality predictors of artistic preferences as a function of the emotional valence and perceived complexity of paintings. *Psychology of Aesthetics, Creativity, and the Arts, 4*(4), 196–204. <https://doi.org/10.1037/a0019211>
- Chamorro-Premuzic, T., Furnham, A., & Reimers, S. (2007). The ARTistic. *Psychologist, 20*(2), 84–87.
- Chamorro-Premuzic, T., Reimers, S., Hsu, A., & Ahmetoglu, G. (2009). Who art thou? Personality predictors of artistic preferences in a large UK sample: The importance of openness. *British Journal of Psychology, 100*(3), 501–516. <https://doi.org/10.1348/000712608X366867>
- Crysel, L. C., Crosier, B. S., & Webster, G. D. (2013). The Dark Triad and risk behavior. *Personality and individual differences, 54*(1), 35–40. <https://doi.org/10.1016/j.paid.2012.07.029>
- Ercegovac, I. R., Dobrota, S., & Kuščević, D. (2015). Relationship between music and visual art preferences and some personality traits. *Empirical Studies of the Arts, 33*(2), 207–227. <https://doi.org/10.1177/0276237415597390>
- Feist, G. J., & Brady, T. R. (2004). Openness to experience, non-conformity, and the preference for abstract art. *Empirical Studies of the Arts, 22*(1), 77–89. <https://doi.org/10.2190/y7ca-tby6-v7lr-76gk>

- Furnham, A. & Avison, M. (1997). Personality and preference for surrealist paintings. *Personality and Individual Differences*, 23, 923–935.
[https://doi.org/10.1016/s0191-8869\(97\)00131-1](https://doi.org/10.1016/s0191-8869(97)00131-1)
- Furnham, A., & Walker, J. (2001). The influence of personality traits, previous experience of art, and demographic variables on artistic preference. *Personality and Individual Differences*, 31(6), 997–1017.
[https://doi.org/10.1016/S0191-8869\(00\)00202-6](https://doi.org/10.1016/S0191-8869(00)00202-6)
- Jonason, P. K., Lyons, M., & Bethell, E. (2014). The making of Darth Vader: Parent–child care and the Dark Triad. *Personality and Individual Differences*, 67, 30–34. <https://doi.org/10.1016/j.paid.2013.10.006>
- Jonason, P. K., Webster, G. D., Schmitt, D. P., Li, N. P., & Crysel, L. (2012). The antihero in popular culture: Life history theory and the dark triad personality traits. *Review of General Psychology*, 16(2), 192–199.
<https://doi.org/10.1037/a0027914>
- 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>
- Komar, V., & Melamid, A. (1999). *Painting by numbers: Komar and Melamid's scientific guide to art*. University of California Press.
- Lambe, S., Hamilton-Giachrisis, C., Garner, E., & Walker, J. (2018). The role of narcissism in aggression and violence: A systematic review. *Trauma, Violence, & Abuse*, 19(2), 209–230.
<https://doi.org/10.1177/1524838016650190>
- Łowicki, P., & Zajenkowski, M. (2017). No empathy for people nor for God: The relationship between the Dark Triad, religiosity and empathy. *Personality and Individual Differences*, 115, 169–173.
<https://doi.org/10.1016/j.paid.2016.02.012>
- Marković S. (2017). *Domeni estetske preferencije. Od estetskog stimulusa do estetskog doživljaja*. [Domains of aesthetic preference. From aesthetic stimulus to aesthetic experience]. Beograd: Dosije studio.

- Međedović, J., & Bulut, T. (2017). Expanding the nomological network of Dark Tetrad: The case of cynicism, aggressive humor and attitudes towards immigrants. *Zbornik Instituta za kriminološka i sociološka istraživanja*, 36, 7–19.
- Međedović, J., & Petrović, B. (2015). The Dark Tetrad: Structural properties and location in the personality space. *Journal of Individual Differences*, 36(4), 228–236. <https://doi.org/10.1027/1614-0001/a000179>
- Newberry, M. (2017, May). *Darkness and light: the role of dark triad traits and empathy in understanding preferences for visual artworks*. Paper presented at the 11th Annual International Conference on Psychology, Athens, Greece.
- Paulhus, D. L., & Jones, D. N. (2015). Measures of dark personalities. In *Measures of personality and social psychological constructs* (pp. 562–594). Academic Press. <https://doi.org/10.1016/B978-0-12-386915-9.00020-6>
- 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)
- Rawlings, D. (2000). The interaction of openness to experience and schizotypy in predicting preference for abstract and violent paintings. *Empirical Studies of the Arts*, 18, 69–91. <https://doi.org/10.2190/71ct-aa49-xrmg-c842>
- Rawlings, D. (2003). Personality correlates of liking for ‘unpleasant’ paintings and photographs. *Personality and Individual Differences*, 34, 395–410. [https://doi.org/10.1016/s0191-8869\(02\)00062-4](https://doi.org/10.1016/s0191-8869(02)00062-4)
- Rawlings, D., & Bastian, B. (2002). Painting preference and personality, with particular reference to Gray's behavioral inhibition and behavioral approach systems. *Empirical Studies of the Arts*, 20(2), 177–193. <https://doi.org/10.2190/73uq-50qu-uatw-ry5e>






- Rawlings, D., Barrantes-Vidal, N. & Furnham, A. (2000). Personality and aesthetic preference in Spain and England: Two studies relating sensation seeking and openness to experience to liking for paintings and music. *European Journal of Personality*, 14, 553–576. [https://doi.org/10.1002/1099-0984\(200011/12\)14:6<553::aid-per384>3.0.co;2-h](https://doi.org/10.1002/1099-0984(200011/12)14:6<553::aid-per384>3.0.co;2-h)
- Redies, C. (2015). Combining universal beauty and cultural context in a unifying model of visual aesthetic experience. *Frontiers in human neuroscience*, 9, 218. <https://doi.org/10.3389/fnhum.2015.00218>
- Stojilović, I. Z., & Marković, S. (2014). Evaluation of paintings: Effects of lectures. *Psihologija*, 47(4), 415–432. <https://doi.org/10.2298/PSI1404415S>
- Swami, V., & Furnham, A. (2014). Personality and aesthetic experiences. In P. Tinio & J. Smith (Eds.), *Cambridge handbook of the psychology of aesthetics and the arts*. Cambridge, UK: Cambridge University Press.
- Tobacyck, J. J., Myers, H. & Bailey, L. (1981). Field dependence, sensation seeking and preference for paintings. *Journal of Personality Assessment*, 45, 270–277. https://doi.org/10.1207/s15327752jpa4503_8
- Williams, K. M., McAndrew, A., Learn, T., Harms, P., & Paulhus, D. L. (2001, August). *The Dark Triad returns: Entertainment preferences and antisocial behavior among narcissists, Machiavellians, and psychopaths*. Poster presented at the 109th Annual Convention of the American Psychological Association, San Francisco, CA.
- Williams, K. M., Paulhus, D. L., & Hare, R. D. (2007). Capturing the four-factor structure of psychopathy in college students via self-report. *Journal of personality assessment*, 88(2), 205–219. <https://doi.org/10.1080/00223890701268074>
- Yanulevskaia, V., Uijlings, J., Bruni, E., Sartori, A., Zamboni, E., Bacci, F., Melcher, D., & Sebe, N. (2012). In the eye of the beholder: employing statistical analysis and eye tracking for analyzing abstract paintings. In *Proceedings of the 20th ACM international conference on Multimedia*, 349–358. <https://doi.org/10.1145/2393347.2393399>

- Zaleski, Z. (1984). Sensation seeking and preference for emotional visual stimuli. *Personality and Individual Differences, 5*, 609–611. [https://doi.org/10.1016/0191-8869\(84\)90040-0](https://doi.org/10.1016/0191-8869(84)90040-0)
- Zuckerman, M., Ulrich, R. S. & McLaughlin, J. (1993). Sensation seeking and reactions to nature paintings. *Personality and Individual Differences, 15*, 563–576. [https://doi.org/10.1016/0191-8869\(93\)90340-9](https://doi.org/10.1016/0191-8869(93)90340-9)



Research Article

The Dark Core of personality: Individual's expression of locus of control and spirituality

Bruno Bonfá-Araujo[✉] , Ariela Raissa Lima-Costa² , Leila Maria Ferreira Couto¹ , Makilim Nunes Baptista¹  and Nelson Hauck-Filho¹ 

¹ Graduate School of Psychology, Universidade São Francisco, Campinas, Brazil

² Graduate School of Forensic Psychology, Universidade Tuiuti do Paraná, Paraná, Brazil

ABSTRACT

Dark personality traits are amongst the most popular research topics recently. In 2018 the Dark Core of personality was proposed as a common core to capture all aversive subclinical manifestations. In this study, we aimed at investigating how individuals with high scores on the Dark Core perceive control (i.e., internally or externally) and express their spirituality. Participants were 614 adults, mostly females (85.17%), aged from 18 to 73 years-old ($M = 36.00$; $SD = 12.26$), and identified themselves as agnostics (22.63%) or Catholics (19.05%). Participants responded to a measure that assessed the Dark Core of personality (D35), the Locus of Control Scale (ELOCUS), and the WHOQOL-spirituality, religiousness, and personal beliefs (WHOQOL-SRPB). We used a path analysis model to estimate their connection. Results indicated that the Dark Core better predicts external locus of control, which respectively predicts connect, strength, and faith, which can be considered as spiritual coping strategies. We concluded that men and women tend to blame external forces when things do not go their way and use personal beliefs to relieve emotional distress.

Keywords: dark traits, locus of control, personality, religiousness

UDC: 159.923.072:2

DOI: 10.19090/pp.2021.4. 465-481

Received: 15.09.2021.

Revised: 04.10.2021.

Accepted: 06.10.2021.



Copyright © 2021 The Author(s).

This is an open access article distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

✉ Corresponding author email: brunobonffa@outlook.com

Introduction

Investigation on subclinical aversive traits was highly impacted by the publication of Paulhus and Williams (2002) on the proposal of the Dark Triad of personality. Since their statement that Machiavellianism, narcissism, and psychopathy overlap but are distinct constructs, research on the topic grew considerably. Recently, Moshagen et al. (2018) suggested through a review of the literature and the use of a bifactor model that aversive personality traits can be captured by a single core, namely the Dark Core of personality or “D.” This core describes a tendency to disregard, accept or provoke aversive situations to others, using beliefs that can justify their actions. Further evidence was accumulated to support their conceptualization, indicating that D was stable in four years and is influenced by genetics and the environment (Moshagen et al., 2020; Schermer & Jones, 2020). To further explore and expand the conception of D, in this article, we will investigate the relationship between D, locus of control, and spirituality/religiosity.

Darker personalities are primarily associated with aversive characteristics, lower levels of empathy, and consideration for others. The idea that one can control every outcome and convince people to do what they want is commonly described as a critical characteristic of men and women with higher levels of dark personality traits (Aldousari & Ickes, 2021). Control of every outcome can be associated with the definition of locus of control, that is, how humans interpret any outcome as a consequence of their behavior or produced by external factors (e.g., a transcendental force; Rotter, 1990). On the one hand, individuals with high internal control perceive themselves and their actions as the main focus of responsibility for an outcome. When internal control is exacerbated, individuals may feel overconfidence and overestimate their capability to influence events (Nieuwenhuizen, 2004). On the other hand, highly externally controlled individuals tend to believe that events in life are controlled by a force beyond their capabilities, such as fate, luck, divine powers, or powerful people (Rotter, 1966). When higher levels of external control are present, individuals tend to be more anxious and emotional (Nieuwenhuizen, 2004).

So far, there are inconclusive results about how people with higher dark traits perceive control of their life events. Some mixed results indicate that the composite of the Dark Triad in entrepreneur students is negatively correlated with internal control and that Machiavellianism, also in entrepreneur students, positively correlated with external control (Rapp-Ricciardi et al., 2018). In another investigation in a general community sample, psychopathy was positively correlated with internal control, and Machiavellianism negatively correlated with external control (Bonfá-Araujo et al., 2020). Concerning D, Moshagen et al. (2020) demonstrated a tendency to perceive the world as competitive and dangerous. Consequently, people with high scores on D tend to engage in inadequate social behavior and experience a lack of guilt, which might lead them to deny responsibility for their actions and placing it on external causes. The way individuals will perceive specific outcomes can be highly influenced by their development, their environment, and even their spiritual beliefs.

Usually, men and women with dark traits are not particularly religious or kind (Kämmerle et al., 2013; Łowicki & Zajenkowski, 2015), while highly spiritual or religious people exhibit greater empathy levels and concern with others (Huber & MacDonald, 2012; Stewart et al., 2019). Therefore, this makes darker traits and religiosity appear unfitting with each other (e.g., Łowicki & Zajenkowski, 2015). Spirituality/religiosity are how people seek to give meaning to their lives, consisting of the belief in something transcendent, which may be accompanied by religious rituals (Panzini et al., 2017). The World Health Organization (WHO) investigates spirituality/religiousness from six dimensions: spiritual connection, meaning and purpose of life, experiences of awe and wonder, wholeness and integration, spiritual strength, inner peace, hope and optimism, and faith (Moreira-Almeida & Koenig, 2006; WHO, 2002). Thus, spirituality/religiosity might lead individuals to integrate healthily with society, promoting empathy, respect for others, and having a purpose in life (WHO, 2002). This aspect of life integrates one's perception of their quality of life, giving people a sense of meaning in life and satisfaction with life, aspects

that people with high dark traits usually tend to score low (Wang et al., 2019; Womick et al., 2019).

As previously found, higher levels of internal locus of control are associated with beliefs in divine power and the influence of divine power in an individual's life (Iles-Caven et al., 2020). Despite knowing the relationship between the Dark Triad of personality and locus of control or spirituality/religiousness, it is still unknown how individuals with darker traits will express their beliefs in specific outcomes. Spirituality/religiosity emphasizes prosocial behaviors, such as compassion, mercy, respect, and responsibility (Einolf, 2013). Perhaps, increased spirituality/religiosity can attenuate harmful behaviors to others, given that it can afford individuals to develop a better sense of responsibility and caring for others. Thus, in this study, we aimed to investigate the association between the Dark Core of personality and their perception of consequences/control of their lives and how spirituality/religiousness may be expressed. We hypothesize that (a) the Dark Core will explain internal and external locus of control, (b) the Dark Core will have negative correlations with spiritual/religious beliefs, and (c) Internal control will better explain spiritual/religious beliefs than external control.

Method

Participants and procedures

The research protocol was approved by the Research Ethics Committee and agreed to the declaration of Helsinki. The data collection took place on the Google Forms online platform, conducted in Brazilian Portuguese. To take part voluntarily in the study, participants should be at least 18 years old and agree to the information provided in the Consent Form. Participants were Brazilian community adults recruited via social media ($N = 614$), 85.17% were females. The sample were between 18 and 73 years-old ($M = 36.00$; $SD = 12.26$); 47.55% were single, 39.57% were married, 11.72% were divorced, and 1.14% were widowed; 29.64% had a complete graduate degree, 24.75% had a complete undergraduate degree, 23.77% were undergraduate students. The majority were agnostic (22.63%), followed by Catholics (19.05%),

spiritists (18.56%), atheists (15.96%), with the other 23.98% religions being Buddhism, Candomblé, Judaism, Protestantism, Hinduism, and Muslims. Most of the participants (51.30%) did not practice their religion, and those who practice went to their respective temples at most once a week (25.08%) or twice a week (5.37%).

Instruments

Dark Core of Personality (D35)

Dark Core of Personality (D35; Moshagen et al., 2020). Through an item selection, the authors developed three concise measures of the Dark Core of Personality, D70, D35, and D16. Brazilian-Portuguese version of the instrument is under development by the authors of this study and the original authors, following the recommendations of the International Testing Commission (ITC, 2017) and Bader et al. (2021) for instrument structure. For our study, we used the version comprising 35 items that are summed to create a single dimension of dark personality, items include characteristics of amorality (crudelia [e.g., "My own pleasure is all that matters"], and frustralia [e.g., "I would like to make people suffer, even if it meant that I would go to hell with them"]); egoism (e.g., "To make money there are no right or wrong ways anymore. Only easy and hard ways"), greed (e.g., "For most things, there is a point of having enough," reversed item), Machiavellianism (e.g., "It's wise to keep track of information that you can use against people later"), moral disengagement (e.g., "People who get mistreated have usually done something to bring it on themselves"), narcissism (e.g., "I do not mind sharing the stage," reversed item), psychological entitlement (e.g., "Someone who hurts me cannot count on my sympathy"), psychopathy (e.g., "Payback needs to be quick and nasty"), sadism (e.g., "If I ever tormented others, I would feel strong remorse," reversed item), self-centeredness (e.g., "I'm not very sympathetic to other people or their problems"), and spitefulness (e.g., "If I had the opportunity, then I would gladly pay a small sum of money to see a classmate who I do not like fail his or her final exam"). Participants use a Likert scale (1 = *strongly disagree*; 5 = *strongly agree*). Model fit (i.e., unidimensional) in this study was $CFI = .954$, $TLI =$

= .951, *RMSEA* = .041 (90% *CI*.038 - .045), with internal consistency of $\alpha = .75$ and $\omega = .78$.

Locus of Control Scale (ELOCUS)

Locus of Control Scale (ELOCUS; Couto et al., 2021). We measured Locus of Control using a Brazilian-Portuguese newly developed instrument that assesses internal and external locus consisting of 29 items, of which 16 measure internal characteristics, such as, self-efficacy, and responsibility ($\alpha = .93$ and $\omega = .93$, e.g., "I'm responsible person"); and 13 measure external characteristics, for example, lucky, destiny, and superior forces ($\alpha = .80$ and $\omega = .80$, e.g., "I do what other people tell me to do"). Participants use a Likert scale (1 = *never*; 5 = *always*). Model fit (i.e., two dimensions) in this study was *CFI* = .979, *TLI* = .977, *RMSEA* = .038 (90% *CI*.033 - .042).

WHOQOL-Spirituality, Religiousness and Personal Beliefs

WHOQOL-Spirituality, Religiousness and Personal Beliefs (WHOQOL-SRPB; WHO, 2002). Developed by the World Health Organization and adapted to Brazilian-Portuguese by Panzini et al. (2011), this instrument measures how spirituality, religiousness and personal beliefs affect one's quality of life, consisting of 32 items. There are eight dimensions, with four items each; connect ($\alpha = .96$ and $\omega = .96$, e.g., "To what extension does any connection to a spiritual being help you get through hard times?"), meaning ($\alpha = .83$ and $\omega = .85$, e.g., "To what extent do you find meaning in life?"), awe ($\alpha = .74$ and $\omega = .75$, e.g., "To what extent do you feel spiritually touched by beauty?"), whole ($\alpha = .80$ and $\omega = .80$, e.g., "To what extent do you feel any connection between your mind, body and soul?"), strength ($\alpha = .95$ and $\omega = .95$, e.g., "To what extent do you feel inner spiritual strength?"), peace ($\alpha = .93$ and $\omega = .93$, e.g., "To what extent do you feel peaceful within yourself?"), hope ($\alpha = .89$ and $\omega = .89$, e.g., "How hopeful do you feel?"), and faith ($\alpha = .98$ and $\omega = .98$, e.g., "To what extent does faith contribute to your well-being?"). Item sets with specific content use a Likert scale with a distinctive anchor, so that four response formats are employed, each one to a particular item set (1 = *not at all*, 5 = *an extreme amount*; 1 = *not at all*, 5 = *extremely*; 1 = *not at all*, 5 = *completely*; 1 = *very*

dissatisfied; 5 = *very satisfied*). Model fit (i.e., eight dimensions) in this study was $CFI = .989$, $TLI = .987$, $RMSEA = .060$ (90% CI .057 - .064).

Data analysis

Data were analyzed using JASP (Jasp Team, 2020) and MPlus (Muthén & Muthén, 1998-2017). We first performed descriptive statistics and zero-order correlations on the collected variables. Lastly, we used a path model to estimate the relationship of the Dark Core of Personality predicting Locus of Control and spirituality/religion controlled for gender, using the Maximum Likelihood Robust (*MLR*) estimator. For this model, we assessed the Comparative Fit Index (*CFI*), Tucker-Lewis Index (*TLI*), and Root Mean Square Error of Approximation (*RMSEA*). Acceptable values must fall > than .90 for *CFI* and *TLI*, and <.08 for *RMSEA* (Brown, 2015).

Results

In Table 1, we report descriptive statistics for our study variables. The Dark Core only correlated positively with an external locus of control and negatively with the other variables. Despite men having higher scores than women, no statistical difference was found. Regarding the locus of control dimensions, on the one hand, internal control was highly positively correlated with variables from the WHOQOL measure; on the other, external locus correlated negatively with religiousness and spirituality. Women were found to have higher means in the internal locus of control, while men had higher means in the external locus of control. We also observed that women had higher means in all spirituality/religiousness/personal beliefs dimensions.

Table 1*Descriptive Statistics and Correlations for our Study Variables*

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Dark Core of Personality	2.52	0.30	-										
2. Internal Locus	4.04	0.62	-.05	-									
3. External Locus	1.82	0.51	.29**	-.40**	-								
4. Connect	3.15	1.46	-.11*	.13*	.10*	-							
5. Meaning	3.65	1.03	-.19**	.30**	-.10*	.58**	-						
6. Awe	3.95	0.82	-.19**	.28**	-.08 ^a	.43**	.55**	-					
7. Whole	3.57	0.94	-.17**	.36**	-.19**	.44**	.57**	.64**	-				
8. Strength	3.26	1.39	-.14**	.22**	.01	.86**	.67**	.55**	.62**	-			
9. Peace	3.36	1.01	-.15**	.43**	-.23**	.27**	.50**	.52**	.71**	.44**	-		
10. Hope	3.37	1.03	-.12*	.41**	-.21**	.37**	.62**	.53**	.62**	.52**	.72**	-	
11. Faith	3.10	1.51	-.10*	.20**	.08	.90**	.65**	.47**	.52**	.89**	.37**	.49**	-
<i>t</i> -Tests (Gender)			-1.74	2.23 ^a	-1.96 ^a	4.14**	2.58*	3.10*	2.74*	3.22**	1.94	2.41*	3.53**
Cohen's <i>d</i>			-0.19	0.25	0.22	0.47	0.29	0.35	0.31	0.36	0.22	0.27	0.40

Notes: ** $p < .001$; * $p < .01$; ^a $p < .05$. For gender, 0 = *female* and 1 = *male*.

Subsequently, we conducted a path model where the Dark Core explained both locus dimensions and facets of spirituality/religiousness, and internal/external locus explained each expression of spirituality/religiousness, controlling for gender. Figure 1 presents the results. The model yielded an excellent fit $c^2(66) = 3543.671$, RMSEA = 0.00 [90% C.I. 0.00 to 0.00], CFI = 1.00, TLI = 1.00.

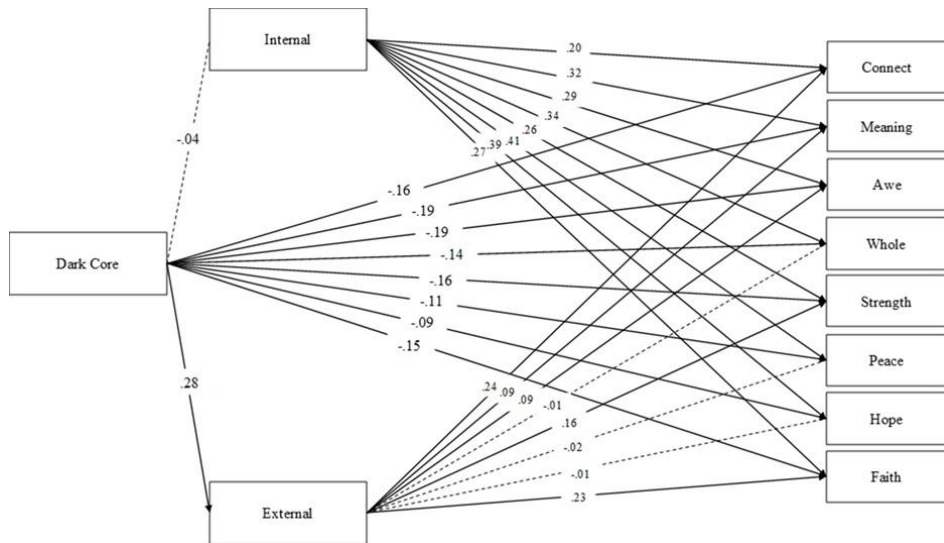


Figure 1. Path model of the Dark Factor predicting locus of control and spirituality/religiousness, controlled for gender.

Note: Beta values on arrows indicate significant path $p < .001$. Dashed lines indicate a nonsignificant path.

The Dark Core positively explained the external locus of control, which respectively only explained connect, strength and faith. The internal locus was able to explain all spirituality/religiousness dimensions. In other words, individuals with higher scores in darker traits tend to perceive the results of events as a consequence of external forces, using strategies such as connection, strength, and faith to balance their quality of life. Gender had significant ($p < .05$) influence on internal control ($\beta = -.08$), connect ($\beta = -.15$), awe ($\beta = -.09$), strengthen ($\beta = -.10$), and faith ($\beta = -.12$).

Discussion

This study aimed at investigating the association between the Dark Core of personality and their perception of consequences/control of their lives and how spirituality/religiousness may be expressed. The hypotheses were corroborated by the results, suggesting, in general, a negative

relationship between the Dark Core and spirituality/religious beliefs and internal locus of control, thus showing a tendency of men and women to attribute responsibility for their actions to external causes. Also, as hypothesized, internal locus was more strongly correlated with spirituality/religious beliefs than external locus. Males and females exhibited small to moderate differences in our variables. Surprisingly, there was no difference in the dark personality traits, probably because the measure is an aggregated score of many traits, each of them with a mean difference that might sometimes favor men and other times women. Regarding locus of control, women had higher internal control and lower external control than men and scored higher in spiritual/religious facets, following previous literature (Iles-Caven et al., 2020). The theoretical and practical implications of these results are discussed.

Our study has two main findings. The first one is that individuals with higher scores on the Dark Core tend to perceive events as externally controlled. This is consistent with the notion that these individuals behave in a socially inadequate way, disregarding others and denying responsibility for their actions (Moshagen et al., 2018). The absence of responsibility may lead them to engage in more unethical and irrational behavior (Tsai et al., 2014) and to blame other people (Guo et al., 2021), superior forces, and destiny for events in their lives. One famous example is the widely known social experiment of Milgram (1963), in which participants were informed that they would not be held responsible for what was taking place in the experiment. Participants ended up administering a (fake) lethal voltage of shock to another participant (who was a confederate). Therefore, people, that believe they are not responsible for their actions might end up engaging in aggressive or unethical behaviors they would not engage in otherwise.

The second main result is that external locus of control predicted facets related to spiritual coping facets, i.e., connect + strength + faith (Krägeloh et al., 2015). These three facets might act as a buffer to reduce anxiety since they seem to describe coping strategies and not quality of life strategies, differing from the other facets that are more related to

consequences of religious and spiritual beliefs (Moreira-Almeida & Koenig, 2006). A possibility is that men and women with higher scores in the Dark Core use their connection with God (or other related beings) as a tool, since they may not be able to develop a real religious connection, albeit having the capacity of understanding the importance others give to this aspect of life (Łowicki & Zajenkowski, 2017). Thus, they might engage in spiritual coping to manipulate and convince others that an external force is responsible for their inadequate social behaviors (Kämmerle et al., 2014).

A propensity toward placing responsibility mostly on external causes has practical implications for the life of men and women with higher scores in the dark core of personality. Our results entail that such individuals tend to overlook spirituality or religiosity in their lives. Namely, by placing the responsibility for the people's destiny or fate onto a divine entity or force, the high D scorers can morally justify their antisocial behaviors such as conning, cheating, and robbing/thieving. The consequences of these exploitative actions can be attributed to the plans of God or another entity so that the high D scorers can exempt themselves from feeling guilty or from believing they will suffer a "divine punishment."

Despite the advances made in our research on the Dark Core and how individuals may perceive spiritual outcomes, our study was not without limitations. First, the composition of our sample is idiosyncratic when it comes to religious beliefs because Brazil is a highly Catholic country (Instituto Brasileiro de Geografia [IBGE], 2010). Thus, we cannot assure the findings here reported will perfectly replicate in other cultures with a distinct profile of religious beliefs. Moreover, our sample was mainly composed of female individuals, so that future studies should make efforts to test the hypotheses here advanced in more balanced datasets. Second, we only relied on self-report measures, which could be affected by response biases, especially the Dark Core items that are socially undesirable. Thus, future studies should try to overcome such limitations. Despite these shortcomings, we explained how people with higher scores on the Dark Core are more prone to perceive outcomes as consequences of external causes, such as God or destiny if

something does not go their way. In turn, external locus was able to predict three personal beliefs, “Connect + Strength + Faith,” beliefs previously considered as spiritual coping (i.e., they are primarily used to reduce emotional distress), instead of the spiritual quality of life (Krägeloh et al., 2015).

Conflict of interest

We have no conflicts of interest to disclose.

Data availability statement

The data that support the findings of this study are available from the corresponding author, upon reasonable request.

References

- Aldousari, S. S., & Ickes, W. (2021). How is Machiavellianism related to locus of control?: A meta-analytic review. *Personality and Individual Differences, 174*, 110677. <https://doi.org/10.1016/j.paid.2021.110677>
- Bader, M., Hartung, J., Hilbig, B. E., Zettler, I., Moshagen, M., & Wilhelm, O. (2021). Themes of the dark core of personality. *Psychological Assessment, 33*(6), 511–525. <https://doi.org/10.1037/pas0001006>
- Bonfá-Araujo, B., Lima-Costa, A. R., Cremasco, G. D. S., Sette, C. P., & Jesuino, A. D. A. (2020). A tríade sombria da personalidade: afetos e lócus de controle [The Dark Triad of Personality: Affects and Locus of Control]. *Avances en Psicología Latinoamericana, 38*(3), 52–65. <https://doi.org/10.12804/revistas.urosario.edu.co/apl/a.8652>
- Brown, T. (2015). *Confirmatory Factor Analysis for Applied Research*. Second Edition. Guilford Press.
- Couto, L. M. F., Bonfá-Araujo, B., & Baptista, M. N. (2021). *Construção e evidências de validade baseadas no conteúdo para a Escala de Locus de Controle (ELOCUS)*. [Development and evidence based on test content for the Locus of Control Scale (ELOCUS)]. [Manuscript submitted for publication]. Graduate School of Psychology, Universidade São Francisco.

- Einolf, C. J. (2013). Daily spiritual experiences and prosocial behavior. *Social Indicators Research*, *110*(1), 71–87. <https://doi.org/10.1007/s11205-011-9917-3>
- Guo, Q., Guo, Y., Qiao, X., Leng, J., & Lv, Y. (2021). Chance locus of control predicts moral disengagement which decreases well-being. *Personality and Individual Differences*, *171*, 110489. <https://doi.org/10.1016/j.paid.2020.110489>
- Huber, J. T., & MacDonald, D. A. (2012). An investigation of the relations between altruism, empathy, and spirituality. *Journal of Humanistic Psychology*, *52*(2), 206–221. <https://doi.org/10.1177/0022167811399442>
- Iles-Caven, Y., Gregory, S., Ellis, G., Golding, J., & Nowicki, S. (2020). The relationship between locus of control and religious behavior and beliefs in a large population of parents: an observational study. *Frontiers in Psychology*, *11*, 1462. <https://doi.org/10.3389/fpsyg.2020.01462>
- Instituto Brasileiro de Geografia [IBGE] (2010). Censo demográfico. Retrieved (September, 2021) from: <https://www.ibge.gov.br/estatisticas/sociais/populacao/9662-censo-demografico-2010.html?edicao=9749&t=destaques>
- International Test Commission. (2017). *The ITC Guidelines for Translating and Adapting Tests* (Second edition). [www.InTestCom.org]
- JASP Team (2020). *JASP (Version 0.14.1)*[Computer software].
- Kämmerle, M., Unterrainer, H. F., Dahmen-Wassenberg, P., Fink, A., & Kapfhammer, H. P. (2014). Dimensions of religious/spiritual well-being and the dark triad of personality. *Psychopathology*, *47*(5), 297–302. <https://doi.org/10.1159/000358563>
- Krägeloh, C. U., Billington, D. R., Henning, M. A., & Chai, P. P. M. (2015). Spiritual quality of life and spiritual coping: evidence for a two-factor structure of the WHOQOL spirituality, religiousness, and personal beliefs module. *Health and Quality of Life Outcomes*, *13*(1), 1–11. <https://doi.org/10.1186/s12955-015-0212-x>

- Łowicki, P., & Zajenkowski, M. (2017). No empathy for people nor for God: The relationship between the Dark Triad, religiosity and empathy. *Personality and Individual Differences*, 115, 169–173.
<https://doi.org/10.1016/j.paid.2016.02.012>
- Milgram, S. (1963). Behavioral study of obedience. *The Journal of Abnormal and Social Psychology*, 67(4), 371–378. <https://doi.org/10.1037/h0040525>
- Moreira-Almeida, A., & Koenig, H. G. (2006). Retaining the meaning of the words religiosity and spirituality: A commentary on the WHOQOL SRPB group's "A cross-cultural study of spirituality, religion, and personal beliefs as components of quality of life" (62: 6, 2005, 1486–1497). *Social Science & Medicine*, 63(4), 843–845.
<https://doi.org/10.1016/j.socscimed.2006.03.001>
- Moshagen, M., Hilbig, B. E., & Zettler, I. (2018). The dark core of personality. *Psychological Review*, 125(5), 656–688.
<https://doi.org/10.1037/rev0000111>
- Moshagen, M., Zettler, I., & Hilbig, B. E. (2020). Measuring the dark core of personality. *Psychological Assessment*, 32(2), 182–196.
<https://doi.org/10.1037/pas0000778>
- Moshagen, M., Zettler, I., Horsten, L. K., & Hilbig, B. E. (2020). Agreeableness and the common core of dark traits are functionally different constructs. *Journal of Research in Personality*, 87, 103986.
<https://doi.org/10.1016/j.jrp.2020.103986>
- Muthén, L.K. & Muthén, B.O. (1998-2017). *Mplus User's Guide*. Eighth Edition. Los Angeles, CA: Muthén & Muthén.
- Nieuwenhuizen, C. (2004). *Basics of entrepreneurship*. Juta and Company Ltd.
- Panzini, R. G., Maganha, C., Rocha, N. S. D., Bandeira, D. R., & Fleck, M. P. (2011). Validação brasileira do Instrumento de Qualidade de Vida/espiritualidade, religião e crenças pessoais [Brazilian validation of the Quality of Life Instrument/spirituality, religion and personal beliefs].

- Revista de Saúde Pública*, 45, 153–165. <https://doi.org/10.1590/S0034-89102011000100018>
- Panzini, R. G., Mosqueiro, B. P., Zimpel, R. R., Bandeira, D. R., Rocha, N. S., & Fleck, M. P. (2017). Quality-of-life and spirituality. *International Review of Psychiatry*, 29(3), 263–282. <https://doi.org/10.1080/09540261.2017.1285553>
- 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)
- Rapp-Ricciardi, M., Widh, J., Barbieri, B., Amato, C., & Archer, T. (2018). Dark triad, locus of control and affective status among individuals with an entrepreneurial intent. *Journal of Entrepreneurship Education*, 21, 1–18. Retrieved (August, 2021) from: <https://www.abacademies.org/articles/dark-triad-locus-of-control-and-affective-status-among-individuals-with-an-entrepreneurial-intent-1528-2651-21-1-134.pdf>
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological monographs: General and applied*, 80(1), 1–28. <https://doi.org/10.1037/h0092976>
- Rotter, J. B. (1990). Internal versus external control of reinforcement: A case history of a variable. *American Psychologist*, 45(4), 489–493. <https://doi.org/10.1037/0003-066X.45.4.489>
- Schermer, J. A., & Jones, D. N. (2020). The behavioral genetics of the dark triad core versus unique trait components: A pilot study. *Personality and Individual Differences*, 154, 109701. <https://doi.org/10.1016/j.paid.2019.109701>
- Stewart, C., Lawrence, S., & Burg, M. A. (2019). Exploring the Relationship of personality characteristics and spirituality to empathy: Does spirituality add to our understanding?. *Journal of Religion & Spirituality in Social Work: Social Thought*, 38(1), 3–20. <https://doi.org/10.1080/15426432.2018.1548953>

Tsai, J. J., Wang, C. H., & Lo, H. J. (2014). Locus of control, moral disengagement in sport, and rule transgression of athletes. *Social Behavior and Personality: An International Journal*, 42(1), 59–68.

<https://doi.org/10.2224/sbp.2014.42.1.59>

Wang, J., Li, T., Wang, K., & Wang, C. (2019). Patience as a mediator between the dark triad and meaning in life. *Applied Research in Quality of Life*, 14(2), 527–543. <https://doi.org/10.1007/s11482-018-9627-y>

Womick, J., Foltz, R. M., & King, L. A. (2019). “Releasing the beast within”? Authenticity, well-being, and the Dark Tetrad. *Personality and Individual Differences*, 137, 115–125. <https://doi.org/10.1016/j.paid.2018.08.022>

World Health Organization. (2002). WHOQOL-SRPB field-test instrument: WHOQOL spirituality, religiousness, and personal beliefs (SRPB) field-test instrument: the WHOQOL-100 questions plus 32 SRPB questions, 2012 revision. World Health Organization.

<https://apps.who.int/iris/handle/10665/77777>



Research Article

The Effects of the Dark Triad Traits on the Five Pillars of Positive Psychology: The Moderation Effect of Gender

Beata Grabovac^{✉1}  and Jelena Šakotić Kurbalija² 

¹ Department of Social Sciences and Humanities, Hungarian Language Teacher Training Faculty, University of Novi Sad, Serbia

² Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

ABSTRACT

The current study investigated the effects of the Dark Triad traits (Machiavellianism, narcissism, and psychopathy) on mental health indicators from the viewpoint of positive psychology. Additionally, the moderation effect of gender was explored in the context of these relationships. The sample consisted of Hungarian adults from Serbia (439, 54% women). The participants completed the Short Dark Triad Scale (SD3) and the Mental Health Test (MHT), which is a new measure of mental health that can identify levels of well-being, savoring, creative and executing efficiency, self-regulation, and resilience. Results showed that narcissism positively predicted all mental health indicators, while psychopathy negatively predicted all indicators, except for resilience, with which it showed no significant relationship. Machiavellianism was a positive predictor of savoring, creative and executing efficiency, but a negative predictor of self-regulation and resilience and it had no significant effect on well-being. There was no significant moderation effect of gender.

Keywords: Dark Triad, mental health, positive psychology, gender

UDC: 159.923.072:159.913

DOI: 10.19090/pp.2021.4. 483-508

Received: 23.09.2021.

Revised: 03.11.2021.

Accepted: 07.12.2021.



Copyright © 2021 The Author(s).

This is an open access article distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

✉ Corresponding author email: beata.grabovac@magister.uns.ac.rs

Introduction

The Dark Triad of Personality

Many concepts in psychology can be considered as continuum with positive and negative endpoints and the field of personality is no exception. The so-called Dark Triad encompasses individuals who focus on personal gain, as opposed to light personalities, which refer to individuals that are “good” – kind and warm to others (Kaufman et al., 2019). The three members of the above-mentioned dark personalities are Machiavellianism, subclinical narcissism, and subclinical psychopathy (Paulhus & Williams, 2002), which represent the malevolent and vicious side of human nature. This is mirrored in the fact that risk toward others as well as toward self was positively related to all three Dark Triad members (Dinić et al., 2020).

The Dark Triad traits have shared features referred to as the Dark Core. Jones and Figueredo (2013) proposed the following elements of the Dark Core - interpersonal manipulation and callous affect. A newer candidate for the “heart of darkness” has also emerged in the form of a combination of three antagonistic traits - callousness (as the hallmark of psychopathy), deceitfulness (Machiavellianism), and grandiosity (narcissism), with the callousness facet occupying the central role (Dinić et al., 2021).

Besides a shared Dark Core, each member of the Dark Triad has has unique characteristics. For Machiavellianism, these include amorality, cynicism, a lack of empathy (Bereczkei, 2016), and strategic functioning (Szabó & Jones, 2019). For narcissism, they are grandiosity and dominance, with feelings of entitlement and superiority (Paulhus & Williams, 2002). Finally, psychopathy is further characterized by high impulsivity, thrill-seeking, low empathy, lack of remorse (Paulhus & Williams, 2002). There are well-documented gender differences in the Dark Triad traits (e.g., Muris et al., 2017), with men consistently showing higher scores on all three traits.

Mental Health from the Viewpoint of Positive Psychology

Mental health can be captured through positive and negative psychological constructs. It has various definitions, which can differ in central concepts or content (e.g., whether they refer to mental disorders or merely personal capacities). The World Health Organization (WHO, 2021) defines mental health as „a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively, and is able to make a contribution to his or her community“. Keyes and Lopez (2002, pp. 48) view it „as a complete state consisting of (a) the absence of mental illness and (b) the presence of high-level well-being“.

From the viewpoint of positive psychology, one of the newest and most detailed definitions has been offered by Vargha and colleagues (2020, pp. 2). They believe that mental health can be described as „well-being on a biological, psychological, societal, and spiritual level and besides this it is a capability to maintain and experience positive states and it is as well associated with the presence of efficient coping and savoring, resilience, and dynamic self-regulation“. In sum, it is a sense of being in the right place regarding the present and having a broad psychological capacity to fight against life's adversities. The conception of mental health of Vargha et al. (2020) includes five indicators: well-being, savoring, creative and executing efficiency, self-regulation, resilience.

Nagy (2019) based on the work of other scholars sums up components and main characteristics of well-being or global well-being, which means that the person shows high levels of (1) emotional or subjective, (2) psychological, (3) social, and (4) spiritual well-being: the first signifies the predominance of positive emotions and life satisfaction, the second refers to personal capacity building, growth and independence, the third relates to being well-adjusted to the social world, and the fourth is an optimistic attitude towards the questions of life and death, purpose, and other related concepts. Savoring denotes the „capacity to enjoy life“ as well as maintaining and experiencing positive psychological states (Nagy & Oláh, 2013, pp. 566). Creative and executing efficiency is a personal capability to adaptively change oneself, the

physical or social situation under heightened circumstances for goal attainment (Oláh, 2005). Self-regulation is the ability to exert control over the functioning of the mind on a cognitive and emotional level and determination in goal attainment (Oláh, 2005). Resilience taps adaptive functioning in the face of adversities, along with mental flexibility or psychological immunity (Vargha et al., 2020). It is grounded in the work of Block and Kremen (1996), who see ego resiliency as a capacity to modify ego control in response to environmental challenges with the goal of maintaining personal balance. Likewise contributing to this foundation are Smith et al. (2008), who define it as the ability to bounce back or recover from stress.

Based on this definition of mental health, Vargha and colleagues (2020) have developed a new measure with the aim of providing an insight into the quality of individuals' everyday functioning, which we utilized in our study. Regarding the Mental Health Test, Vargha et al. (2020) have found a gender difference for savoring, which is higher in women in all age groups and an interaction effect of the age and gender for self-regulation (in women it becomes higher with age in all age groups, while in men it grows just in the category of 26-50 year-olds).

The Dark Triad and Positive Mental Functioning

Thus far, studies have mainly linked Dark Triad traits to disadvantages in various fields of life: emotional, social, and interpersonal (Aghababaei & Błachnio, 2015, Jonason et al., 2015, Muris et al., 2017). The results of the meta-analysis conducted by Muris et al. (2017) showed that when the shared variance among Dark Triad traits was controlled, only psychopathy emerged as a significant correlate of various mental health indicators.

Psychopathy correlated negatively with life satisfaction and happiness (or subjective well-being); showed negative zero-order and partial correlations with environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance (Aghababaei & Błachnio, 2015). It negatively predicted hope, emotional and psychological well-being

(Jonason et al. 2015) and was negatively related to emotionality and self-control (and in one study to well-being) (Petrides et al. 2011). Psychopathy was positively related to problematic functioning in close and social relationships and to risk taking (measuring both harming oneself and others) (Dinić et al. 2020) and negatively predicted life satisfaction, positive affect, and psychological and social well-being (Joshanloo, 2021). A study focusing on psychopathy found it to be negatively related to subjective well-being and positively related to subjective ill-being, which was mirrored in its negative associations with positive affect, happiness, and life satisfaction. On the other hand, the results showed that psychopathy positively correlated with negative affect and depression (Love & Holder, 2014). Bonfá-Araujo and colleagues (2021) found that psychopathy was positively related to depression and negatively to life satisfaction. Saltoğlu and Irak (2020) found negative associations between primary and secondary psychopathy and life satisfaction and positive relations between primary and secondary psychopathy and stress. They further reported that secondary psychopathy (individuals who commit antisocial acts, have remorse and fear, see Dean et al., 2013) positively correlated with depression and anxiety. Primary psychopathy (individuals who commit antisocial acts, lack empathy and fear, see Dean et al., 2013) was related to more adaptive coping styles than secondary psychopathy. Psychopathy has also been found to be negatively related to self-control (Jonason & Tost, 2010), but Furtner et al. (2017) found no association between psychopathy and self-leadership („evaluating one’s assumptions, visualizing productive behavior patterns, and pursuing one’s goals“, pp. 369). It was positively related to anxiety, which can be linked to self-regulation mechanisms (Lyons et al. 2019) and negatively related to resilience (Bagheri Sheykhgafshe et al., 2021; Kun et al. 2021). For psychopathy Muris et al. (2017) state that it is generally characterized by aggression/delinquency, erratic behavior, sex-related issues, socioemotional deficits, poor well-being, interpersonal difficulties, morality problems, and antisocial tactics. In sum, based on previous studies psychopathy is negatively linked to various mental health indicators, including subjective, psychological, social well-being, savoring, self-regulation and resilience.

Machiavellianism showed a negative correlation with happiness looking at both zero-order and partial correlations; showed negative zero-order correlations with environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance, but the partial correlations were non-significant, except for environmental mastery, with which there was a negative relation (Aghababaei & Błachnio, 2015). Machiavellianism negatively predicted hope, self-esteem, emotional well-being, psychological well-being, and social well-being (Jonason et al. 2015) and was negatively correlated with well-being, emotionality (emotion perception and expression) and self-control (Petrides et al. 2011). It was negatively related to poor subjective well-being, but positively related to risk taking (measuring both harming oneself and others, see Dinić et al. 2020) and negatively predicted life satisfaction, positive affect, and psychological and social well-being (Joshanloo 2021). Although some authors state that Machiavellians have high self-control (e.g., Furtner et al., 2017), others have shown the opposite, finding a negative relation between self-control and Machiavellianism (Shamsudheen et al., 2017) or found inconsistent results - negative or no relationship (Jonason & Tost, 2010). Furtner et al. (2017) found no association between Machiavellianism and self-leadership. Machiavellianism increases the likelihood of mental distress (Lyons et al. 2019), positively predicted negative affect and it related negatively to resilience (Bagheri Sheykhgafshe et al., 2021; Kun et al. 2021). For Machiavellianism, Muris et al. (2017) have drawn a conclusion that a main characteristic of Machiavellianism is that it generally shows interpersonal difficulties and antisocial tactics. This is mirrored in results that show its negative relationship with social well-being (Jonason et al, 2015, Joshanloo, 2021), although social skills are positively related to it (Jonason et al, 2015). Based on the results we might expect that Machiavellianism is related negatively to subjective, psychological and social well-being, savoring, resilience and that relations with self-regulation are inconclusive, based on previous mixed results.

Compared to other Dark Triad members, narcissism correlated positively with life satisfaction and happiness (or subjective well-being);

showed positive zero-order and partial correlations with psychological well-being (Aghababaei & Błachnio, 2015), positively predicted hope, self-esteem, emotional well-being, psychological well-being, and social well-being (Jonason et al. 2015) and was consistently positively related to well-being and sociability (Petrides et al. 2011). Narcissism also positively predicted life satisfaction, positive affect, and psychological and social well-being (Joshanloo, 2021) and was negatively related to poor subjective well-being, but positively related to risk taking (measuring both harming oneself and others, see Dinić et al. 2020). Narcissism showed significant negative correlation with self-control (Jonason & Tost, 2010), it aided coping with stressful events (Lyons et al. 2019), and it was positively related to resilience (Bagheri Sheykhgafshe et al., 2021). Results also suggest that the positive relationship between narcissism and resilience was mediated by mental toughness (Kun et al. 2021). Muris et al. (2017) showed that narcissism seems to be the least problematic when taking into account the Dark Triad traits, showing only interpersonal difficulties. In sum, these results have shown that narcissism is positively related to subjective, psychological, social well-being, savoring and resilience and negatively to self-regulation.

Thus, we can conclude that studies focusing on mental health and well-being have used various measures to reveal their connection with the dark traits and have shown that narcissism may be more on the benevolent side and Machiavellianism and psychopathy more on the malicious side of human functioning (e.g., Aghababaei & Błachnio, 2015; Joshanloo, 2021). To further these inquiries, our research focused on predicting the pattern of five mental health indices from the field of positive psychology using Vargha et al.'s components (2020) based on Dark Triad traits.

Previous research pointed in the direction that gender might moderate the relationships between Dark Triad traits and mental health indicators. Thus, it was shown that empathy significantly correlated with narcissism in women and more strongly than in men; it was strongly negatively correlated with psychopathy in men, but for women this relation was again negative and significant (Jonason et al., 2013). Szabó and Jones (2019) found

that Machiavellianism was positively related to motor impulsivity, non-planning, inattention and overall impulsivity in women and positively related to motor impulsivity and negatively to non-planning in men, while its association with overall impulsivity was non-significant in this subgroup. In women narcissism was positively related to motor impulsivity and negatively to non-planning and there were no significant relations with overall impulsivity, while in the group of men narcissism was negatively related to non-planning, inattention and overall impulsivity. Psychopathy showed a positive relation with all kinds of impulsivity and overall impulsivity both in men and women.

However, Bonfá-Araujo et al. (2021) found no moderating effect of gender between Dark Triad traits and depression and life satisfaction. Thus, in our study we also wanted to explore the moderation effect of gender in prediction of mental health based on Dark Triad traits. Taking into account previous research, we hypothesized that:

1. Machiavellianism will show a positive effect on creative and executing efficiency (e.g., Muris et al., 2017) and it will have a negative effect on well-being (Aghababaei & Błachnio, 2015), savoring (Jonason et al., 2015), self-regulation (Petrides et al., 2011) and resilience (Kun et al., 2021).
2. Narcissism would positively predict well-being (Aghababaei & Błachnio, 2015), savoring (Bonfá-Araujo et al., 2021), creative and executing efficiency (e.g., Muris et al., 2017) and resilience (Kun et al., 2021). It would show a negative relation with self-regulation (Jonason & Tost, 2010).
3. Psychopathy would negatively predict all five mental health indicators: well-being (Aghababaei & Błachnio, 2015), savoring (Love & Holder, 2014), creative and executing efficiency (Muris et al., 2017), self-regulation (Jonason & Tost, 2010) and resilience (Kun et al., 2021).
4. We expected gender to have a moderation role on the effects of the Dark Triad traits on mental health indicators. Previous studies showed

gender differences related to the dark traits and variables of emotional functioning and self-regulation, etc. (Jonason et al., 2013, Szabó & Jones, 2019). Although there are no many studies in which the moderation role of gender was explored, in the existing ones the moderation role of gender was confirmed, with significant or stronger relations between dark traits and mental health indicators among men or showing gender-based/biased patterns.

Method

Sample

The sample included 439 Hungarian adults (54% women), aged 18-72 years ($M = 26.07$, $SD = 10.79$), from Serbia and the research was conducted in the Hungarian language. The majority (51.9%) were students or finished faculty. Students from the Hungarian Language Teacher Training Faculty at the University of Novi Sad were given course credit for their participation and they were given the task to recruit other adult participants – two men and two women each. Data were collected anonymously via an online form on the Google Forms platform. An informed consent was obtained from all participants. The Institutional Review Board of the Hungarian Language Teacher Training Faculty in Subotica, University of Novi Sad (20210519-2BGBDJŠ), approved the study.

Instruments

The Short Dark Triad Scale (SD3)

The Short Dark Triad Scale (SD3; Jones & Paulhus, 2014, for Hungarian adaptation see Szabó et al., 2021). SD3 has 27 items measuring Dark Triad traits (Machiavellianism, narcissism, and psychopathy), per 9 items each. Participants give answers on a 5-point Likert-type scale (1 – *Strongly disagree* to 5 – *Strongly agree*).

The Mental Health Test (MHT)

The Mental Health Test (MHT; Vargha et al., 2020). MHT was developed in Hungarian and has 17 items distributed in five subscales: well-being (3 items, e.g., "In my everyday life there is significantly more happiness than sadness.") measuring emotional, psychological, social, and spiritual well-being; savoring (3 items, e.g., "I like to store memories of happy times, to recall them afterwards.") measuring making, maintaining, and intensifying positive experiences; creative and executing efficiency (5 items, e.g., "Other people also think that I am a good problem-solver.") measuring ability to cope in hardship and keep fighting for personal goals; self-regulation (3 items, e.g., "I become impatient easily.") measuring emotion- and self-control; and resilience (3 items, , e.g., "After hard times my recovery is fast.") measuring successful adaptation to stressful events and recovery. Answers are given on a 6-point Likert-type scale (1 – *Not typical of me at all* to 6 – *Totally typical of me* for the first 17 items and 1 – *Not at all* to 6 – *Totally* for the 18th item). Since there is no previous model testing, in this research model fit was tested via confirmatory factor analysis. The model fit for the proposed five-factor model with correlated factors was acceptable, except for *TLI*: $MLR \chi^2(109) = 259.67, p < .001$; *CFI* = .90; *TLI* = .88, *SRMR* = .06; *RMSEA* = .06. Descriptives and Cronbach's alphas for all scales are given in Table 1.

Statistical Analysis

We present descriptive statistics, followed by intercorrelations between the variables, gender differences on mental health indicators using t-tests, and the results of hierarchical regression analyses. The goal of the latter analyses was to test the moderation role of gender in prediction of mental health based on Dark Triad traits. After the standardization of the predictor variables, we created three new variables related to interaction effects, which were multiplied by the predictor and moderator variables (which were coded as 0 = men and 1 = women). In the first step Dark Triad traits were entered, in the second – gender, and in the third – interactions

between Dark Triad traits and gender. Analyses were calculated for each mental health indicators, separately. Data was analyzed using IBM SPSS 19 (IBM Corporation, 2010).

Results

Descriptive Statistics and Correlations

The values for skewness and kurtosis were in a range from -2 and +2 (Table 1), which is considered acceptable in order to prove a normal univariate distribution (George & Mallery, 2010). All alpha reliabilities are adequate, given the number of items.

Table 1

Descriptive Statistics and Cronbach's Alpha Coefficients of the Used Scales

Insturments	Scales	<i>M</i>	<i>SD</i>	<i>Sk</i>	<i>Ku</i>	Cronbach's α
Short Dark Triad	Machiavellianism	3.35	0.75	-0.07	-0.29	.77
	Narcissism	2.80	0.70	0.27	-0.04	.72
	Psychopathy	2.42	0.77	0.26	-0.48	.76
Mental Health Test	Well-being	4.51	1.02	-0.62	0.16	.71
	Savoring	4.83	0.99	-0.77	-0.01	.71
	Creative and executing efficiency	4.43	0.82	-0.23	-0.17	.82
	Self-regulation	3.07	1.11	0.11	-0.36	.65
	Resilience	3.52	1.11	-0.10	-0.28	.67

Correlations between the Dark Triad traits and mental health indicators were as follows: Machiavellianism showed a small positive correlation with creative and executing efficiency and small negative associations with self-regulation and resilience; narcissism showed a moderate positive correlation with creative and executing efficiency and small positive correlations with well-being, savoring, and resilience; and

psychopathy showed a moderate negative correlation with self-regulation, small negative correlation with well-being and savoring, and a small positive correlation with creative and executing efficiency (Table 2). Among the Dark Triad traits, psychopathy and Machiavellianism showed higher correlations, while among mental health indicators, well-being and resilience showed higher correlations compared to the rest of the correlations.

Table 2

Intercorrelations between the Dark Triad Traits and indicators of Mental Health

	1.	2.	3.	4.	5.	6.	7.	8.
1. Machiavellianism	1							
2. Narcissism	.36***	1						
3. Psychopathy	.55***	.49***	1					
4. Well-being	-.07	.13*	-.14***	1				
5. Savoring	.06	.12*	-.11*	.34***	1			
6. Creative and executing efficiency	.22***	.39***	.12*	.38***	.38***	1		
7. Self-regulation	-.28***	-.04	-.34***	.13*	-.02	.01	1	
8. Resilience	-.11*	.14***	-.02	.48***	.14**	.24***	.24***	1

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

Gender Differences on Dark Triad traits and Mental Health Indicators

Significant differences were found in savoring, self-regulation, and resilience, savoring was higher in women and self-regulation and resilience were higher in men (Table 3), all showing small effect sizes. Gender differences for Machiavellianism, narcissism and psychopathy were also significant; all of them were higher in males. Machiavellianism and narcissism showed small effect sizes, while psychopathy medium.

Table 3*Gender differences in Dark Triad traits and Mental Health Indicators*

Scale	Gender	<i>M</i>	<i>SD</i>	<i>t</i> (437)	<i>p</i>	<i>d</i>
Machiavellianism	men	3.45	.75	2.39	.017	0.24
	women	3.27	.75			
Narcissism	men	2.92	.68	3.39	.001	0.33
	women	2.69	.70			
Psychopathy	men	2.63	.74	5.38	.000	0.51
	women	2.25	.76			
Well-being	men	4.49	1.01			
	women	4.54	1.02			
Savoring	men	4.67	1.00	-3.20	.001	-0.31
	women	4.97	.96			
Creative and executing efficiency	men	4.43	.87			
	women	4.43	.78			
Self-regulation	men	3.20	1.14	2.25	.025	0.22
	women	2.96	1.08			
Resilience	men	3.69	1.11	3.02	.003	0.28
	women	3.38	1.09			

Effects of the Dark Triad Traits on Mental Health Indicators: Gender Moderation Effect

Results of the hierarchical regression analyses showed that in the first step, the Dark Triad traits explained 7% of the variance of well-being and savoring, 18% of the variance of creative and executing efficiency, 15% of the variance of self-regulation and 5% of the variance for resilience. Machiavellianism positively predicted savoring, creative and executing efficiency, negatively self-regulation and resilience and with well-being, there was no significant relation. Narcissism positively predicted all mental health indicators, while psychopathy negatively predicted all but resilience with which showed no significant relation. The change of explained variance was significant after introducing gender in prediction of savoring, self-regulation,

and resilience. Although there was no significant change of explained variance when interactions were added, there was significant interaction between Machiavellianism and gender in the prediction of well-being, but the results of simple slope analyses did not reach statistical significance.

Table 4

Results of the Hierarchical Regression Analysis: Prediction of Mental Health Indicators based on Dark Triad traits with Gender as a Moderator

	Step 1	Step 2	Step 3
Criterion variable: Well-being	β	β	β
Machiavellianism	-.02	-.02	.10
Narcissism	.26***	.26***	.25***
Psychopathy	-.26***	-.26***	-.37***
gender		.00	.00
gender x Machiavellianism			-.24*
gender x narcissism			.03
gender x psychopathy			.21
	$R = .27^{***};$	$R = .27^{***};$	$R = .29^{***};$
	$\Delta R^2 = .07$	$\Delta R^2 = .00$	$\Delta R^2 = .01$
Criterion variable: Savoring	β	β	β
Machiavellianism	.14*	.14*	.10
narcissism	.21***	.22***	.26***
psychopathy	-.29***	-.26***	-.21*
gender		.28**	.28**
gender x Machiavellianism			.08
gender x narcissism			-.07
gender x psychopathy			-.09
	$R = .26^{***};$	$R = .29^{***};$	$R = .29^{***};$
	$\Delta R^2 = .06$	$\Delta R^2 = .02$	$\Delta R^2 = .01$
Criterion variable: Creative and executing efficiency	β	β	β
Machiavellianism	.16***	.16***	.21*
narcissism	.42***	.43***	.51***
psychopathy	-.18***	-.17***	-.28***
gender		.09	.08

gender x Machiavellianism			-0.09
gender x narcissism			-.16
gender x psychopathy			.21
	$R = .43^{***};$	$R = .43^{***};$	$R = .44^{***};$
	$\Delta R^2 = .18$	$\Delta R^2 = .00$	$\Delta R^2 = .01$
Criterion variable: Self-regulation	β	β	β
Machiavellianism	-.16 ^{***}	-.15*	-.09
narcissism	.18 ^{***}	.17 ^{***}	.16*
psychopathy	-.35 ^{***}	-.39 ^{***}	-.46 ^{***}
gender		-.39 ^{***}	-.39 ^{***}
gender x Machiavellianism			-.11
gender x narcissism			.03
gender x psychopathy			.14
	$R = .39^{***};$	$R = .43^{***};$	$R = .44^{***};$
	$\Delta R^2 = .15$	$\Delta R^2 = .04$	$\Delta R^2 = .00$
Criterion variable: Resilience	β	β	β
Machiavellianism	-.17 ^{***}	-.16 ^{***}	.08
narcissism	.21 ^{***}	.20 ^{***}	.21 ^{***}
psychopathy	-.03	-.06	-.17
gender		-.29 ^{***}	-.29 ^{**}
gender x Machiavellianism			-.17
gender x narcissism			-.01
gender x psychopathy			.20
	$R = .22^{***};$	$R = .26^{***};$	$R = .27^{***};$
	$\Delta R^2 = .05$	$\Delta R^2 = .02$	$\Delta R^2 = .01$

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

Discussion

The main aim of this study was to reveal the effects of the Dark Triad on mental capacities and strengths using gender as a moderator variable. In other words, we wanted to reveal how Machiavellianism, narcissism, and psychopathy predict well-being, savoring, creative and executing efficiency, self-regulation, and resilience and determine whether gender moderates these relationships.

As this was the first use of the Mental Health Test in Serbia, we tested gender differences on the Mental Health Test and intercorrelations between the subscales to identify distinct patterns and potential overlaps between the results from Hungary and Serbia. In our study, the subscales of the Mental Health Test showed some significant positive associations, with the highest correlation between well-being and resilience. Conversely, Vargha et al. (2020) found the strongest correlation between well-being and creative and executing efficiency, which was the second strongest association in our study. It should be noted that in our research, creative and executing efficiency and savoring had the same strength of correlation. Regarding the Mental Health Test, we further found that savoring was higher in women and self-regulation and resilience were more characteristic of men. These results do not entirely overlap with the findings reported by Vargha et al. (2020). One explanation for our result about savoring might stem from social gender role differences, women taking the caretaker role (and thus being more emotional) in most families, and additionally differences related to the usage of savoring strategies and personal beliefs about it (see Kim & Bryant, 2017). In previous studies more frequent use of self-regulation strategies was found in women, which is not in line with our results, but it has been previously emphasized that there is a need for studies that would clarify how men regulate their emotions (Nolen-Hoeksema, 2012).

Regarding our main aim, the first hypothesis about Machiavellianism was partially supported by our findings. Machiavellianism showed the most eclectic picture. Although we expected to find a negative effect, Machiavellianism showed no effect on well-being and this might point to a methodological aspect: more fine-grained measures of well-being should be used. Machiavellianism had a positive effect on savoring, which is in opposition with our hypothesis and previous research results (e.g., Jonason et al., 2015, Joshanloo et al., 2021). Concretely, it is in odds with a previous study, which found that it is connected to alexithymia (Wastell & Booth, 2003), so this aspect should be also further studied in detail, e.g. revealing strategies that Machiavellians use for enhancing positive moods. We did find a positive

effect of Machiavellianism on creative and executing efficiency, which can be explained with their emphasized desire for status and power. A negative effect on self-regulation was also found, which has been previously connected to fast life strategy, exploitive, short term and antagonist social strategy (Jonason & Tost, 2010). Machiavellianism had a negative effect on resilience, which is in line with our hypothesis and the results of Kun et al. (2021). The latter two results are in line with a previous study, which inform about a passive (Machiavellianism and psychopathy) and active coping with stressful situations (narcissism, see Birkás et al., 2016), but not in line with the deliberate nature of Machiavellianism (Jonason et al., 2015).

The second hypothesis about narcissism was confirmed in four aspects out of five. Narcissism showed positive effects on all aspects of mental health measured in this study, so the positive relation with self-regulation is not in accordance with our hypothesis. Van Groningen et al. (2021) believe that grandiose narcissism could be a buffer against adversities, because it is associated with self-aggrandizement and an exaggerated positive sense of self, low self-criticism and high self-esteem; the advantageous effects of a broad social network and good social skills; flexible coping mechanisms and emotional stability. Based on our findings, some authors may conclude that narcissism may have beneficial effects on personal functioning, that it represents the "lighter" side of the dark personality traits (Aghababaei & Błachnio 2015), and even that it may potentially serve as a buffer between Machiavellianism/psychopathy and well-being (Van Groningen et al., 2021).

However, we must not overlook the fact that the main characteristics of narcissism are selfishness and self-centeredness (Christie & Geis, 1970, Jambrešić et al., 2020) and low agreeableness (Blötner et al., 2021; Jonason et al., 2009), which all implicate a different personal and interpersonal functioning of the narcissistic individuals compared to people with low dark traits. A similar pattern of discrepancy between the results of quantitative research and underlying processes that lead to them may be observed in the relationship between attachment avoidance, self-esteem and self-efficacy

(Shaver et al., 2017). One should also bear in mind that attachment avoidance is associated with the grandiose type of narcissism, which includes both self-praise and denial of weaknesses (Pincus & Roche, 2011). Therefore, we may also assume that qualitative differences exist in the nature of mental health and well-being indicators between people with high narcissism and light personalities or people with low or no dark traits, which should be examined further.

The third hypothesis about psychopathy was confirmed for four indicators of mental health, the only discrepancy was found for resilience, which was not predicted significantly by psychopathy. Low-quality interpersonal relationships or low emotional intelligence (Love & Holder, 2014) can account for some difficulties that people with subclinical psychopathy face. Van Groningen et al. (2021) think that the negative relationship between psychopathy and well-being can be explained through the usage of socially aversive tactics, which eventually lead to overt or covert social rejection of these individuals. We did not find any correlation with resilience, unlike Kun et al. (2021), who reported a negative correlation between psychopathy and resilience, which should be further tested measuring different kinds of psychopathy and resilient behavior. Psychopathy is negatively connected to agreeableness, positively to lack of fairness, sincerity and negative psychosocial outcomes (Muris et al., 2017). These individuals are living by fast life strategy. Therefore, we can assume that they have constant difficulties at the level of interpersonal relations in private and professional life, which permeate and have a detrimental effect on all five pillars of mental health.

The fourth hypothesis about the presence of a moderation effect of gender was not confirmed. However, results are line with Bonfá-Araujo et al. (2021), which showed no significant moderation role of gender in the relationships between the Dark Triad traits and depression and life satisfaction. The authors see one explanation for this in the simpler latent structure of the Short Dark Triad Scale than other measures of the dark traits,

as it does not cover all kinds, aspects and facets of the dark traits. Another weakness is that the sample of Bonfá-Araujo et al. (2021) consisted mainly of women, so they cannot draw firm conclusions about the effects of gender. Our results could be also refined by using more detailed measures of the Dark Triad and the five indicators of mental health. As we have previously highlighted, Machiavellianism should be further studied in relation to well-being measures, separately test the four kinds (emotional or subjective, psychological, social, and spiritual well-being), to get a full picture gender could be added as a moderator variable.

The obtained results indicate that psychopathy has a negative effect on mental health, while narcissism may have beneficial effects on personal level. Machiavellianism might be somewhere in the middle, but further inquiries are needed to pinpoint the most salient advantages and shortcomings of these individuals in personal functioning.

The main limitation of this study is that we used self-report questionnaires. It would be beneficial to include behavioral measures (e.g., emotion recognition using pictorial stimuli, stories depicting social-dilemma situations) in future research. Likewise, future studies could use samples that are more diverse in terms of sociodemographic variables and measures that differentiate between the subdimensions of Dark Triad traits (e.g., primary and secondary psychopathy).

The key contribution of this study compared to previous knowledge is that it offers fresh insights concerning three points. First, it adopted the viewpoint of positive psychology to measure the effects of the Dark Triad on several aspects of mental health that have not been studied so far. Second, it utilized the newly developed Mental Health Test from Hungary in Serbia. Finally, there are few studies exploring the moderation effects of gender in the Dark Triad literature, so our work has also added findings to this line of inquiry.

The study has practical implications for improving mental health and personal capacities of Machiavellistic individuals and persons with subclinical psychopathy. Education and trainings targeting positive emotions and

affective states should be implemented. Likewise, assistance in the development of social skills, coping, and self-regulation strategies is also necessary to raise the level of their successful everyday functioning.

Funding

This work was supported by the Délvidékért „Kiss” Alapítvány, 2021 (Hungary, Budapest).

Conflict of interest

We have no conflicts of interest to disclose.

Data availability statement

For further details on data, contact the authors of the manuscript.

References

- Aghababaei, N., & Błachnio, A. (2015). Well-being and the Dark Triad. *Personality and Individual Differences, 86*, 365–368. <https://doi.org/10.1016/j.paid.2015.06.043>
- Bagheri Sheykhangafshe, F., Abolghasemi, A., & Kafi Masouleh, S. M. (2021). Predicting Resilience Based on Dark Triad Personality and Psychological Wellbeing in Athletes Students. *Journal of Arak University of Medical Sciences, 24*(2), 230–245. <https://doi.org/10.32598/jams.24.2.6151.1>
- Bereczkei, T. (2016). *Machiavellizmus. A megtévesztés pszichológiája*. Budapest: Typotex.
- Birkás, B., Gács, B., & Csathó, Á. (2016). Keep calm and don't worry: Different Dark Triad traits predict distinct coping preferences. *Personality and Individual Differences, 88*, 134–138. <https://doi.org/10.1016/j.paid.2015.09.007>
- Block, J., & Kremen, A. M. (1996). IQ and ego-resiliency: conceptual and empirical connections and separateness. *Journal of personality and social psychology, 70*(2), 349–361. <https://doi.org/10.1037/0022-3514.70.2.349>

-
- Blötner, C., Steinmayr, R., & Bergold, S. (2021). Malicious mind readers? A meta-analysis on Machiavellianism and cognitive and affective empathy. *Personality and Individual Differences, 181*, 1–34.
<https://doi.org/10.31234/osf.io/5fvwr>
- Bonfá-Araujo, B., Lima-Costa, A. R., Baptista, M. N., & Hauck-Filho, N. (2021). Depressed or satisfied? The relationship between the dark triad traits, depression, and life satisfaction. *Current Psychology, 1–8*.
<https://doi.org/10.1007/s12144-021-01726-3>
- Christie, R., & Geis, F.L. (1970). *Studies in Machiavellianism*. San Diego, CA: Academic Press. <https://doi.org/10.1016/B978-0-12-174450-2.50006-3>
- Dean, A. C., Altstein, L. L., Berman, M. E., Constans, J. I., Sugar, C. A., & McCloskey, M. S. (2013). Secondary psychopathy, but not primary psychopathy, is associated with risky decision-making in noninstitutionalized young adults. *Personality and individual differences, 54*(2), 272–277.
<https://doi.org/10.1016/j.paid.2012.09.009>
- Dinić, B. M., Sadiković, S., & Wertag, A. (2020). Factor mixture analysis of the Dark Triad and Dark Tetrad: Could sadism make a difference? *Journal of Individual Differences, 42*(2), 74–83. <https://doi.org/10.1027/1614-0001/a000331>
- Dinić, B. M., Wertag, A., Sokolovska, V., & Tomašević, A. (2021). The good, the bad, and the ugly: Revisiting the Dark Core. *Current Psychology, 1–13*.
<https://doi.org/10.1007/s12144-021-01829-x>
- Furtner, M. R., Maran, T., & Rauthmann, J. F. (2017). Dark leadership: The role of leaders' dark triad personality traits. In Clark, M. G., & Gruber, C. W. (Eds.). *Leader Development Deconstructed*, Springer, 75–99.
https://doi.org/10.1007/978-3-319-64740-1_4
- George, D. & Mallery, M. (2010). *SPSS for Windows Step by Step: A Simple Guide and Reference*, 17.0 update (10a ed.), Boston: Pearson.
- IBM Corporation (2010). *IBM SPSS Statistics for Windows*, Version 19.0. Armonk, NY: IBM Corporation.

- Jambrešić, I., Humer, J. T., & Čikeš, A. B. (2020). Varanje u akademskom okruženju - uloga mračnih osobina ličnosti, stavova o varanju i moralnog rasuđivanja. *Primenjena psihologija*, *13*(2), 243–262.
<https://doi.org/10.19090/pp.2020.2.243-262>
- Jonason, P. K., & Tost, J. (2010). I just cannot control myself: The Dark Triad and self-control. *Personality and Individual Differences*, *49*(6), 611–615.
<https://doi.org/10.1016/j.paid.2010.05.031>
- Jonason, P. K., Baughman, H. M., Carter, G. L., & Parker, P. (2015). Dorian Gray without his portrait: Psychological, social, and physical health costs associated with the Dark Triad. *Personality and Individual Differences*, *78*, 5–13. <https://doi.org/10.1016/j.paid.2015.01.008>
- Jonason, P. K., Li, N. P., Webster, G. D., Schmitt, D. P. (2009). The Dark Triad: Facilitating a short-term mating strategy in men. *European journal of personality*, *23*(1), 5–18. <https://doi.org/10.1002/per.698>
- Jonason, P. K., Lyons, M., Bethell, E. J., & Ross, R. (2013). Different routes to limited empathy in the sexes: Examining the links between the Dark Triad and empathy. *Personality and Individual Differences*, *54*, 572–576.
<https://doi.org/10.1016/j.paid.2012.11.009>
- Jones, D. N., & Figueredo, A. J. (2013). The core of darkness: Uncovering the heart of the Dark Triad. *European Journal of Personality*, *27*(6), 521–531.
<https://doi.org/10.1002/per.1893>
- 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>
- Joshanloo, M. (2021). Conceptions of Happiness Mediate the Relationship Between the Dark Triad and Well-Being. *Frontiers in psychology*, *12*, 1711, 1–9. <https://doi.org/10.3389/fpsyg.2021.643351>
- Kaufman, S. B., Yaden, D. B., Hyde, E., & Tsukayama, E. (2019). The light vs. dark triad of personality: Contrasting two very different profiles of human

- nature. *Frontiers in psychology*, 10:467, 1–26.
<https://doi.org/10.3389/fpsyg.2019.00467>
- Keyes, C. L. M. & Lopez, S. J. (2002). Toward a Science of Mental Health. Positive directions in Diagnosis and Interventions. In Snyder, C. R., & Lopez, S. J. (Eds.). *Handbook of Positive Psychology*, (pp. 45–59). Oxford Press.
- Kim, S., & Bryant, F. B. (2017). The influence of gender and cultural values on savoring in Korean undergraduates. *International Journal of Well-being*, 7(2), 43–63. <https://doi.org/10.5502/ijw.v7i2.598>
- Kun, Á., Szabó, Zs. P., & Balogh, E. B. The bright side of the Dark Triad leaders: The relationship between dark personality traits, mental toughness, resilience, and character strengths. Retrieved October 19, 2021 from:
https://www.academia.edu/41511317/The_bright_side_of_the_Dark_Triad_leaders_The_relationship_between_dark_personality_traits_mental_toughness_resilience_and_character_strengths
- Love, A. B., & Holder, M. D. (2014). Psychopathy and subjective well-being. *Personality and Individual Differences*, 66, 112–117.
<https://doi.org/10.1016/j.paid.2014.03.033>
- Lyons, M., Evans, K., & Helle, S. (2019). Do “dark” personality features buffer against adversity? The associations between cumulative life stress, the dark triad, and mental distress. *Sage open*, 9(1), 1–13.
<https://doi.org/10.1177/2158244018822383>
- 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>
- Nagy, H. & Oláh, A. (2013). A pozitív pszichológia. Bányai É. & Varga, K. (Eds.). *Affektív pszichológia – az emberi késztetések és érzelmek világa*. (pp. 557–579). Budapest: Medicina.

- Nagy, H. (2019). Pozitív pszichológia: Az elmélettől a gyakorlatig. *Magyar Pszichológiai Szemle*, 74(3), 289–299.
<https://doi.org/10.1556/0016.2019.74.3.2>
- Nolen-Hoeksema, S. (2012). Emotion regulation and psychopathology: The role of gender. *Annual review of clinical psychology*, 8, 161–187.
<https://doi.org/10.1146/annurev-clinpsy-032511-143109>
- Oláh, A. (2005). Érzelmek, megküzdés és optimális élmény. Budapest: Trefort Kiadó. Retrieved October 14, 2021 from:
https://mersz.hu/dokumentum/m858emoe__1/
- 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)
- Petrides, K. V., Vernon, P. A., Schermer, J. A., & Veselka, L. (2011). Trait emotional intelligence and the dark triad traits of personality. *Twin Research and Human Genetics*, 14(1), 35–41. <https://doi.org/10.1375/twin.14.1.35>
- Pincus, A. L., & Roche, M. J. (2011). Narcissistic grandiosity and narcissistic vulnerability. In W. K. Campbell & J. D. Miller (Eds.), *The handbook of narcissism and narcissistic personality disorder*, Hoboken, NJ: Wiley, pp. 31–40.
- Saltoğlu, S., & Irak, D. U. (2020). Primary versus secondary psychopathy: Coping styles as a mediator between psychopathy and well-being. *Current Psychology*, 1–9. <https://doi.org/10.1007/s12144-020-01155-8>
- Shamsudheen, S. P., PD, B., & Appu, A. V. (2017). A study of emotional maturity and self-control on Machiavellianism among office workers. *Indian Journal of Health & Well-being*, 8(11), 1325–1334. Retrieved October 10, 2021 from: <http://www.i-scholar.in/index.php/ijhw/article/view/165958>
- Shaver, P. R., Mikulincer, M., Baljinder, S., & Gross, J. (2017). Attachment security as a foundation for kindness toward self and others. In K. W. Brown & M.

- R. Leary (Eds.), *The Oxford handbook of hypo-egoic phenomena*. New York, NY: Oxford University Press.
<https://doi.org/10.1093/oxfordhb/9780199328079.013.15>
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: assessing the ability to bounce back. *International journal of behavioral medicine, 15*(3), 194–200.
<https://doi.org/10.1080/10705500802222972>
- Szabó, E., & Jones, D. N. (2019). Gender differences moderate Machiavellianism and impulsivity: Implications for Dark Triad research. *Personality and Individual Differences, 141*, 160–165.
<https://doi.org/10.1016/j.paid.2019.01.008>
- Szabó, Z. P., Simon, E., Czibor, A., Restás, P., & Bereczkei, T. (2021). The importance of dark personality traits in predicting workplace outcomes. *Personality and Individual Differences, 183*, 1–6.
<https://doi.org/10.1016/j.paid.2021.111112>
- Van Groningen, A. J., Grawitch, M. J., Lavigne, K. N., & Palmer, S. N. (2021). Every cloud has a silver lining: Narcissism's buffering impact on the relationship between the Dark Triad and well-being. *Personality and Individual Differences, 171*, 110549.
<https://doi.org/10.1016/j.paid.2020.110549>
- Vargha, A., Zábó, V., Török, R. & Oláh, A. (2020). A jóllét és a mentális egészség mérése: a Mentális Egészség Teszt. *Mentálhigiéné és Pszichoszomatika, 21*(3), 281–322.
<https://doi.org/10.1556/0406.21.2020.014>
- Wastell, C., & Booth, A. (2003). Machiavellianism: An alexithymic perspective. *Journal of social and clinical psychology, 22*(6), 730–744.
<https://doi.org/10.1521/jscp.22.6.730.22931>
- WHO, Retrieved October 23, 2021 from: <https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response>



Research Article

Dark Tetrad and psychological distress among male violent offenders and male community adults

Milan Oljača¹ , Selka Sadiković^{✉1} , Bojana M. Dinić¹  and
Valentina Baić² 

¹ Faculty of Philosophy, University of Novi Sad, Serbia

² University of Criminal Investigation and Police Studies in Belgrade, Serbia

ABSTRACT

The first aim of this study was to explore differences between male violent offenders and male community adults in Dark Tetrad traits and psychological distress. The second aim was to investigate moderation effects of dark traits in the prediction of psychological distress based on the membership of violent offenders or community adults. The sample included 142 male violent offenders ($M = 40.73$, $SD = 11.43$) convicted of murder, severe murder, or rape, and 573 men from the community population in Serbia without a history of criminal convictions ($M = 41.71$, $SD = 15.11$). Serbian adaptations of the Short Dark Triad (SD3), Comprehensive Assessment of Sadistic Tendencies (CAST), and Clinical Outcomes in Routine Evaluation - Outcome Measure (CORE-OM) were used. Results showed that violent offenders had higher scores on psychopathy and problems in social and general functioning, while community adults had higher scores on narcissism. Furthermore, moderation analyses showed that physical sadism was significantly correlated with risk behaviors in the community adults, but not in violent offenders.

Keywords: Dark Tetrad, psychological distress, violent offenders, prisoners, inmates

UDC: 159.923.072:316.624

DOI: 10.19090/pp.2021.4. 509-537

Received: 20.09.2021.

Revised: 14.11.2021.

Accepted: 30.11.2021.



Copyright © 2021 The Author(s).

This is an open access article distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

✉ Corresponding author email: selka.sadikovic@ff.uns.ac.rs

Introduction

Dark Tetrad

The Dark Triad represents a constellation of three related socially aversive traits: Machiavellianism, narcissism, and psychopathy (Paulhus & Williams, 2002). Seven years after this concept was introduced, sadism was included, forming the Dark Tetrad together with the previously mentioned traits (Chabrol et al., 2009). Based on Paulhus's (2014) review, the shared characteristic of Dark Tetrad traits is callousness, and empirical studies showed that the central features of Dark Tetrad traits are lack of affective empathy (or callousness) and manipulateness (e.g., Dinić, Wertag et al., 2020). Besides this common core, each dark trait has other unique characteristics or characteristics expressed in different intensities. Machiavellianism represents the tendency to exploit others for the purpose of realizing one's own goals and it is reflected in manipulateness and insincerity accompanied by a cynical worldview (Jones & Paulhus, 2009). Within Dark Triad and Dark Tetrad, a grandiose aspect of narcissism was mainly explored compared to other aspects. Thus, narcissism is characterized by a highly pronounced and unrealistic positive self-image and the experience of superiority and entitlement (Campbell & Foster, 2007). Psychopathy is characterized by a reduced sense of guilt, a lack of empathy, disinhibition, and frequent manifestations of antisocial behavior (Hare & Neumann, 2008). Finally, sadism is defined as the tendency to exhibit cruel and aggressive behavior towards others with the aim of achieving enjoyment or manifesting dominance (O'Meara et al., 2011).

The Dark Triad traits are regarded as risk factors for interpersonal problems, antisocial, and criminal behaviors in various domains, like intimate relationships and workplace (see Furnham et al., 2013). Meta-analysis has shown that among the Dark Triad traits, psychopathy is the most relevant when it comes to interpersonal violence, delinquency, sex-related issues, and antisocial tendencies (Muris et al., 2017). Since interest in sadism in research

on dark traits emerged only a few years ago (Dinić & Jevremov, 2019), many previous studies that investigated relationships between dark traits and antisocial behaviors did not include sadism. In the rare studies in which sadism was included, it was shown that both psychopathy and sadism predict antisocial behaviors in students (Chabrol et al., 2017) as well as vandalism (Pfattheicher et al., 2019).

Dark Tetrad among violent offenders

In a population in which violence is more prominent, such as prisoners convicted of crimes related to violent offenses, higher intensity of the dark traits could be expected. This seems to be likely for psychopathy since it is most related to various interpersonal problems and antisocial behaviors among Dark Triad traits (Muris et al., 2017) as well as to criminal recidivism (i.e., number of arrests, see Kavish et al., 2018). Indeed, violent offenders tend to show higher scores on psychopathy compared to perpetrators of non-violent transgressions (e.g., McCuish et al., 2015) or fraud offenders (Liu et al., 2017). Additionally, adults with high levels of psychopathy have higher odds of committing violent crimes (Dhingra et al., 2015; Klingzell et al., 2015), while young offenders with a high level of psychopathy have higher odds of manifesting violent behavior in correctional settings (Shaffer et al., 2015). Furthermore, both psychopathy and Machiavellianism were higher among delinquents compared to non-delinquents, while there were no differences in narcissism (Alsheikh Ali, 2020). In addition, Rogier et al. (2019) showed that violent offenders were not different in grandiose pathological narcissism compared to the community sample, but that they had higher vulnerable narcissism. When offenders convicted to different offenses were explored, Pettersen et al. (2019) showed that sexual offenders against children had lower scores on narcissism compared to the offenders who haven't committed sexual offenses toward children.

In rare studies that included sadism, it was shown that juvenile offenders (those who reported moderate and severe antisocial behaviors, mostly included physical violence) had higher psychopathy, Machiavellianism,

and sadism compared to non-offenders, but the level of narcissism was the same in both groups (Chabrol et al., 2009). Furthermore, violent offenders showed higher spitefulness, a tendency close to sadism, compared to the community sample (Rogier et al., 2019).

We should note that in a more diverse prison population, comprised of prisoners convicted of various types of offenses not limited to violent offenses, some studies showed different results. For example, Boduszek et al. (2021) showed that prisoners had higher deficits in cognitive responsiveness, as one of the psychopathy facets, compared to university students and community adults, while there are no significant differences in affective responsiveness. In the same study, prisoners showed lower scores on interpersonal manipulation and egocentricity compared to university students and/or community sample. Furthermore, Thiry (2012) showed that narcissistic personality disorder, as the disorder that has grandiosity and entitlement as its core like subclinical narcissism within Dark Triad/Tetrad, is less common in a prisoner sample, which in line with the study by Hepper et al. (2014) showed that there are no differences in narcissistic personality disorder among prisoners and community samples. However, Hepper et al. (2014) pointed out that prisoners had higher subclinical narcissism compared to community sample without a history of criminal convictions. In research by Wiench (2019) in which a broader constellation of dark traits was used, prisoners showed higher scores only on moral disengagement compared to non-prisoners, and not in the rest of the dark traits. Taken together, it seems that higher psychopathy, Machiavellianism and sadism could be expected in violent offenders, while for narcissism previous results are not consistent. Furthermore, higher mentioned dark traits seem to be characteristic of violent offenders, compared to diverse samples of offenders.

Dark Tetrad and mental health

Emotional deficits and social malevolence of dark traits come with mental health costs. Jonason et al. (2015) showed that among Dark Triad traits,

Machiavellianism and psychopathy positively predicted depression and anxiety and negative psychological, emotional, and social well-being, while narcissism showed smaller positive contribution to the prediction of anxiety, but also positive to the prediction of mentioned aspects of well-being. These results indicate that narcissism could provide a buffer from negative health outcomes. Other studies also confirmed this effect. For example, although all dark traits are related to anxiety, only narcissism was not related to depressive symptoms (Gómez-Leal et al., 2019) or showed negative relations with both depression and anxiety (Lyons et al., 2019). Narcissism is also positively connected with some indicators of positive mental health, e.g., with happiness (Egan et al., 2014). A meta-analysis showed that psychopathy, followed by Machiavellianism, was related to poor well-being, while narcissism was unrelated to it (Murriss et al., 2017). Results from newly published research (Joshi, 2021; Van Groningen et al., 2021) replicated the negative relationship between well-being and psychopathy and Machiavellianism and showed that grandiose narcissism was positively related to well-being.

Studies that included sadism showed that sadism and psychopathy are more related to psychological distress domains, compared to Machiavellianism, while narcissism showed negative correlations with poor well-being, but positive with risk behaviors (Dinić, Sadiković et al., 2019). Moreover, the inclusion of sadism into the constellation of the dark traits resulted in forming the high Dark Tetrad-sadism profile, which showed more risk behaviors towards others and oneself, compared to the high Dark Tetrad profile (Dinić, Sadiković et al., 2019). Sadism explained unique variance in suicidality over and above depression, substance abuse, borderline traits, and attachment (Chabrol et al., 2011). Although sadism was positively related to psychological symptoms and poor functioning (Dinić, Sadiković et al., 2019) as well as with negative affect (Womick et al., 2019) it showed non-significant relations with well-being (Dinić, Sadiković et al., 2019; Womick et al., 2019). Although there are not many studies in which sadism is connected with mental health outcomes, we could conclude, based on mentioned results,

that it can have an important role in explaining some aspects of poor mental health.

The present study

The first aim of this study was to explore differences between male violent offenders and male community adults in Dark Tetrad traits as well as in psychological distress. We were focused on violent offenders, since previous studies showed higher some of the dark traits, i.e., psychopathy among violent offenders compared to non-violent offenders (e.g., McCuish et al., 2015; Liu et al., 2017). Based on previous research (e.g., Chabrol et al., 2009; Rogier et al., 2019) we expected to find higher scores in psychopathy, Machiavellianism, and sadism among violent offenders, but not in narcissism.

The increased risk of poor mental health for the prisoners is well documented in previous research (Edgemon & Clay-Warner, 2019; Fazel & Seewald, 2012; Porter & DeMarco, 2019; Yi et al., 2017). Imprisonment is related to a greater risk of developing depression and other mood disorders and lower life satisfaction compared to the general population (Yi et al., 2017). Additionally, one in seven prisoners suffers from major depression or psychosis (Fazel & Seewald, 2012). Characteristics of prison environments, like overcrowding, as well as the length of time in prison, are related to depressive symptomology and hostility (Edgemon & Clay-Warner, 2019; Porter & DeMarco, 2019). Thus, we expected to find higher various domains of psychological distress among violent offenders compared to community adults.

The second aim was to explore the moderation role of Dark Tetrad traits in the prediction of psychological distress based on membership of violent offenders or community adults. Within this analysis, firstly we explore predictive effects of both subsample's membership and dark traits on various psychological distress domains. We already noted that we expect higher psychological distress among violent offenders compared to community adults. However, in the case of effects of dark traits, previous studies were

focused only on one domain of psychological distress, for example, on negative affect (e.g., Gómez-Leal et al., 2019; Lyons et al., 2019). In this study we expanded the range of indicators, including affective, cognitive, somatic, and behavioral aspects of psychological distress. Based on previous studies (e.g., Jonason et al., 2015; Dinić, Sadiković et al., 2019; Murriss et al., 2017) we expect that among Dark Tetrad traits, psychopathy and sadism show the most prominent relationships with various distress domains, especially those related to problems in interpersonal functioning given that the core features of dark traits referring to interpersonal difficulties (e.g., Dinić, Wertag et al., 2020). However, in the case of narcissism we could expect non-significant or negative relationships with distress (e.g., Jonason et al., 2015; Murriss et al., 2017).

Regarding the moderation role of dark traits, there are two conflicting approaches. Since dark traits should be more expressed in violent offenders (e.g., McCuish et al., 2015) and they should be related to poor mental health (e.g., Dinić, Sadiković et al., 2019; Murriss et al., 2017), we could expect that violent offenders with higher dark traits showed higher distress, meaning that dark traits among violent offenders could increase distress. However, some studies indicated the adaptive role of dark traits in specific contexts. For example, Machiavellians successfully navigate competitive work environments by undermining their coworker (Castille et al., 2017). There are some assumptions that personality traits also can have an adaptive role in correctional settings. Although typical results from the number of previous research (for details see Eriksson et al., 2017) suggested that prisoners have lower scores on Agreeableness and Conscientiousness and higher scores on Neuroticism, in comparison to the general population, those results were challenged in several previous research (Eriksson et al., 2017; Thiry, 2012; Trninić et al., 2008) that showed that prisoners have higher scores on Agreeableness and/or Conscientiousness. Those differences were interpreted as the result of personality changes or short-term adjustments in response to the demands of the prison environment (Eriksson et al., 2017). Thus, in the prison setting, we could assume that dark personality traits could be related to adaptive

strategies, i.e., that they provide a “buffer” from negative outcomes. Therefore, based on this approach, although we expect that distress is higher among violent offenders if the dark traits are higher among them, we can assume that they could reduce distress.

Method

Participants and procedure

The study included two subsamples from Serbia. The first subsample consisted of 142 male violent offenders, aged 23 to 78 ($M = 40.73$, $SD = 11.43$), who were serving their prison sentence (ranged from 2 to 40 years, $M = 19.10$; $SD = 11.85$) in four penitentiary correctional institutions in Serbia (in Sremska Mitrovica, Belgrade, Požarevac, and Niš), for criminal offenses definite in the Criminal Code of the Republic of Serbia (Službeni glasnik, 2005) murder (28.9%), severe murder (48.6%) and rape (22.5%). Most of them finished high school (54.9%) or elementary school (22.9%). The data were collected during the second half of 2019, by a trained psychologist in the correctional institutions. The examination was conducted voluntarily, in small groups of the participants, in the presence of a psychologist who works in the correctional institution. Prison officers or researchers were not present at the examination due to prison policy when research is conducted in prisoners. Thus, the sample was convenient.

The second subsample included 573 males from the general population (non-offenders) from Serbia, aged between 20 and 84 ($M = 41.71$, $SD = 15.11$). Most of them finished high school (50.6%) and elementary school (20.4%). Data collection was conducted in the first half of 2020. A convenient sampling method was used. The data were collected by trained undergraduate psychology students for course credits. In order to get a heterogeneous sample, each student had to collect data from a specific number of participants, based on the given educational and age quotas in line with the characteristics of the prison subsample.

All participants signed the informed consent form including the anonymity agreement with regard to the confidentiality of the data. Also, all participants responded to questionnaires in pen-and-paper format. Participation in the research was voluntary.

There were no significant differences in age ($t(712) = 0.67, p = .50$), but there were in education (Mann-Whitney $U = 35288.50, p = .02$) between the subsamples, with males from the general population having higher education levels.

Measures

Short Dark Triad (SD3)

Short Dark Triad (SD3; Jones & Paulhus, 2014, for Serbian adaptation see Dinić et al., 2018) comprises 27 items measuring the Dark Triad traits: Machiavellianism, narcissism, and psychopathy (9 items per trait).

Comprehensive Assessment of Sadistic Tendencies (CAST)

Comprehensive Assessment of Sadistic Tendencies (CAST; Buckels & Paulhus, 2014, for Serbian adaptation see Pfattheicher et al., 2021) measures direct verbal sadism (6 items) referring to being mean to someone, enjoying making jokes at the expense of others, purposely tricked someone and laughed when they looked foolish, etc.; physical sadism (5 items) referring to enjoying in physically hurting pole, tormenting people, dominated others using fear, etc.; and vicarious sadism (7 items) referring to enjoyment in various violent video content (video games, movies, YouTube clips, cage fighting, car accidents...) as well as in playing the villain in games and torturing other characters.

Clinical Outcomes in Routine Evaluation - Outcome Measure (CORE-OM)

Clinical Outcomes in Routine Evaluation - Outcome Measure (CORE-OM; Evans et al., 2000, for Serbian adaptation see Dinić, Sadiković et al., 2020) is a 22-item measure of the experience of various manifestations of psychological distress over the past six months and comprises four scales: (poor) subjective well-being (4 items) which refers to sense of life quality and

emotional health (feeling O.K. about myself, feeling like crying, feeling overwhelmed by problems, optimism); problems/symptoms (12 items) which refers to psychological health issues such as anxiety and depression symptoms, reactions to trauma, and physical complaints; (poor) functioning (12 items), referring to problems in interpersonal, social, and general functioning in daily life (e.g., feeling of loneliness, lack of social support, inability to cope with problems, lack of warmth and affection for someone, been irritable with others, failure to achieve wanted things, etc.); and risk, referring to risk-to-self (4 items) which measure harm to self and suicidal ideations, and risk-to-others (2 items) which measure violent behavior and threats towards others. In line with previous validations of CORE-OM, the two kinds of risk were separated (e.g., Lyne et al., 2006).

All instruments have a 5-point Likert type scale (from 1 = *strongly disagree* to 5 = *strongly agree*). Descriptives and Cronbah's α are presented in Table 1.

Data analysis

First, descriptive statistics were calculated. Since some variables showed normality violation, they were normalized by rankit normalization. Second, differences in Dark Tetrad traits and distress domains between violent offenders and participants from the general population were tested. Since these two subsamples were different in education, education was added as a covariate in the univariate general linear model. Effect size was calculated as η_p^2 , which should be up to .06 for small, from .07 to .14 for medium, and above .14 for large effects (Cohen, 1988). Additionally, the same analysis was used to test differences between the offenders regarding the type of criminal offenses. This analysis was included to check the homogeneity of offenders subsample regarding the used variables, or more precisely, to check whether offenders convicted of all three criminal offenses could be treated as one group in further analyses. Third, correlations between all variables were calculated on the total sample. In order to avoid Type I error,

we interpreted only correlations with $p < .001$. Finally, hierarchical regression analysis was used to explore moderation effects of dark traits in the prediction of psychological distress based on the membership of the violent offenders' community adults. In the first step education was entered as control, in the second step membership of the subsamples was entered, in the third step Dark Tetrad traits were entered, and in the last step interactions between the subsample membership and Dark Tetrad traits were entered. All continuous variables were standardized before the moderation analyses. All statistical analyses were conducted in the SPSS for Windows v.26 (IBM Corp., 2019).

Results

Descriptives and differences between male violent offenders and male community adults

Preliminary analysis showed that physical sadism, risk-to-self, and risk-to-others had skewness and/or kurtosis over recommended for normal distribution (± 2 , see George & Mallery, 2010), thus scores for these variables were normalized by rankit normalization. The rest of the variables had acceptable values of skewness and kurtosis (in a range from -0.18 to 1.88, SE for skewness was 0.09 and for kurtosis was 0.18). The results of differences between the subsamples showed that violent offenders had higher scores on psychopathy and poor functioning, while community adults had higher scores on narcissism (Table 1). However, all differences were small in terms of effect size. Additionally, among violent offenders, there were no significant differences in all variables regarding the type of criminal offenses – murder, severe murder, and rape ($F(2,7136)$ ranged from 0.20 to 2.76, all $p > .05$). Thus, we could consider this subsample of violent offenders as homogeneous regarding the used variables.

Table 1

Descriptives and differences between the male violent offenders and male community adults

	Community/Offenders	Community (<i>n</i> = 573)	Offenders (<i>n</i> = 141)	Subsamples differences	
Dark Tetrad traits	α	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>F</i> (1,710)	η_p^2
Machiavellianism	.76/.72	27.62 (6.14)	27.63 (6.27)	0.01	.000
Narcissism	.63/.55	25.13 (5.30)	23.35 (5.31)	11.06***	.015
Psychopathy	.76/.82	18.81 (6.16)	20.53 (7.20)	6.81**	.010
Physical sadism	.78/.87	6.20 (2.32)	6.38 (2.87)	0.00	.000
Verbal sadism	.70/.67	11.56 (4.23)	11.67 (4.15)	0.14	.000
Vicarious sadism	.73/.76	13.87 (4.93)	14.49 (5.35)	1.48	.002
Psychological distress					
Poor well-being	.61/.54	8.88 (2.79)	9.32 (3.02)	1.37	.002
Problems	.87/.90	28.13 (8.09)	28.85 (9.21)	0.21	.000
Poor functioning	.80/.77	25.48 (6.56)	27.62 (7.28)	7.96**	.011
Risk-to-self	.80/.70	5.03 (2.20)	5.45 (2.49)	0.28	.000
Risk-to-others	.67/.74	2.84 (1.42)	2.92 (1.42)	0.18	.000

Notes: Education level was added as a covariate in the univariate general linear model analysis for testing the differences between two samples. *** $p < .001$; ** $p < .01$.

Correlations between Dark Tetrad traits and psychological distress

Correlations between the Dark Tetrad traits and psychological distress domains in the total sample were all positive, except for relationships between narcissism on the one side and poor well-being and poor functioning on the other side (Table 2). However, narcissism seems generally unrelated to psychological distress and showed a significant and positive correlation at $p < .001$ only with risk-to-others. Psychopathy and physical sadism showed the highest correlations with distress domains, especially with risk-to-others.

Correlations among Dark Tetrad traits were in range from .27 (between narcissism and physical sadism) to .55 (between psychopathy and

physical sadism as well as between physical and vicarious sadism). Furthermore, correlations between the psychological distress domains were in range from .19 (between poor well-being and risk-to-others) to .75 (between poor well-being and poor functioning).

Table 2

Correlations between the Dark Tetrad traits and psychological distress domains (N = 714)

	Machiavellianism	Narcissism	Psychopathy	Physical sadism	Verbal sadism	Vicarious sadism
Poor well-being	.02	-.08*	.08*	.12***	.04	.05
Problems	.17***	.02	.19***	.16***	.12**	.10**
Poor functioning	.09*	-.09*	.25***	.22***	.12***	.12***
Risk-to-self	.11**	.02	.24***	.24***	.14***	.12**
Risk-to-others	.27***	.26***	.53***	.41***	.37***	.39***

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

Moderation analyses

In the moderation analyses, education level was entered in the first step, subsample membership in the second step, dark traits in the third step, and interaction between the membership and dark traits in the last step in hierarchical regression analyses. Results showed that subsample membership was not significant predictor of psychological distress domains (Table 3). Dark Tetrad traits contribute to the prediction of distress domains. While narcissism was negatively related to poor well-being, poor functioning, and risk-to-self, other dark traits were positively related; especially psychopathy, with poor functioning and both risk aspects. The only significant interactions were found between subsample membership and physical sadism in prediction of both risk-to-self and risk-to-others. Although ΔR^2 was not significant for the last step in the prediction of risk-to-self, beta contribution

was significant, while both ΔR^2 and beta contribution were significant in the prediction of risk-to-others. In both cases, physical sadism was significantly correlated with both risks in community adults (risk-to-self: $r = .30, p < .001$; risk-to-others: $r = .48, p < .001$), while these correlations were not significant in violent offenders (risk-to-self: $r = .04, p = .68$; risk-to-others: $r = .16, p = .065$). More detailed results from all moderation analyses are shown in the Table A in Supplement.

Table 3

Moderation effects of Dark Tetrad traits in the prediction of psychological distress domains based on the subsample membership (male violent offenders or male community adults)

Predictors	Poor well-being	Problems	Poor functioning	Risk-to-self	Risk-to-others
Education	-.18***	-.12**	-.14**	-.09	-.06
R^2	.03***	.02**	.03***	.01*	.00
Subsample membership	-.02	-.02	-.02	-.01	-.01
ΔR^2	.00	.00	.00	.00	.00
Machiavellianism	.00	.12**	.02	.01	-.01
Narcissism	-.11*	-.08	-.21***	-.10**	.03
Psychopathy	.06	.13*	.25***	.21***	.40***
Physical sadism	.13*	.09	.14**	.19***	.11*
Verbal sadism	.00	.02	.00	.00	.05
Vicarious sadism	-.02	-.04	-.03	-.06	.09*
ΔR^2	.02**	.05***	.10***	.09***	.32***
Machiavellianism x subsample	-.01	-.05	-.03	-.01	.06
Narcissism x subsample	.02	-.01	.03	.01	-.03
Psychopathy x subsample	.03	.02	-.01	.02	.00
Physical sadism x subsample	-.07	-.05	-.03	-.11*	-.17***
Verbal sadism x subsample	.06	.07	.05	-.01	.06
Vicarious sadism x subsample	-.05	-.06	-.08	.01	.00
ΔR^2	.00	.01	.00	.01	.2***
Total R^2	.05***	.06***	.12***	.09***	.35***

Notes: Subsample membership was coded as 0 = male community adults, 1 = male violent offenders. Tolerance indices for all analyses were > .20, which indicated that there was no problem with multicollinearity (Hair et al., 1995). *** $p < .001$, ** $p < .01$, * $p < .05$.

Discussion

The first aim of this study was to explore differences between male violent offenders and male community adults in Dark Tetrad traits and psychological distress domains. Results showed that violent offenders had higher scores on psychopathy and poor functioning but lower on narcissism, compared to community adults. Higher scores in psychopathy among violent offenders were expected and in line with previous studies (e.g., McCuish et al., 2015). Certain features of psychopathy, like impulsivity and lack of empathy, increase the likelihood of engaging in violent criminal activities and offenses (Dhingra et al., 2013). However, lower scores on narcissism among violent offenders were not expected. Although there was a research showing lower narcissism in specific violent offenders such as sexual offenders against children (Pettersen et al., 2019), most of the previous research (e.g., Alsheikh Ali, 2020; Rogier et al., 2019) showed non-significant differences between offenders and the general population. It could be possible that being in prison can have a decreasing effect on positive self-perception, which is an indicator of grandiose narcissism, but this finding needs further investigation. In addition, we could assume that specific types of crime, such as murder and rape, contribute to the negative self-image among offenders convicted for these crimes. Our results could be interpreted in light of Campbell and Foster (2007) notion that if one of the elements of the narcissism self-regulatory system is not working, this will lead to lower narcissistic esteem. From this standpoint, being in prison impede self-regulatory activities which contribute to the lower narcissistic esteem.

Furthermore, violent offenders showed poorer functioning compared to community adults. Previous research showed poor mental health among prisoners (e.g., Edgemon & Clay-Warner, 2019; Porter & DeMarco, 2019). However, our research showed that the main domain of mental health that contributed to the differences between the subsamples is poor social and general function and not poor well-being, symptoms or risk behaviors. In one review study (Saladino et al., 2021) it was stated that violent offenders are

characterized by poor social and life skills and that many of them manage stress and anger solely through violent action or aggressive acting-out, not showing problem-solving and decision-making skills. Thus, the results of our study confirmed the presence of interpersonal deficits and problem-solving strategies among violent offenders as the most problematic aspects of their mental health.

The second aim was to explore moderation effects of dark traits in relationships between subsample membership and psychological distress. Results of hierarchical regression analyses when subsample membership was controlled, showed that psychopathy and physical sadism had positive effects on various domains of psychological distress, which is in line with previous studies (e.g., Chabrol et al., 2011; Dinić, Sadiković et al., 2020; Lyons et al., 2019). Since a broader set of indicators of mental health were used in our study, results indicated that deficits in social and problem-solving skills are the most linked to these dark traits, compared to poor well-being or symptoms. This is in line with the evaluation of dark traits as socially toxic traits (Paulhus & Williams, 2002) with costs on interpersonal relationships. Although previous research documented significant relationships between sadism and risk-to-others (Dinić, Sadiković et al., 2020), our study further contributes to the better insight into relationships between types of sadism and distress domains. Thus, in our study only physical sadism was related to the risk-to-others and showed substantive correlations with other aspects of distress, compared to verbal or vicarious sadism. These results indicated that only direct, physical sadism seems important in relationship to mental health domains. Previous research found that only direct sadism showed incremental validity in the prediction of some outcomes, e.g., attitudes towards various groups, and not vicarious (Dinić et al., 2020).

In line with our expectations, narcissism showed a negative link with poor functioning, risk behaviors, and poor well-being when subsample membership was controlled. Previous studies indicated the potential protective role of narcissism due to self-aggrandizement and higher self-esteem (e.g., Joshanloo, 2021). Furthermore, narcissism is characterized as the

most “social” trait which acts as a “buffer” for health costs due to the benefits of easily making social connections (Jonason et al., 2015).

Furthermore, the moderation effect of dark traits in relationships between subsample membership and psychological distress was found only for physical sadism. Thus, only among community adults the relationships between physical sadism and both risk aspects were significant in expected negative direction. The negative relationship was in line with previous research on the general population (Dinić, Sadiković et al., 2020). However, a non-significant relationship in violent offenders could have two main implications. First, we could assume that in the prison setting sadistic tendencies could be related to adaptive or surviving strategies, i.e., that they provide a “buffer” from negative outcomes. Second, it is possible that in prisoners some other factors of the environment can potentially suppress this relationship. For example, strict control of behavior and punishment for aggressive behavior, which are more prominent in the correctional setting. In both cases, future research is warranted.

There were several limitations to this study. First, all participants were men since we only had access to male prisons. Despite the higher importance of callous psychopathic traits in predicting chronic violent misdeeds among female offenders, Thomson et al. (2016) concluded that there was a similarity between men and women in predicting violent behavior. However, since there are gender differences in dark traits (e.g., Dinić et al., 2018), future studies should include female violent offenders in order to further investigate the potential moderation role of dark traits. Second, only self-report measures were used, thus there is a possibility of socially desirable responses, especially when they measure socially undesirable constructs. However, research showed that those scoring higher on more antagonistic traits (such as Machiavellianism and psychopathy, but also aggression) are less concerned with social desirability, at least among the general population (e.g., Kowalski et al., 2018). Third, the alpha reliability is marginal for narcissism and poor well-being scales, which could affect the results. It is possible these low alphas are

a product of the sample surveyed, given these alphas are typically established in community/undergraduate samples. Future research should include multidimensional measures of Dark Triad traits and both self-report and others-report measures in order to control potential response biases. Furthermore, considering the lack of research exploring the role of sadism in mental health, the findings regarding the role of sadism in mental health outcomes warrant replication. Finally, offenders convicted of other violent offenses could be included (e.g., robbery) and possible differences between a broader set of offenses types could be investigated. Besides membership of various violent offenses, criminal recidivism could be taken into account also, including not only recidivism related to violent crimes, but crimes in general.

Despite these limitations, the results of this study add to the better understanding of differences between violent offenders and non-offenders as well as to the better understanding of the role of Dark Tetrad traits in explanation of mental health among both violent offenders and non-offenders. The result showed that violent offenders had higher psychopathy but lower narcissism compared to community adults. Furthermore, results indicate that among mental health indicators, loneliness, lack of social support and adequate coping strategies were the most important distinction between these subsamples. Results highlighted the important role of psychopathy and physical sadism in the prediction of poor mental health, while narcissism, as “the brightest” trait among dark traits (Rauthmann & Kolar, 2012), showed negative relations with psychological distress. However, it seems that mentioned effect of physical sadism holds only among community adults, while among violent offenders physical sadism showed non-significant relationships with distress.

From the practical perspective, the results from this study imply two important aspects for further development of the prevention programs and training in correctional settings. First, treatment program for violent offenders should be focused on adoption of adequate social, conflict, and problem-solving strategies. Second, our results implicate that a better implementation

of prevention programmes that includes these skills and strategies is needed. All together, empowerment of the psychological functioning in these aspects could be beneficial for both violent prisoners and society in general.

Acknowledgment

We are thankful to our colleague Bojan Branovački for his help in preliminary statistical analysis for this paper.

Funding

This research was partly supported by the Ministry of Education, Science, and Technological Development of the Republic of Serbia (#179006).

Conflict of Interest

We have no conflicts of interest to disclose.

Data availability statement

Data used in this paper is available at: <https://osf.io/dctre/>.

References

- Alsheikh Ali, A. S. (2020). Delinquency as predicted by dark triad factors and demographic variables. *International Journal of Adolescence and Youth*, 25(1), 661–675. <http://doi.org/10.1080/02673843.2020.1711784>
- Boduszek, D., Debowska, A., Sherretts, N., Willmott, D., Boulton, M., Kielkiewicz, K., ... & Hyland, P. (2021). Are prisoners more psychopathic than non-forensic populations? Profiling psychopathic traits among prisoners, community adults, university students, and adolescents. *Deviant Behavior*, 42(2), 232–244. <https://doi.org/10.1080/01639625.2019.1665221>
- Buckels, E.E., & Paulhus, D.L. (2014). *Comprehensive assessment of sadistic tendencies (CAST)*. Unpublished instrument, Vancouver, Canada: University of British Columbia.
- Campbell, W.K., & Foster, J.D. (2007). The narcissistic self: Background, an extended agency model, and ongoing controversies. In C. Sedikides &

- S.J. Spencer (Eds.), *Frontiers of social psychology. The self* (pp. 115–138). New York, NY: Psychology Press.
- Castille, C.M., Kuyumcu, D., & Bennett, R.J. (2017). Prevailing to the peers' detriment: Organizational constraints motivate Machiavellians to undermine their peers. *Personality and Individual Differences, 104*, 29–36. <https://doi.org/10.1016/j.paid.2016.07.026>
- Chabrol, H., Bouvet, R., & Goutaudier, N. (2017). The Dark Tetrad and antisocial behavior in a community sample of college students. *Journal of Forensic Psychology Research and Practice, 17*(5), 295–304. <http://doi.org/10.1080/24732850.2017.1361310>
- Chabrol, H., Melioli, T., Van Leeuwen, N., Rodgers, R., & Goutaudier, N. (2015). The Dark Tetrad: Identifying personality profiles in high-school students. *Personality and Individual Differences, 83*, 97–101. <http://doi.org/10.1016/j.paid.2015.03.051>
- Chabrol, H., van Leeuwen, N., & Rodgers, R.F. (2011). Exploratory study of the relations between sadistic traits and suicidality in a nonclinical sample of adolescents. *Bulletin of the Menninger Clinic, 75*(3), 224–235. <http://doi.org/10.1521/bumc.2011.75.3.224>
- Chabrol, H., Van Leeuwen, N., Rodgers, R., & Séjourné, N. (2009). Contributions of psychopathic, narcissistic, Machiavellian, and sadistic personality traits to juvenile delinquency. *Personality and Individual Differences, 47*(7), 734–739. <http://doi.org/10.1016/j.paid.2009.06.020>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Dhingra, K., & Boduszek, D. (2013) Psychopathy and Criminal Behaviour: A Psychosocial Research Perspective. *Journal of Criminal Psychology, 3*(2), 83–107. <https://doi.org/10.1108/jcp-06-2013-0014>
- Dhingra, K., Boduszek, D., & Kola-Palmer, S. (2015). A Latent Class Analysis of Psychopathic Traits in Civil Psychiatric Patients: The Role of Criminal

- Behaviour, Violence, and Gender. *The Howard Journal of Criminal Justice*, 54(3), 237–249. <http://doi.org/10.1111/hojo.12128>
- Dinić, B.M., & Jevremov, T. (2021). Trends in research related to the Dark Triad: A bibliometric analysis. *Current Psychology*, 40, 3206–3215. <https://doi.org/10.1007/s12144-019-00250-9>
- Dinić, B.M., Bulut Allred, T., Petrović, B., & Wertag, A. (2020). A test of three sadism measures. Short Sadistic Impulse Scale, Varieties of Sadistic Tendencies, and Assessment of Sadistic Personality. *Journal of Individual Differences*, 41, 219–227. <https://doi.org/10.1027/1614-0001/a000319>
- Dinić, B.M., Petrović, B., & Jonason, P. K. (2018). Serbian adaptations of the Dark Triad Dirty Dozen (DTDD) and Short Dark Triad (SD3). *Personality and Individual Differences*, 134, 321–328. <https://doi.org/10.1016/j.paid.2018.06.018>
- Dinić, B.M., Sadiković, S., & Wertag, A. (2020). Factor mixture analysis of the Dark Triad and Dark Tetrad. Could sadism make a difference? *Journal of Individual Differences*, 42(2), 74–83. <https://doi.org/10.1027/1614-0001/a000331>
- Dinić, B.M., Wertag, A., Sokolovska, V., & Tomašević, A. (2019). Centrality and redundancy of the Dark Tetrad traits. *Personality and Individual Differences*, 155. Online fist. <https://doi.org/10.1016/j.paid.2019.109621>
- Edgemon, T. G., & Clay-Warner, J. (2019). Inmate mental health and the pains of imprisonment. *Society and Mental Health*, 9(1), 33–50. <https://doi.org/10.1177/2156869318785424>
- Egan, V., Chan, S., & Shorter, G.W. (2014). The Dark Triad, happiness and subjective well-being. *Personality and Individual Differences*, 67, 17–22. <http://doi.org/10.1016/j.paid.2014.01.004>
- Eriksson, T. G., Masche-No, J. G., & Dåderman, A. M. (2017). Personality traits of prisoners as compared to general populations: Signs of adjustment to

- the situation? *Personality and Individual Differences*, 107, 237–245.
<https://doi.org/10.1016/j.paid.2016.11.030>
- Evans, C., Mellor-Clark, J., Margison, F., Barkham, M., Audin, K., Connell, J., & McGrath, G. (2000). CORE: Clinical Outcomes in Routine Evaluation. *Journal of Mental Health*, 9(3), 247–255.
<https://doi.org/10.1080/713680250>
- Fazel, S., Hayes, A. J., Bartellas, K., Clerici, M., & Trestman, R. (2016). Mental health of prisoners: Prevalence, adverse outcomes, and interventions. *The Lancet Psychiatry*, 3(9), 871–881. [http://doi.org/10.1016/S2215-0366\(16\)30142-0](http://doi.org/10.1016/S2215-0366(16)30142-0)
- Furnham, A., Richards, S.C., & Paulhus, D.L. (2013). The Dark Triad of personality: A 10 year review. *Social and Personality Psychology Compass*, 7(3), 199–216. <http://doi.org/10.1111/spc3.12018>
- George, D., & Mallery, M. (2010). *SPSS for Windows Step by Step: A Simple Guide and Reference, 17.0 update* (10a Ed.). Boston: Pearson.
- Gómez-Leal, R., Megías-Robles, A., Gutiérrez-Cobo, M.J., Cabello, R., Fernández-Abascal, E.G., & Fernández-Berrocal, P. (2019). Relationships between the Dark Triad and depressive symptoms. *PeerJ*, 7:e8120.
<http://doi.org/10.7717/peerj.8120>
- Hair, J.F.Jr., Anderson, R.E., Tatham, R.L., & Black, W.C. (1995). *Multivariate Data Analysis* (3rd ed). New York: Macmillan.
- Hare, R.D., & Neumann, C.S. (2008). Psychopathy as a clinical empirical construct. *Annual Review of Clinical Psychology*, 4, 217–246.
<http://doi.org/10.1146/annurev.clinpsy.3.022806.091452>
- Hepper, E.G., Hart, C.M., Meek, R., Cisek, S., & Sedikides, C. (2014). Narcissism and empathy in young offenders and non-offenders. *European Journal of Personality*, 28(2), 201–210. <http://doi.org/10.1002/per.1939>
- IBM Corp. (2019). *IBM SPSS Statistics for Windows, Version 26.0*. Armonk, NY: IBM Corp.

- Jonason, P.K., Baughman, H M., Carter, G.L., & Parker, P. (2015). Dorian Gray without his portrait: Psychological, social, and physical health costs associated with the Dark Triad. *Personality and Individual Differences*, 78, 5–13. <https://doi.org/10.1016/j.paid.2015.01.008>
- Jones, D.N., & Paulhus, D.L. (2009). Machiavellianism. In M.R. Leary & R.H. Hoyle (Eds.), *Individual differences in social behavior* (pp. 93–108). New York: Guilford.
- Jones, D.N., & Paulhus, D.L. (2014). Introducing the Short Dark Triad (SD3). *Assessment*, 21(1), 28–41. <https://doi.org/10.1177/1073191113514105>
- Joshanloo, M. (2021). Conceptions of Happiness Mediate the Relationship Between the Dark Triad and Well-Being. *Frontiers in Psychology*, 12, 643351. <http://doi.org/10.3389/fpsyg.2021.643351>
- Kavish, N., Jones, M.A., Rock, R.C., Johnson, A.K., & Anderson, J.L. (2018). On the overlap between psychopathic traits and Machiavellianism in a forensic population. *Journal of Psychopathology and Behavioral Assessment*, 47(2), 198–207. <http://doi.org/10.1007/s10862-018-9708-0>
- Kingston, D.A., Seto, M.C., Firestone, P., & Bradford, J.M. (2010). Comparing indicators of sexual sadism as predictors of recidivism among adult male sexual offenders. *Journal of Consulting and Clinical Psychology*, 78(4), 574–584. <http://doi.org/10.1037/a0019734>
- Klingzell, I., Fanti, K.A., Collins, O.F., Frogner, L., Andershed, A.-K., & Andershed, H. (2015). Early Childhood Trajectories of Conduct Problems and Callous-Unemotional Traits: The Role of Fearlessness and Psychopathic Personality Dimensions. *Child Psychiatry & Human Development*, 47(2), 236–247. <http://doi.org/10.1007/s10578-015-0560-0>
- Kowalski, C.M., Rogoza, R., Vernon, P.A., & Schermer, J.A. (2018). The Dark Triad and the self-presentation variables of socially desirable responding and self-monitoring. *Personality and Individual Differences*, 120, 234–237. <http://doi.org/10.1016/j.paid.2017.09.007>

- Liu, X., Zhang, F., & Zhao, G., Chen, Y., Yang, B., & Zhang, Z. (2017). The Dark Triad, creative and impulsive nonconformity in fraud and violent offenders. *Chine Journal of Health Psychology, 8*, 1183–1186.
- Lyne, K., Barrett, P., Evans, C., & Barkham, M. (2006). Dimensions of variation on the CORE-OM. *British Journal of Clinical Psychology, 45*(2), 185–203. <https://doi.org/10.1348/014466505X39106>
- Lyons, M., Evans, K., & Helle, S. (2019). Do “dark” personality features buffer against adversity? The Associations between cumulative life stress, the Dark Triad, and mental distress. *SAGE Open, 9*(1). Online first. <https://doi.org/10.1177/2158244018822383>
- McCuish, E. C., Corrado, R.R., Hart, S.D., & DeLisi, M. (2015). The role of symptoms of psychopathy in persistent violence over the criminal career into full adulthood. *Journal of Criminal Justice, 43*(4), 345–356. <http://doi.org/10.1016/j.jcrimjus.2015.04.008>
- Muris, P., Merckelbach, H., Otgaar, H., & Meijer, E. (2017). The malevolent side of human nature. *Perspectives on Psychological Science, 12*(2), 183–204. <http://doi.org/10.1177/1745691616666070>
- O’Meara, A., Davies, J., & Hammond, S. (2011). The psychometric properties and utility of the Short Sadistic Impulse Scale (SSIS). *Psychological Assessment, 23*(2), 523–531. <http://doi.org/10.1037/a0022400>
- Paulhus, D.L. (2014). Toward a Taxonomy of Dark Personalities. *Current Directions in Psychological Science, 23*(6), 421–426. <https://doi.org/10.1177/0963721414547737>
- 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. [http://doi.org/10.1016/s0092-6566\(02\)00505-6](http://doi.org/10.1016/s0092-6566(02)00505-6)
- Pettersen, C., Nunes, K. L., Kostiuk, N., Jung, S., & Atlas, M. (2019). Explicit and Implicit Self-Esteem, Narcissism, and Recidivism Risk in a Sample of Men Who Have Sexually Offended Against Children. *Archives of Sexual Behavior, 49*(4), 1319–1332. <http://doi.org/10.1007/s10508-019-01598-6>

- Pfattheicher, S., Keller, J., & Knežević, G. (2019). Destroying things for pleasure: On the relation of sadism and vandalism. *Personality and Individual Differences, 140*, 52–56. <http://doi.org/10.1016/j.paid.2018.03.049>
- Pfattheicher, S., Lazarevic, L.J., Asbjørn Nielsen, Y., Westgate, E., Krstić, K., & Schindler, S. (2021). I enjoy hurting my classmates: On the relation of boredom and sadism in schools. *PsyArXiv*.
<https://doi.org/10.31234/osf.io/37ru9>
- Porter, L. C., & DeMarco, L. M. (2019). Beyond the dichotomy: Incarceration dosage and mental health. *Criminology, 57*(1), 136–156.
<https://doi.org/10.1111/1745-9125.12199>
- Rauthmann, J.F., & Kolar, G.P. (2012). How “dark” are the Dark Triad traits? Examining the perceived darkness of narcissism, Machiavellianism, and psychopathy. *Personality and Individual Differences, 53*(7), 884–889.
<http://doi.org/10.1016/j.paid.2012.06.020>
- Rogier, G., Marzo, A., & Velotti, P. (2019). Aggression Among Offenders: The Complex Interplay by Grandiose Narcissism, Spitefulness, and Impulsivity. *Criminal Justice and Behavior, 46*(10), 1475–1492.
<http://doi.org/10.1177/0093854819862013>
- Saladino, V., Lin, H., Zamparelli, E., & Verrastro, V. (2021). Neuroscience, Empathy, and Violent Crime in an Incarcerated Population: A Narrative Review. *Frontiers in Psychology, 12*:694212.
<http://doi.org/10.3389/fpsyg.2021.694212>
- Shaffer, C., McCuish, E., Corrado, R. R., Behnken, M. P., & DeLisi, M. (2015). Psychopathy and violent misconduct in a sample of violent young offenders. *Journal of Criminal Justice, 43*(4), 321–326.
<http://doi.org/10.1016/j.jcrimjus.2015.05.008>
- Službeni glasnik (2005). *Krivični zakonik Republike Srbije br. 85/2005, 88/2005 - ispr., 107/2005 - ispr., 72/2009, 111/2009, 121/2012, 104/2013, 108/2014,*

94/2016 i 35/2019 Retrived (September 15th) from:

<http://www.slglasnik.com>

- Thiry, B. (2012). An assessment of personality disorders with the Five-Factor Model among Belgian inmates. *International Journal of Law and Psychiatry, 35*(4), 327–333. <http://doi.org/10.1016/j.ijlp.2012.04.010>
- Thomson, N.D., Towl, G.J., & Centifanti, L.C.M. (2016). The habitual female offender inside: How psychopathic traits predict chronic prison violence. *Law and Human Behavior, 40*(3), 257–269. <https://doi.org/10.1037/lhb0000178>
- Trninić, V., Barančić, M., & Nazor, M. (2008). The Five-Factor model of personality and aggressiveness in prisoners and athletes. *Kinesiology, 40*, 170–181.
- Van Groningen, A.J., Grawitch, M.J., Lavigne, K.N., & Palmer, S.N. (2021). Every cloud has a silver lining: Narcissism's buffering impact on the relationship between the Dark Triad and well-being. *Personality and Individual Differences, 171*, 110549. <https://doi.org/10.1016/j.paid.2020.110549>
- Wiench, V. (2019). *Do prisoners have a dark personality? An investigation on the Dark Traits in inmates*. [Master's thesis, University of Mannheim]. Research Gate. https://www.researchgate.net/publication/336496193_Do_prisoners_have_a_dark_personality_An_investigation_on_the_Dark_Traits_in_inmates
- Womick, J., Foltz, R. M., & King, L. A. (2019). “Releasing the beast within”? Authenticity, well-being, and the Dark Tetrad. *Personality and Individual Differences, 137*, 115–125. <http://doi.org/10.1016/j.paid.2018.08.022>
- Yi, Y., Turney, K., & Wildeman, C. (2017). Mental health among jail and prison inmates. *American Journal of Men's Health, 11*(4), 900–909. <https://doi.org/10.1177/1557988316681339>

Supplement

Table A

Detailed results from all moderation analyses

Step	Predictor	Poor well-being			Problems			Poor functioning			Risk-to-self			Risk-to-others		
		β	ρ	Tol	β	ρ	Tol	β	ρ	Tol	β	ρ	Tol	β	ρ	Tol
1	Education	-.19	.000	1.00	-.13	.001	1.00	-.17	.000	1.00	-.12	.002	1.00	-.07	.053	1.00
	Education	-.17	.000	.98	-.11	.003	.98	-.13	.000	.98	-.09	.010	.98	-.05	.090	.98
	Machiavellianism	.00	.995	.74	.12	.004	.74	.02	.678	.74	.01	.858	.74	.00	.977	.74
	Narcissism	-.11	.009	.74	-.08	.053	.74	-.21	.000	.74	-.10	.020	.74	.03	.493	.74
2	Psychopathy	.05	.319	.50	.12	.016	.50	.25	.000	.50	.21	.000	.50	.39	.000	.50
	Physical sadism	.13	.009	.57	.09	.067	.57	.14	.002	.57	.19	.000	.57	.12	.004	.57
	Verbal sadism	-.01	.885	.61	.01	.868	.61	-.01	.872	.61	.00	.970	.61	.05	.201	.61
	Vicarious sadism	-.01	.781	.58	-.03	.587	.58	-.02	.701	.58	-.06	.172	.58	.09	.027	.58
	Education	-.17	.000	.97	-.11	.002	.97	-.13	.000	.97	-.09	.010	.97	-.05	.085	.97
	Machiavellianism	.00	.993	.74	.12	.004	.74	.02	.680	.74	.01	.859	.74	.00	.976	.74
	Narcissism	-.11	.010	.74	-.08	.054	.74	-.21	.000	.74	-.10	.021	.74	.03	.491	.74
3	Psychopathy	.05	.323	.50	.12	.016	.50	.25	.000	.50	.21	.000	.50	.39	.000	.50
	Physical sadism	.13	.009	.57	.09	.067	.57	.14	.002	.57	.19	.000	.57	.12	.004	.57
	Verbal sadism	-.01	.889	.61	.01	.865	.61	-.01	.875	.61	.00	.972	.61	.05	.200	.61
	Vicarious sadism	-.01	.779	.58	-.03	.586	.58	-.02	.699	.58	-.06	.172	.58	.09	.027	.58
	Subsample membership	-.02	.614	.99	-.02	.636	.99	-.02	.588	.99	-.01	.721	.99	-.01	.737	.99
	Education	-.18	.000	.96	-.12	.002	.96	-.14	.000	.96	-.09	.011	.96	-.06	.052	.96
	Machiavellianism	.00	.969	.73	.12	.006	.73	.02	.713	.73	.01	.799	.73	-.01	.886	.73
4	Narcissism	-.11	.011	.74	-.08	.054	.74	-.21	.000	.74	-.10	.019	.74	.03	.396	.74
	Psychopathy	.06	.272	.50	.13	.012	.50	.25	.000	.50	.21	.000	.50	.40	.000	.50
	Physical sadism	.13	.010	.57	.09	.069	.57	.14	.002	.57	.19	.000	.57	.11	.006	.57

Note: Tol – tolerance.



Research Article

Dark Triad traits as predictors of adherence to traditional masculine norms in men

George Van Doorn ^{1,2,3}  and Jacob Dye ^{3,4} 

¹ *School of Science, Psychology and Sport, Churchill Campus, Federation University Australia, Churchill, VIC, 3842, Australia*

² *Health Innovation and Transformation Centre, Mt Helen Campus, Federation University Australia, Ballarat, VIC, 3350, Australia*

³ *Successful Health for At-Risk Populations (SHARP) Research Group, Mt Helen Campus, Federation University Australia, Ballarat, VIC, 3350, Australia*

⁴ *School of Science, Psychology, and Sport, Mt Helen Campus, Federation University Australia, Ballarat, VIC 3350, Australia*

ABSTRACT

The present study examined whether Dark Triad traits explain variance in men's adherence to traditional masculine norms (Playboy, Self-Reliance, Emotional Control, Winning, Violence, Heterosexual Self-Presentation, Risk-Taking, and Power over Women). Two-hundred and thirty-seven English speaking men (aged 18 to 62 years) completed online versions of the Self-Report Psychopathy Scale-III, the Narcissistic Personality Inventory, the Mach-IV, and the Conformity to Masculine Norms Inventory-29. Results from regression analyses showed that the psychopathic trait Callous Affect positively predicted men's Need to Win, Emotional Control, Violence, and Power Over Women; Erratic Lifestyle was a positive predictor of Risk-Taking; and Antisocial Behaviour was a positive predictor of Playboy. Machiavellianism predicted only Violence. The Narcissistic sub-trait Leadership positively predicted Risk-Taking; Manipulativeness predicted Risk-Taking and Violence; Superiority predicted Risk-Taking and Power over Women; Vanity predicted Self-Reliance; and Exhibitionism predicted Emotional Control. We conclude that whilst Callous Affect appears to hold the highest

predictive validity, the Dark Triad traits differentially predict adherence to specific masculine norms.

Keywords: masculinity; Dark Triad; psychopathy; Machiavellianism; narcissism

UDC: 159.923.072:159.97

DOI: 10.19090/pp.2021.4. 539-569

Received: 02.09.2021.

Revised: 19.10.2021.

Accepted: 15.11.2021.



Copyright © 2021 The Author(s).

This is an open access article

distributed under the terms of the [Creative Commons](#)

[Attribution License](#), which permits unrestricted use,

distribution, and reproduction in any medium,

provided the original author and source are credited.

✉ Corresponding author email: george.vandoorn@federation.edu.au

Introduction

Traditional masculine norms represent men's role expectations and behaviour (Gordon et al., 2013). It is recognised that there are multifarious masculinities, and that the prevailing form of masculinity changes across time and geography (Connell, 2005, 2016; Jewkes et al., 2015). Although influenced by women (Connell, 2005), in Western societies masculinity is frequently aligned with the beliefs of heterosexual, well-educated, white men from middle- and upper-class backgrounds (Perkins, 2015). Traditional masculinity is often associated with negative and socially aversive behaviours (Connell, 1987; Kupers, 2005). As measured by the Conformity to Masculine Norms Inventory-29 (CMNI-29; Hsu & Iwamoto, 2014), those who stridently adhere to traditional masculine norms act aggressively (i.e., Violence), lack concern for, marginalise, and dominate others, avoid being perceived of as gay or feminine (i.e., Heterosexual Self-Presentation), display misogynistic attitudes (i.e., Power over Women), are unwilling to accept help (i.e., Self-Reliance), desire multiple sexual partners (i.e., Playboy), display a restricted range of emotions (i.e., Emotional control), and strive to win at any cost (i.e., Winning; Carrigan et al., 1985; Connell, 1987, 2000; Donaldson, 1993; Kahn, 2009; Kupers, 2005; Mankowski & Maton, 2010; Parent & Moradi, 2011; Parent et al., 2019; Thacker, 2019).

The Dark Triad (DT) traits are conceptually related, socially aversive dimensions of personality and include subclinical psychopathy, Machiavellianism, and subclinical narcissism (Paulhus & Williams, 2002). Psychopathy is commonly characterised by a two-factor structure with Factor 1 consisting of deception, manipulation, callousness, and empathy deficits, while Factor 2 consists of antisocial behaviours, impulsivity, poor behavioural control, and an erratic lifestyle (Hare, 2003; Hare & Neumann, 2008). Williams et al. (2003) further separate these factors into subscales – Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, and Antisocial Behaviour – capturing a four-facet model of psychopathy. Machiavellianism is characterised by strategic manipulation, disregard for morality, and

emotional detachment (Geis & Levy, 1970; Jones & Paulhus, 2014). The factor structure of the most used measure of Machiavellianism, Mach-IV (Christie & Geis, 1970), has been debated (see Monaghan et al., 2018). Christie and Geis (1970) originally suggested a three-factor structure (i.e., Interpersonal Tactics, Cynical View of Human Nature, and Disregard for Conventional Morality). However, later research has shown this structure to be unstable (Monaghan et al., 2018). It is common for contemporary research to utilise a unidimensional Mach-IV structure. Narcissism is characterised by inflated self-worth, entitlement, and pre-occupation with the self (Caligor et al., 2015). The most established measure of non-clinical narcissistic traits is the Narcissistic Personality Inventory and recent research suggests that a five-factor structure is the best fit for this construct (Leadership, Exhibitionism, Vanity, Manipulativeness, and Superiority; Dinić & Vujić, 2019). Researchers (e.g., Jones & Figueredo, 2013) suggest that the DT traits share a common core represented by the facets of Hare's (2003) Factor 1 (i.e., interpersonal manipulation and callous affect). Of note to the current study, men on average score higher on each of the DT traits than do women (Jonason et al., 2010). Some research suggests that although most of the dark traits are dimensional in nature, the Dark Core may be a categorical, higher-order trait in men (Tran et al., 2018). This would go some way to explaining the uniformly elevated levels of Dark Core traits in men relative to women.

However, regardless of the shared variance between the DT traits, prior research has established that DT traits distinctively explain variance in other constructs and behaviours. Heym et al. (2019), for example, showed that in a mixed-gender student sample, DT traits are differentially related to outcomes associated with the shared Dark Core, with each of the DT traits having distinct associations with cognitive/affective empathy and indirect relational aggression. Further, Miller et al. (2019) argued that the DT should be treated as multidimensional, and that the unidimensional Dark Core is the result of psychopathy and Machiavellianism being indistinct from one another. For this reason, it would be expected that, although the traits, factors, and facets of the DT may share important features with traditional

masculinity, examining the differential associations between facets of each of the DT traits (e.g., Callous Affect) with traditional masculine norms (e.g., Violence) may offer important insights.

Although logical connections can be drawn between the DT and traditional masculinity based on intersecting associations, direct relationships have not been established. Given the conceptual overlap between the DT and traditional masculinity, adherence to certain masculine norms may be predicted by high levels of dark traits in men. To the best of our knowledge, only one study has directly assessed the relationship between the DT and masculinity. Jonason and Davis (2018) found, in two mixed-gender student samples, that psychopathy and narcissism were associated with greater adherence to masculine gender roles; although after removing shared variance, only narcissism was associated with adhering to masculine roles. As part of a study investigating emotional manipulation, Waddell et al. (2020) found small-to-moderate bivariate associations between hegemonic masculinity (i.e., the idealised and prevailing form of masculinity; Courtenay, 2000; Perkins, 2015) and DT, with all three DT constructs being positively associated with hegemonic masculinity. Waddell et al. analysed correlations by gender and found that, although these associations held up across genders, the associations between DT traits and adherence to masculine norms were stronger for men than women. Further, men had significantly higher levels of psychopathy and adherence to masculine norms than did women. Although Jonason and Davis (2018) explored the association between DT and masculinity and Waddell et al. (2020) found correlations between the DT and hegemonic masculinity, there is a dearth of research exploring the DT as predictors of adherence to traditional masculine norms.

Psychopathy and masculinity

Literature shows that psychopathy in males has been associated with hostile and negative attitudes towards women, as well as violence towards and sexual dominance over women (LeBreton et al., 2013; Methot-Jones,

2019). Individuals with high levels of psychopathy also use coercive tactics to enhance their own self-interests, including emotionally manipulating their partner to attain sex (Muñoz et al., 2011). Psychopathy is reliably associated with an increased risk of violence, and Factor 1 traits have been associated with using violence instrumentally (Dhingra & Boduszek, 2013). These findings are consistent with the traditional masculine norms violence and power over women. Traditional masculine norms have been associated with mating attempt rejection violence (Thacker, 2019) and sexually aggressive behaviour (Gerdes & Levant, 2018). Factor 1 subclinical psychopathic traits have also been associated with social defection, dominance, and cost imposition when perceiving others as low value social partners (Gervais et al., 2013). Similarly, men endorsing traditional masculinity are often described as willing to marginalise and dominate others (Courtenay, 2000). Those individuals with high levels, relative to those with low levels, of subclinical psychopathic traits (across factors) make significantly more risky decisions in gambling tasks (Mahmut et al., 2008), aligning with the traditional masculine norms such as Risk-Taking and Need to Win. Individuals with high psychopathy lack empathy and remorse and appear to be undeterred by the possibility of hurting others (Glenn et al., 2009). This seems akin to a lack of concern for others which features often in definitions of traditional masculinity. Given this work, we could assume connections between psychopathy and certain masculine norms.

Machiavellianism and masculinity

Much like traditional masculinity, Machiavellianism has been associated with manipulative relationship behaviours, such as sexual deception and infidelity (Brewer & Abell, 2015). Machiavellianism, along with narcissism and unrestricted socio-sexuality, positively predicted mating effort (Valentova et al., 2019). This increased effort towards obtaining mates aligns well with the traditional masculine norm Playboy (i.e., the desire for multiple sexual partners). Jewkes and Morrell (2018) determined that men of lower socioeconomic status experienced more childhood trauma which was

associated with higher Machiavellian egocentricity scores. This, in turn, was associated with greater acceptance of violence in intimate relationships; again, Violence and Power over Women are traditional masculine norms. This indicates that men with higher levels of Machiavellian traits more actively seek romantic partners and are more likely to act abusively within those relationships. As research has not directly assessed the relationship between Machiavellianism and traditional masculinity, a goal is to empirically assess the nature and the extent of this overlap.

Narcissism and masculinity

Manipulative tactics are a feature of both trait narcissism and traditional masculinity. Trait narcissism has been associated with the use of emotionally controlling behaviours to maintain status and power (Campbell et al., 2011). These behaviours may stem from the difficulty narcissists have in maintaining social connections (Konrath et al., 2014), which is also a facet of traditional masculinity (i.e., Self-Reliance). Studies have shown that grandiose narcissism (i.e., self-inflation and admiration-seeking) is associated with aggressive and dangerous driving (Edwards et al., 2013; Hill, 2015) and engaging in risky behaviours (Buelow & Brunell, 2014; Foster et al., 2009). Other studies have shown that pathological narcissism, which combines features of both grandiose and vulnerable narcissism (i.e., high neuroticism, low extraversion), is associated with aggressive behaviour (Ellison et al., 2013; Goldberg et al., 2007; Kealy et al., 2017). Risk-taking and aggression are key features of traditional masculinity. Jonason and Davis (2018) found that narcissism was associated with greater adherence to masculine gender roles. As such, and to achieve a more fine-grained understanding, it is worth assessing whether facets of trait narcissism are associated with certain facets of traditional masculinity (e.g., Need to Win).

Aims and Hypotheses

As mentioned, direct relationships have not been established between DT traits and traditional masculinity. Although recent evidence (Van Doorn et al., 2020) has demonstrated that traditional masculinity is influenced by proximal social influences (i.e., contact with, and support from, friends over the past month), these influences explained only a small proportion of the variance in adherence to traditional masculine norms. The conceptual overlap between the DT and traditional masculinity suggests that adherence to traditional, negative masculine norms may be predicted by high levels of dark traits in men. The aim of this exploratory study is to assess whether facets of dark personality predict variation in adherence to several, traditional masculine norms. We expect that Factor 1 psychopathy (affective/interpersonal aspect), as a core feature of DT traits (e.g., Jones & Figueredo, 2013), will be a dominant, positive predictor of many traditional masculine norms. Previous research suggests that the Erratic Lifestyle facet of psychopathy will be a significant, positive predictor of norms related to Risk-Taking (Mahmut et al., 2008) and Playboy (Brewer & Abell, 2015). More generally, psychopathy will positively predict adherence to the traditional masculine norm Violence. It is further expected that narcissism will be a positive predictor of the Risk-Taking and Violence norms of traditional masculinity. Finally, it is expected that Machiavellianism will predict two norms, Playboy and Power over Women.

Method

Participants

Waddell et al.'s (2020) study established small-to-moderate relationships between DT traits and hegemonically-masculine norms, with effect sizes ranging from medium-to-large ($f^2 = 0.29-0.54$). Using this as a guide, an *a priori* analysis in G*Power (Faul et al., 2009) indicated that a sample size of approximately 109 participants was required to detect medium-sized effects ($f^2 = 0.15$) for regression analyses.

Three hundred and fifty-eight English-speaking men logged into the online study. However, 121 respondents were excluded because they failed to answer at least half of the survey items. Consequently, data from 237 men (66.2% of respondents) were analysed.

Missing values were present in the data due to participant non-response/drop-out. A missing values analysis showed that more than 5% of data were missing from certain items, but a Little's missing completely at random test was not statistically significant ($p = 1.00$). Thus, data were missing completely at random. Given these findings, five multiple imputations were performed to replace missing values. In all, 380 missing values were imputed.

Participants' ages ranged from 18 to 62 years ($M_{age} = 31.13$ years, $SD = 9.04$), and all were in a romantic relationship. Ethical approval for this study was granted by Federation University Australia's Human Research Ethics Committee (project number: A20-073).

Instruments

Self-Report Psychopathy Scale – III (SRP-III)

Self-Report Psychopathy Scale – III (SRP-III; Williams et al., 2003). The SRP-III is a 64-item measure assessing non-clinical psychopathy including Factor 1 traits (i.e., Interpersonal Manipulation [IM], Callous Affect [CA]) and Factor 2 traits (Erratic Lifestyle [EL], Antisocial Behaviour [ASB]). Participants respond to items using a five-point Likert scale (1 = *disagree strongly*, 5 = *agree strongly*), and subscale scores are calculated by summing scores from the relevant items. Williams et al. (2003) demonstrated that the internal reliability for SRP-III subscales range from questionable-to-excellent (IM $\alpha = .76$; CA $\alpha = .74$; EL $\alpha = .67$; ASB $\alpha = .91$). In the current study, the internal consistency of the SRP-III's subscales ranged from acceptable-to-good (IM $\alpha = .84$; CA $\alpha = .77$; EL $\alpha = .76$; ASB $\alpha = .74$).

Mach-IV

Mach-IV (Christie & Geis, 1970). The Mach-IV is a 20-item measure of Machiavellianism. The factor structure of the Mach-IV has been debated (see Monaghan et al., 2018), with some suggesting the three-factor structure (i.e., Interpersonal Tactics, Cynical View of Human Nature, and Disregard for Conventional Morality) is unstable. Consistent with this view, the internal consistency of the Mach-IV's subscales are less than impressive and are rarely reported (e.g., Interpersonal Tactics $\alpha = .68$; Cynical View $\alpha = .55$; Jones & Figueredo, 2013). It is not surprising that the internal consistency of the Conventional Morality subscale is not reported as this subscale consists of only two items. In the current study, the correlation between the two items that contribute to the Conventional Morality subscale was very low ($r = 0.06$, $p = .393$), while the internal consistency of the subscales ranged from questionable-to-acceptable (Interpersonal Tactics $\alpha = .76$; Cynical View $\alpha = .69$). As such, and consistent with Monahan et al. (2018), we assessed the reliability of the two-factor structure but found that the internal consistency of the Views subscale was questionable (Cronbach's alpha = .63). Consequently, and consistent with several other authors (e.g., Monahan et al., 2018) we use the Mach-IV total score. Participants respond to each item using a five-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*), and the total score was calculated by summing scores from all items. The internal consistency of the total score was good (Cronbach's $\alpha = .83$).

Narcissistic Personality Inventory (NPI)

Narcissistic Personality Inventory (NPI; Raskin & Hall, 1981). The NPI is a 40-item personality measure assessing non-clinical levels of trait narcissism consisting to five factors (Dinić & Vujić 2019). This study used a Likert response format as opposed to a forced-choice format, as recommended and validated by Miller et al. (2018). Participants respond to each item using a five-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*). Using a Likert style response format has been shown to increase the internal consistency of the NPI, with prior research finding the internal consistency of the factors was acceptable-to-excellent (i.e., Leadership $\alpha = .90$; Exhibitionism $\alpha = .83$; Vanity

$\alpha = .84$; Manipulativeness $\alpha = .84$; Superiority $\alpha = .79$; Dinić & Vujić 2019). The internal consistency of the NPI factors in the current study were acceptable-to-good (Leadership $\alpha = .88$; Exhibitionism $\alpha = .76$; Vanity $\alpha = .85$; Manipulativeness $\alpha = .79$; and Superiority $\alpha = .78$).

The Conformity to Masculine Norms Inventory-29 (CMNI-29)

The Conformity to Masculine Norms Inventory-29 (CMNI-29; Hsu & Iwamoto, 2014). The CMNI-29 was used to assess the extent to which men conform to traditional masculine norms of Playboy, Self-Reliance, Emotional Control, Winning, Violence, Heterosexual Self-Presentation, Risk-Taking, and Power over Women. The measure comprises 29 items with responses recorded on a four-point Likert-type scale (0 = *strongly disagree*, 3 = *strongly agree*). The CMNI-29 was chosen because its subscales have acceptable-to-good internal reliability (i.e., Cronbach's alphas range from .71 to .87; Hsu & Iwamoto, 2014). In the current study, the internal consistency of the CMNI-29's subscales ranged from acceptable-to-excellent (Playboy $\alpha = .82$; Self-Reliance $\alpha = .85$; Emotional Control $\alpha = .91$; Winning $\alpha = .82$; Violence $\alpha = .81$; Heterosexual Self-Presentation $\alpha = .90$; Risk-Taking $\alpha = .77$; Power over Women $\alpha = .81$).

Procedure

English-speaking men aged 18 years and older were invited to participate in the survey via posts on social media platforms (i.e., Facebook, Twitter, Reddit, and Instagram), and snowballing. Although this might be considered convenience sampling, and thus bias the results, we refer the reader to Coppock et al. (2018) who demonstrated that effects estimated from surveys conducted using online convenience samples are very similar to those estimated from nationally representative samples.

Those interested in participating followed a link to the survey's landing page on Qualtrics™. Here, participants read an information statement which, amongst other things, outlined the anonymous nature of the survey and each person's right to withdraw from the study at any time. Participants

provided informed consent by clicking an “I agree” button. At this point, they were taken to the survey proper. Here, participants were asked to complete demographic questions before completing the SRP-III, NPI, MACH-IV, and CMNI-29 in random order. When finished, a debriefing statement was presented, and participants were asked to re-affirm their consent. The survey took approximately 15 minutes to complete. No incentives were offered for participating.

Results

Table 1 presents descriptives of, and bivariate correlations between, all variables. The bivariate correlations between traditional masculine norms and psychopathy suggest that men scoring high on Risk-Taking, Violence, and Power over Women were high on all facets of psychopathy. Likewise, men scoring high on the Need to Win, Risk-Taking, Heterosexual Self-Presentation, Emotional Control, Violence, Playboy, and Power over Women were high on Machiavellianism. The bivariate correlations between traditional masculine norms and narcissism suggest that men scoring high on the Need to Win, Risk-Taking, and Power over Women were high on the Leadership and Superiority facets of narcissism, while those high on Self-Reliance were low on these facets.

Table 1

Correlation Matrix between Masculine Norms, Psychopathy, Machiavellianism, and Narcissism

	M (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1. Interpersonal Manipulation ^a	2.65 (0.61)																			
2. Callous Affect ^a	2.49 (0.52)	.53***																		
3. Erratic Lifestyle ^a	2.89 (0.58)	.42***	.39***																	
4. Antisocial Behaviour ^a	1.68 (0.49)	.51***	.31***	.27***																
5. Machiavellianism	2.88 (0.52)	.20**	.06	.05	.12	.15*	.04	.02	.27***	.15*	.16*	.08	.24***	.40***	.18**	.28***	.18*			
6. Leadership ^b	3.19 (0.87)	-.06	.16*	-.04	.16*	-.04	.29***	.15*	.16*	.08	.24***	.40***	.18**	.28***	.18*					
7. Exhibitionism ^b	2.23 (0.84)	.48***	.27***	.51***	.55***	.23***	.37***	.08	-.18*	-.06	.07	.05	.17*							
8. Vanity ^b	2.49 (1.06)	.41***	.30***	.33***	.17*	.12	.06	-.19**	-.28***	-.06	.16*	.11								
9. Manipulativeness ^b	2.92 (0.80)	-.22**	.33***	-.03	.15*	-.03	-.23**	-.17*	-.03	-.11	.07	.06								
10. Superiority ^b	3.34 (0.86)	-.39***	.14*	.41***	-.02	-.08	-.11	-.01	.07	.06										
11. Winnings ^c	9.45 (2.29)	-.18**	.35***	.01	-.18**	-.18*	.01	.06	.24***	.17*	.11	.30***								
12. Risk-Taking ^c	7.34 (1.72)	-.15*	.19**	.19**	.22**	.17*	.11	.14*												
13. Heterosexual Self-Presentation ^c	10.48 (3.89)	-.04	.04	-.07	.16*	.11	.14*													
14. Self-Reliance ^c	7.81 (2.12)	-.04	.17*	.15*	.04	.41***														
15. Emotional Control ^c	7.34 (2.44)	-.38***	.02	.08	.07															
16. Violence ^c	10.21 (2.65)	-.15*	.08	.26***																
17. Playboy ^c	6.43 (2.45)	-.12	.31***																	
18. Power Over Women ^c	4.79 (1.82)	-.28***																		

Notes: ^aPsychopathy subscales, ^bNarcissism subscales, ^cMasculine norms, * $p < .05$, ** $p < .01$, *** $p < .001$.

Inferential Analyses

Prior to running inferential analyses, assumptions were assessed. All assumptions (e.g., sample size, normality, linearity, multicollinearity, homoscedasticity) were met. Multiple linear regression analyses were run with the outcome variables being traditional masculine norms (e.g., Risk-Taking) and dark traits as predictors (Table 2).

Table 2

Regression models for the Need to Win, Risk-Taking, Heterosexual Self-Presentation, and Self-Reliance

Variables	B	Std Error(B)	95% CI(B)		β
			Lower	Upper	
<i>Need to Win</i>					
$F(10,226) = 4.06, p < .001, R^2 = .152$					
Constant	4.09	1.21	-	-	-
Interpersonal Manipulation ^a	-0.07	0.29	-0.66	0.52	-.20
Callous Affect ^a	0.80	0.36	0.09	1.51	.29*
Erratic Lifestyle ^a	0.06	0.29	-0.52	0.63	.01
Antisocial Behaviour ^a	-0.32	0.31	-0.93	0.30	-.08
Machiavellianism	0.73	0.43	-0.14	1.60	.21
Leadership ^b	0.31	0.24	-0.16	0.78	.09
Exhibitionism ^b	0.27	0.22	-0.16	0.70	.16
Vanity ^b	-0.24	0.16	-0.54	0.07	-.17
Manipulativeness ^b	-0.09	0.24	-0.57	0.39	.03
Superiority ^b	0.32	0.21	-0.10	0.73	.18
<i>Risk-Taking</i>					
$F(10,226) = 12.91, p < .001, R^2 = .363$					
Constant	0.94	0.80	-	-	-
Interpersonal Manipulation ^a	0.04	0.19	-0.35	0.42	-.02
Callous Affect ^a	0.37	0.25	-0.14	0.87	.09
Erratic Lifestyle ^a	0.89	0.19	0.52	1.27	.58***
Antisocial Behaviour ^a	0.25	0.22	-0.20	0.69	-.06
Machiavellianism	-0.07	0.24	-0.55	0.41	-.05

Leadership ^b	0.36	0.16	0.03	0.68	.19*
Exhibitionism ^b	-0.25	0.15	-0.54	0.05	-.14
Vanity ^b	-0.01	0.11	-0.23	0.21	-.02
Manipulativeness ^b	0.34	0.17	0.01	0.68	.13*
Superiority ^b	0.31	0.14	0.04	0.57	.21*
<i>Heterosexual Self-Presentation</i>					
$F(10,226) = 0.96, p = .483, R^2 = .041$					
Constant	7.12	2.17	-	-	-
Interpersonal Manipulation ^a	-0.14	0.55	-1.27	0.99	-.11
Callous Affect ^a	0.22	0.79	-1.42	1.85	.00
Erratic Lifestyle ^a	-0.10	0.62	-1.40	1.21	-.04
Antisocial Behaviour ^a	0.13	0.73	-1.36	1.61	.03
Machiavellianism	1.04	0.74	-0.43	2.52	.25
Leadership ^b	0.55	0.43	-0.29	1.39	.15
Exhibitionism ^b	0.12	0.41	-0.70	0.93	-.05
Vanity ^b	-0.12	0.30	-0.70	0.46	.06
Manipulativeness ^b	-0.51	0.45	-1.41	0.38	-.04
Superiority ^b	-0.01	0.39	-0.77	0.76	-.03
<i>Self-Reliance</i>					
$F(10,226) = 3.47, p < .001, R^2 = .133$					
Constant	7.80	1.05	-	-	-
Interpersonal Manipulation ^a	-0.04	0.25	-0.54	0.46	-.13
Callous Affect ^a	0.63	0.34	0.04	1.30	.24
Erratic Lifestyle ^a	0.29	0.27	-0.27	0.84	.11
Antisocial Behaviour ^a	0.31	0.32	-0.33	0.94	.05
Machiavellianism	-0.11	0.35	-0.78	0.57	-.02
Leadership ^b	-0.29	0.23	-0.73	0.16	-.15
Exhibitionism ^b	-0.10	0.21	-0.51	0.31	.01
Vanity ^b	-0.35	0.15	-0.65	-0.04	-.18*
Manipulativeness ^b	-0.03	0.22	-0.46	0.40	.05
Superiority ^b	-0.13	0.20	-0.51	-0.26	-.07

Notes: ^aPsychopathy subscales, ^bNarcissism subscales, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2 shows that the DT traits accounted for 15% of the variance in men's Need to Win. Callous Affect was the only statistically significant

predictor of the Need to Win. Table 2 also shows that the model accounted for 36% of the variance in Risk-Taking. Erratic Lifestyle and the narcissism subscales Leadership, Manipulativeness, and Superiority were statistically significant predictors of Risk-Taking. The model associated with Heterosexual Self-Presentation (Table 2) accounted for 4% of the variance. None of the DT traits were statistically significant predictors of Heterosexual Self-Presentation. Lastly, Table 2 shows that the model accounted for 13% of the variance in men’s Self-Reliance. Vanity was the only statistically significant predictor of Self-Reliance. Table 3 shows models predicting Emotional Control, Violence, Playboy, and Power over Women.

Table 3

Regression models for Emotional Control, Violence, Playboy, and Power over Women

Variables	<i>B</i>	<i>Std Error(B)</i>	95% <i>CI(B)</i>		<i>β</i>
			Lower	Upper	
<i>Emotional Control</i>					
<i>F</i> (10,226) = 5.87, <i>p</i> < .001, <i>R</i> ² = .206					
Constant	5.52	1.13	-	-	-
Interpersonal Manipulation ^a	0.08	0.31	-0.55	0.72	-.21
Callous Affect ^a	1.16	0.43	0.27	2.06	.33*
Erratic Lifestyle ^a	0.01	0.28	-0.55	0.57	-.04
Antisocial Behaviour ^a	0.04	0.33	-0.61	0.69	.06
Machiavellianism	0.50	0.39	-0.27	1.28	.21
Leadership ^b	0.37	0.24	-0.10	0.85	.14
Exhibitionism ^b	-0.76	0.22	-1.20	-0.32	-.29***
Vanity ^b	-0.07	0.16	-0.39	0.27	.05
Manipulativeness ^b	-0.32	0.24	-0.78	0.15	-.03
Superiority ^b	-0.36	0.21	-0.78	0.06	-.15
<i>Violence</i>					
<i>F</i> (10,226) = 5.80, <i>p</i> < .001, <i>R</i> ² = .204					
Constant	3.53	1.33	-	-	-
Interpersonal Manipulation ^a	0.15	0.31	-0.48	0.77	.02
Callous Affect ^a	0.82	0.39	0.05	1.60	.15*

Erratic Lifestyle ^a	0.47	0.32	-0.17	1.10	.12
Antisocial Behaviour ^a	0.35	0.37	-0.38	1.08	.05
Machiavellianism	1.17	0.44	0.29	2.05	.31*
Leadership ^b	0.46	0.27	-0.07	1.00	.14
Exhibitionism ^b	-0.45	0.24	-0.92	0.02	-.19
Vanity ^b	-0.01	0.17	-0.35	0.33	.03
Manipulativeness ^b	-0.57	0.28	-1.13	-0.01	-.16*
Superiority ^b	0.05	0.25	-0.45	0.54	.05
<i>Playboy</i>					
$F(10,226) = 2.78, p = .003, R^2 = .110$					
Constant	1.89	1.25	-	-	-
Interpersonal Manipulation ^a	-0.17	0.51	-1.37	1.02	-.15
Callous Affect ^a	-0.17	0.38	-0.93	0.59	-.09
Erratic Lifestyle ^a	0.38	0.42	-0.56	1.31	.13
Antisocial Behaviour ^a	0.97	0.41	0.13	1.80	.20*
Machiavellianism	0.67	0.50	-0.38	1.71	.23
Leadership ^b	-0.09	0.26	-0.60	0.42	-.02
Exhibitionism ^b	0.37	0.24	-0.10	0.83	.09
Vanity ^b	0.04	0.17	-0.30	0.38	.09
Manipulativeness ^b	-0.07	0.28	-0.64	0.49	.03
Superiority ^b	0.12	0.23	-0.33	0.59	.01
<i>Power over Women</i>					
$F(10,226) = 6.77, p < .001, R^2 = .230$					
Constant	-0.28	0.89	-	-	-
Interpersonal Manipulation ^a	0.01	0.23	-0.47	0.48	-.05
Callous Affect ^a	0.91	0.31	0.27	1.55	.30**
Erratic Lifestyle ^a	-0.03	0.22	-0.48	0.42	-.08
Antisocial Behaviour ^a	0.25	0.24	-0.23	0.73	.08
Machiavellianism	0.53	0.34	-0.18	1.24	.19
Leadership ^b	0.04	0.18	-0.31	0.39	.03
Exhibitionism ^b	0.16	0.18	-0.20	0.51	.04
Vanity ^b	-0.17	0.13	-0.42	0.08	-.09
Manipulativeness ^b	-0.32	0.19	-0.68	0.05	-.07
Superiority ^b	0.55	0.16	0.24	0.87	.28***

Notes: ^aPsychopathy subscales, ^bNarcissism subscales, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 3 shows that the model accounted for 21% of the variance in the traditional masculine norm Emotional Control. The psychopathic trait of Callous Affect and the narcissistic trait of Exhibitionism were statistically significant predictors of Emotional Control. Table 3 also shows that the model accounted for 20% of the variance in Violence, with the psychopathic trait of Callous Affect, Machiavellianism, and the narcissistic trait of Manipulativeness being statistically significant predictors. The model accounted for 11% of the variance in Playboy, and Table 3 shows that the only statistically significant predictor was the psychopathic trait of Antisocial Behaviour. Finally, Table 3 shows that the model accounted for 23% of the variance in Power over Women, with the narcissistic trait of Superiority and the psychopathic trait of Callous Affect being the only statistically significant predictors.

Discussion

Building on previous research (Jonason & Davis, 2018), we found partial support for the hypothesis that Erratic Lifestyle (psychopathy) would positively predict the Risk-Taking and Playboy norms. Erratic Lifestyle did predict Risk-Taking but failed to explain variance in Playboy. We also partially supported the hypothesis that psychopathy would positively predict the Violence norm in that Callous Affect significantly predicted Violence. It was also expected that narcissism would be a positive predictor of the Risk-Taking and Violence norms. This hypothesis was supported. The narcissistic traits Leadership, Manipulativeness, and Superiority predicted Risk-Taking, while Manipulativeness predicted Violence. Interestingly, Superiority predicted Power over Women, Vanity predicted Self-Reliance, and Exhibitionism predicted Emotional Control. We hypothesised that Machiavellianism would predict Playboy and Power over Women. This was not supported in that Machiavellianism only explained variance in Violence. More generally, psychopathy Factor 1 was hypothesised to be a positive predictor of many traditional masculine norms. Callous Affect predicted Winning, Emotional Control, Violence, and Power over Women, supporting expectations. However, Interpersonal Manipulation failed to predict any facets of

traditional masculinity. Further, neither Callous Affect nor Interpersonal Manipulation were significant predictors of Playboy or Heterosexual Self-Presentation.

Psychopathy and masculinity

In men, the psychopathic trait of Callous Affect predicted the Need to Win, Emotional Control, Violence, and Power over Women. In relation to the Need to Win, Iwamoto and Smiler (2013) described this norm as “the drive to win at all costs” (p. 372). Being callous would seem to benefit an individual whose aim was winning at all costs. Being callous would also likely increase the use of instrumental violence (Dhingra & Boduszek, 2013). Individuals with high levels of psychopathy use coercive tactics to enhance their own self-interests, including emotionally manipulating their partner to attain sex (Muñoz et al., 2011). We have found that it is Callous Affect that contributes to men’s need to maintain Power over Women. Further, Callous Affect was a statistically significant predictor of Emotional Control. Callousness and a lack of empathy are core features of the psychopathic construct (Verschuere et al., 2018). Psychopathy is also reliably related to diminished or aberrant affective response (Pfabigan et al., 2015). Thus, it is not unrealistic to suggest that controlling one’s own emotions probably requires one to be insensitive and possibly even cruel. Courtenay (2000) argued that men demonstrate masculinity by denying emotions and associate the expression of emotions with weakness (see also Emslie et al., 2006). However, the association between callous affect and emotional control found here suggests that this aspect of traditional masculinity is, at least partially, explained by a reduced affective capacity. Jones and Figueredo (2013) suggest that the DT traits share a common core represented by the facets of Hare’s (2003) Factor 1 (i.e., Interpersonal Manipulation and Callous Affect). As such, being high on the callousness aspect of the dark ‘core’ may explain why certain men adhere to traditional masculine norms such as feeling the Need to win, engaging in more risky decisions, being more self-reliant and emotionally controlled, exerting power over women, and using violence.

Machiavellianism and masculinity

Machiavellianism was a statistically significant predictor of Violence. Previous research has shown inconsistent relationships between Machiavellianism and violence. For example, Kiire (2019) found a weak, positive, bivariate correlation between Machiavellianism and sexual violence. Whereas, in a study of violence in intimate partnerships, Plouffe et al. (2020) found that neither Machiavellianism nor psychopathy or narcissism predicted men's perpetration of violence. Further, Pailing et al. (2014) found that after controlling for the HEXACO personality traits of honesty/humility and agreeableness, psychopathy but not Machiavellianism nor narcissism predicted self-reported violence. These differences in the association between Machiavellianism and violence may be due to differences in the measurement of violence. For example, when measuring violence, Pailing et al. used a modified measure in which participants self-reported the frequency with which they have committed acts of violence. In the current study, the violence norm subscale of the CMNI-29 (Hsu & Iwamoto, 2014) measures participants agreement with statements concerning the permissibility of violent behaviour. It may be the case that increased levels of Machiavellianism result in more accepting attitudes towards the use of violence without increases in the perpetration of violence.

Narcissism and masculinity

The facets of narcissism were significant predictors of Risk-Taking, Self-Reliance, Emotional Control, Violence, and Power over Women. Consistent with previous research, (grandiose) narcissism has been associated with engaging in risky behaviours (Buelow & Brunell, 2014). Foster et al. (2009) demonstrated that narcissists "appreciate the risks associated with risky behaviors" (p. 885) but engage in these behaviours despite the risks because they believe there are rewards associated with them. Further, results showing that the Superiority facet of narcissism is a positive predictor of masculine Control over Women are consistent with the findings of previous research. For example, Tetreault et al. (2018) show that men's narcissism

predicted the use of explosive aggression in intimate partnerships. Similarly, Kiire (2019) found that narcissism was a positive predictor of intimate partner control and stalking, as well as sexual violence. Overall, and consistent with Jonason and Davis's (2018) work on adherence to masculine gender roles, the findings suggest that narcissism is associated with greater adherence to many traditional masculine norms.

Limitations and Future Directions

Although a substantial proportion of the variance in risk-taking was explained, it would be useful to identify other predictors of traditional masculine norms. Previous research has demonstrated that psychopathy Factor 1 can be used to represent, and make predictions about, the Dark Core of the DT (Jones & Figueredo, 2013). Using Factor 1 as the analogue of the Dark Core, we found that Callous Affect predicted several traditional masculine norms. However, we also found that DT traits individually and differentially predict adherence to, and endorsement of, traditional masculine norms. What is not shown through these predictive associations between the DT traits and subscales of the CMNI-29 (Hsu & Iwamoto, 2014) is whether the increased adherence to, and endorsement of, these masculine norms result in behavioural outcomes. Differences between our findings and the findings of past research (i.e., Machiavellianism and violence) indicate that this may not be the case. Future research should endeavour to assess whether increases in DT traits are predictive of behavioural outcomes that would be expected if one adhered to traditional masculine norms. Also, and given disagreement in the literature concerning the factor structure of the NPI (Ackerman et al., 2011; Kubarych et al., 2004), we used a five factor structure of narcissism. Future research could measure grandiose and vulnerable narcissism and assess whether they explain unique variance in traditional masculine norms. Finally, the Mach-IV Disregard for Conventional Morality subscale consists of only two items. In this exploratory study, we found that these two items share a very low correlation with each other. In future, researchers should consider

further developing this subscale to ensure that it accesses the construct with increased reliability and construct validity.

Concluding Comments

We found that different features of dark traits predict men's adherence to traditional masculine norms. To reiterate, the (a) psychopathic trait of Callous Affect was the only significant predictor of the Need to Win, (b) psychopathic trait of Erratic Lifestyle and the narcissistic traits of Leadership, Manipulativeness, and Superiority were significant predictors of Risk-Taking, (c) psychopathic trait of Callous Affect, Machiavellianism, and the narcissistic trait of Manipulativeness were significant predictors of Violence, (d) psychopathic trait of Antisocial Behaviour was the only significant predictor of Playboy, (e) narcissistic trait of Vanity was the only significant predictor of Self-Reliance, (f) psychopathic trait of Callous Affect and the narcissistic trait of Superiority were significant predictors of Power over Women, and (g) psychopathic trait of Callous Affect and the narcissistic trait of Exhibitionism were significant predictors of Emotional Control. As several dark traits appear to be good predictors of endorsement of traditional masculine norms, our findings have implications for interventions aimed at addressing problematic behaviours (e.g., violence) associated with gender norms. That is, interventions that fail to address the dark traits associated with adherence to these traditional masculine norms might prove ineffective (see Grieve & Mahar, 2010, for a similar argument).

Acknowledgement

We thank those people who took the time to participate in this study.

Ethics approval and consent to participate

This study was approved by Federation University's Human Research Ethics Committee (HREC A20-073). All participants were older than 18 years of age. They were informed as to the aim of the study and informed consent was obtained prior to data collection. They were also informed that they had the right to withdraw from the study at any time. No financial incentive was

offered for their participation. Data was provided anonymously. The authors agree with the ethical standards of publication in *Primenjena psihologija*.

Conflicts of interest

The authors declare they have no conflict of interest.

Data Availability Statement

The data presented in this study are available on request from the corresponding author. The data are not publicly available due to ethical restrictions.

References

- Ackerman, R.A., Witt, E.A., Donnellan, M.B., Trzesniewski, K.H., Robins, R.W., & Kashy, D.A. (2011). What does the Narcissistic Personality Inventory really measure? *Assessment, 18*, 67–87.
<https://doi.org/10.1177/1073191110382845>
- Brewer, G., & Abell, L. (2015). Machiavellianism and sexual behavior: Motivations, deception and infidelity. *Personality and Individual Differences, 74*, 186–191. <https://doi.org/10.1016/j.paid.2014.10.028>
- Buelow, M.T., & Brunell, A.B. (2014). Facets of grandiose narcissism predict involvement in health-risk behaviors. *Personality & Individual Differences, 69*, 193–198. <https://doi.org/10.1016/j.paid.2014.05.031>
- Caligor, E., Levy, K.N., & Yeomans, F.E. (2015). Narcissistic personality disorder: Diagnostic and clinical challenges. *American Journal of Psychiatry, 172*, 415–422. <https://doi.org/10.1176/appi.ajp.2014.14060723>
- Campbell, W.K., Hoffman, B.J., Campbell, S.M., & Marchisio, G. (2011). Narcissism in organizational contexts. *Human Resource Management Review, 21*, 268–284. <https://doi.org/10.1016/j.hrmr.2010.10.007>
- Carrigan, T., Connell, B., & Lee, J. (1985). Toward a new sociology of masculinity. *Renewal and Critique in Social Theory, 14*(5), 551–604.
<https://doi.org/10.1007/BF00160017>

-
- Christie, R. & Geis, F. (1970). Implications and speculations. In R. Christie & F.L. Geis (Eds.), *Studies in Machiavellianism* (pp. 350–358). New York: Academic Press.
- Connell, R. (2005). *Masculinities* (2nd ed.). Academic.
- Connell, R. (2016) *Masculinities in global perspective: Hegemony, contestation, and changing structures of power*. *Theory and Society*, 45(4), 303–318. <https://doi.org/10.1007/s11186-016-9275-x>
- Connell, R.W. (1987). *Gender and power: Society, the person, and sexual politics*. Sydney, Australia: Allen & Unwin.
- Connell, R.W. (2000). *The men and the boys*. United Kingdom: Polity Press.
- Coppock, A., Leeper, T.J., & Mullinix, K.J. (2018). Generalizability of heterogeneous treatment effect estimates across samples. *Proceedings of the National Academy of Sciences of the United States of America*, 115(49), 12441–12446. <https://doi.org/10.1073/pnas.1808083115>
- Courtenay, W.H. (2000). Constructions of masculinity and their influence on men's well-being: A theory of gender and health. *Social Science & Medicine*, 50, 1385–1401. [https://doi.org/10.1016/S0277-9536\(99\)00390-1](https://doi.org/10.1016/S0277-9536(99)00390-1)
- Dhingra, K., & Boduszek, D. (2013). Psychopathy and criminal behaviour: A psychosocial research perspective. *Journal of Criminal Psychology*, 3(2), 83–107. <https://doi.org/10.1108/JCP-06-2013-0014>
- Dinić, B. M., & Vujić, A. (2019). Five-factor model best describes Narcissistic Personality Inventory across different item response formats. *Psychological Reports*, 122(5), 1946–1966. <https://doi.org/10.1177/0033294118794404>
- Donaldson, M. (1993). What is Hegemonic Masculinity? *Theory and Society*, 22, 643–657. <https://doi.org/10.1007/BF00993540>
- Edwards, B.D., Warren, C.R., Tubré, T.C., Zyphur, M.J., Hoffner-Prillaman, R. (2013). The validity of narcissism and driving anger in predicting aggressive driving in a sample of young drivers. *Human Performance*, 26, 191–210. <https://doi.org/10.1080/08959285.2013.795961>

- Ellison, W.D., Levy, K.N., Cain, N.M., Ansell, E.B., Pincus, A.L. (2013). The impact of pathological narcissism on psychotherapy utilization, initial symptom severity, and early-treatment symptom change: A naturalistic investigation. *Journal of Personality Assessment*, *95*, 291–300.
<https://doi.org/10.1080/00223891.2012.742904>
- Emslie, C., Ridge, D., Ziebland, S., & Hunt, K. (2006). Men's accounts of depression: Reconstructing or resisting hegemonic masculinity? *Social Science & Medicine*, *62*, 2246–2257. <https://doi.org/10.1016/j.socscimed.2005.10.017>
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.G. (2009) Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*, 1149–1160.
<http://dx.doi.org/10.3758/BRM.41.4.1149>
- Foster, J.D., Shenese, J.W., & Goff, J.S. (2009). Why do narcissists take more risks? Testing the roles of perceived risks and benefits of risky behaviors. *Personality and Individual Difference*, *47*, 885–889.
<https://doi.org/10.1016/j.paid.2009.07.008>
- Geis, F.L., & Levy, M. (1970). The eye of the beholder. In R. Christie & F.L. Geis (Eds.), *Studies in Machiavellianism* (pp. 210-211). New York: Academic Press.
- Gerdes, Z.T., & Levant, R.F. (2018). Complex relationships among masculine norms and health/well-being outcomes: Correlation patterns of the Conformity to Masculine Norms Inventory subscales. *American journal of men's health*, *12*(2), 229–240. <https://doi.org/10.1177/1557988317745910>
- Gervais, M.M., Kline, M., Ludmer, M., George, R., & Manson, J.H. (2013). The strategy of psychopathy: Primary psychopathic traits predict defection on low-value relationships. *Proceedings of the Royal Society B: Biological Sciences*, *280*(1757), 20122773.
<https://doi.org/10.1098/rspb.2012.2773>

-
- Glenn, A.L., Raine, A., & Schug, R.A. (2009). The neural correlates of moral decision-making in psychopathy. *Molecular Psychiatry*, *14*, 5–6.
<https://doi.org/10.1038/mp.2008.104>
- Goldberg, B.R., Serper, M.R., Sheets, M., Beech, D., Dill, C., & Duffy, K.G. (2007). Predictors of aggression on the psychiatric inpatient service: Self-esteem, narcissism, and theory of mind deficits. *The Journal of Nervous and Mental Disease*, *195*, 436–442.
<https://doi.org/10.1097/01.nmd.0000253748.47641.99>
- Gordon, D.M., Hawes, S.W., Reid, A.E., Callands, T.A., Magriples, U., Divney, A., Niccolai, L.M., & Kershaw, T. (2013). The many faces of manhood: Examining masculine norms and health behaviors of young fathers across race. *American Journal of Men's Health*, *7*(5), 394–401.
<https://doi.org/10.1177/1557988313476540>
- Grieve, R., & Mahar, D. (2010). The emotional manipulation–psychopathy nexus: Relationships with emotional intelligence, alexithymia and ethical position. *Personality and Individual Differences*, *48*, 945–950.
<https://doi.org/10.1016/j.paid.2010.02.028>
- Hare, R.D. (2003). *The Hare psychopathy checklist-revised* (2nd ed). Toronto, ON: Multi-Health Systems.
- Hare, R.D., & Neumann, C.S. (2008). Psychopathy as a clinical and empirical construct. *Annual Review of Clinical Psychology*, *4*, 217–246.
<https://doi.org/10.1146/annurev.clinpsy.3.022806.091452>
- Heym, N., Firth, J., Kibowski, F., Sumich, A., Egan, V., & Bloxson, C.A. (2019). Empathy at the heart of darkness: Empathy deficits that bind the Dark Triad and those that mediate indirect relational aggression. *Frontiers in Psychiatry*, *10*, 1–10. <https://doi.org/10.3389/fpsy.2019.00095>
- Hill, E.M. (2015). The role of narcissism in health-risk and health-protective behaviors. *Journal of Health Psychology*, *21*(9), 2021–2032.
<http://dx.doi.org/10.1177/1359105315569858>.

- Hsu, K., & Iwamoto, D.K. (2014). Testing for measurement invariance in the Conformity to Masculine Norms-46 across White and Asian American college men: Development and validity of the CMNI-29. *Psychology of Men & Masculinity*, 15(4), 397–406. <https://doi.org/10.1037/a0034548>
- Iwamoto, D.K., & Smiler, A.P. (2013). Alcohol makes you macho and helps you make friends: The role of masculine norms and peer pressure in adolescent boys' and girls' alcohol use. *Substance Use & Misuse*, 48(5), 371–378. <https://doi.org/10.3109/10826084.2013.765479>
- Jewkes, R., & Morrell, R. (2018). Hegemonic masculinity, violence, and gender equality: Using Latent Class Analysis to investigate the origins and correlates of differences between men. *Men and Masculinities*, 21(4), 547–571. <https://doi.org/10.1177/1097184X17696171>
- Jewkes, R., Morrell, R., Hearn, J., Lundqvist, E., Blackbeard, D., Lindegger, G., Quayle, M., Sikweyiya, Y., & Gottzén, L. (2015). Hegemonic masculinity: Combining theory and practice in gender interventions. *Culture, Health & Sexuality*, 7, 96–111. <https://doi.org/10.1080/13691058.2015.1085094>
- Jonason, P.K., & Davis, M.D. (2018). A gender role view of the Dark Triad traits. *Personality and Individual Differences*, 125, 102–105. <https://doi.org/10.1016/j.paid.2018.01.004>
- Jonason, P.K., Li, N.P., & Buss, D.M. (2010). The costs and benefits of the Dark Triad: Implications for mate poaching and mate retention tactics. *Personality and Individual Differences*, 48(4), 373–378. <https://doi.org/10.1016/j.paid.2009.11.003>
- Jones, D.N., & Figueredo, A.J. (2013). The core of darkness: Uncovering the heart of the Dark Triad. *European Journal of Personality*, 27, 521–531. <https://doi.org/10.1002/per.1893>
- Jones, D.N., & Paulhus, D.L. (2014). Introducing the Short Dark Triad (SD3): A brief measure of dark personality traits. *Assessment*, 21, 28–41. <https://doi.org/10.1177/1073191113514105>

-
- Kahn, J.S. (2009). *An introduction to masculinities*. Wiley-Blackwell.
- Kealy, D., Ogrodniczuk, J.S., Rice, S.M., & Oliffe, J.L. (2017). Pathological narcissism and maladaptive self-regulatory behaviours in a nationally representative sample of Canadian men. *Psychiatry Research*, *256*, 156–161. <https://doi.org/10.1016/j.psychres.2017.06.009>
- Kiire, S. (2019). A “fast” life history strategy affects intimate partner violence through the Dark Triad and mate retention behavior. *Personality and Individual Differences*, *140*, 46–51. <https://doi.org/10.1016/j.paid.2018.07.016>
- Konrath, S., Corneille, O., Bushman, B.J., & Luminet, O. (2014). The relationship between narcissistic exploitativeness, dispositional empathy, and emotion recognition abilities. *Journal of Nonverbal Behavior*, *38*, 129–143. <https://doi.org/10.1007/s10919-013-0164-y>
- Kubarych, T.S., Deary, I.J., & Austin, E.J. (2004). The Narcissistic Personality Inventory: Factor structure in a non-clinical sample. *Personality and Individual Differences*, *36*(4), 857–872. [https://doi.org/10.1016/S0191-8869\(03\)00158-2](https://doi.org/10.1016/S0191-8869(03)00158-2)
- Kupers, T.A. (2005). Toxic masculinity as a barrier to mental health treatment in prison. *Journal of Clinical Psychology*, *61*(6), 713–724. <https://doi.org/10.1002/jclp.20105>
- LeBreton, J.M., Baysinger, M.A., Abbey, A., & Jacques-Tiura, A.J. (2013). The relative importance of psychopathy-related traits in predicting impersonal sex and hostile masculinity. *Personality and individual differences*, *55*(7), 817–822. <https://doi.org/10.1016/j.paid.2013.07.009>
- Mahmut, M.K., Homewood, J., & Stevenson, R.J. (2008). The characteristics of non-criminals with high psychopathy traits: Are they similar to criminal psychopaths? *Journal of Research in Personality*, *42*(3), 679–692. <https://doi.org/10.1016/j.jrp.2007.09.002>
- Mankowski, E., & Maton, K. (2010). A community psychology of men and masculinity: Historical and conceptual review. *American Journal of*

Community Psychology, 45, 73–86. <https://doi.org/10.1007/s10464-009-9288-y>

- Methot-Jones, T. (2019). *Inhuman Targets: Psychopathy, Dehumanization, and Sexist and Violent Attitudes Towards Women* [Brock University]. Retrieved from: <http://hdl.handle.net/10464/14584>
- Miller, J.D., Gentile, B., Carter, N.T., Crowe, M., Hoffman, B.J., & Campbell, W.K. (2018). A comparison of the nomological networks associated with forced-choice and Likert formats of the Narcissistic Personality Inventory. *Journal of Personality Assessment*, 100(3), 259–267. <https://doi.org/10.1080/00223891.2017.1310731>
- Miller, J.D., Vize, C., Crowe, M.L., & Lynam, D.R. (2019). A critical appraisal of the Dark-Triad literature and suggestions for moving forward. *Current Directions in Psychological Science*, 28(4), 353–360. <https://doi.org/10.1177/0963721419838233>
- Monaghan, C., Bizumic, B., & Sellbom, M. (2018). Nomological network of two-dimensional Machiavellianism. *Personality and Individual Differences*, 130, 161–173. <https://doi.org/10.1016/j.paid.2018.03.047>
- Muñoz, L.C., Khan, R., & Cordwell, L. (2011). Sexually coercive tactics used by university students: A clear role for primary psychopathy. *Journal of Personality Disorders*, 25, 28–40. <https://doi.org/10.1521/pedi.2011.25.1.28>
- Pailing, A., Boon, J., & Egan, V. (2014). Personality, the Dark Triad and violence. *Personality and Individual Differences*, 67, 81–86. <https://doi.org/10.1016/j.paid.2013.11.018>
- Parent, M.C., & Moradi, B. (2011). An abbreviated tool for assessing conformity to masculine norms: Psychometric properties of the Conformity to Masculine Norms Inventory-46. *Psychology of Men & Masculinity*, 12, 339–353. <https://doi.org/10.1037/a0021904>

-
- Parent, M.C., Gobble, T.D., & Rochlen, A. (2019). Social media behavior, toxic masculinity, and depression. *Psychology of Men & Masculinities*, 20(3), 277–287. <https://doi.org/10.1037/men0000156>
- 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)
- Perkins, S. (2015). *Hegemonic masculinity and its effect on attitudes toward seeking professional psychological help*. Unpublished PhD thesis. Northeastern University.
- Pfabigan, D.M., Seidel, E.-M., Wucherer, A.M., Keckeis, K., Derntl, B., & Lamm, C. (2015). Affective empathy differs in male violent offenders with high- and low-trait psychopathy. *Journal of Personality Disorders*, 29(1), 42–61. https://doi.org/10.1521/pedi_2014_28_145
- Plouffe, R. A., Wilson, C. A., & Saklofske, D. H. (2020). Examining the Relationships Between Childhood Exposure to Intimate Partner Violence, the Dark Tetrad of Personality, and Violence Perpetration in Adulthood. *Journal of Interpersonal Violence*, 0886260520948517. <https://doi.org/10.1177/0886260520948517>
- Raskin, R., & Hall, C.S. (1981). The Narcissistic Personality Inventory: Alternate form reliability and further evidence of construct validity. *Journal of Personality Assessment*, 45, 159–162.
- Tetreault, C., Bates, E. A., & Bolam, L. T. (2018). How Dark Personalities Perpetrate Partner and General Aggression in Sweden and the United Kingdom. *Journal of Interpersonal Violence*, 1–25. <https://doi.org/10.1177/0886260518793992>
- Thacker, L.K. (2019). *The danger of 'no': Rejection violence, toxic masculinity and violence against women*. ProQuest Dissertations Publishing.
- Tran, U.S., Bertl, B., Kossmeier, M., Pietschnig, J., Stieger, S., & Voracek, M. (2018). “I’ll teach you differences”: Taxometric analysis of the Dark Triad, trait sadism, and the Dark Core of personality. *Personality and Individual*

- Differences*, 126, 19–24. <https://doi.org/10.1016/j.paid.2018.01.015>
- Valentova, J.V., Moraes Junior, F.P., Štěrbová, Z., Varella, M.A., & Fisher, M.L. (2019). The association between Dark Triad traits and sociosexuality with mating and parenting efforts: A cross-cultural study. *Personality and Individual Differences*, 109613. <https://doi.org/10.1016/j.paid.2019.109613>
- Van Doorn, G.H., Dye, J., & de Gracia, M. (2020). Daddy issues: Friends rather than fathers influence adult men's hegemonic masculinity. *Personality and Individual Differences*. <https://doi.org/10.1016/j.paid.2020.110467>
- Verschuere, B., van Ghesel Grothe, S., Waldorp, L., Watts, A.L., Lilienfeld, S.O., Edens, J.F., Skeem, J.L., Noordhof, A., Grothe, S. van G., Waldorp, L., Watts, A.L., Lilienfeld, S.O., Edens, J.F., Skeem, J.L., & Noordhof, A. (2018). What features of psychopathy might be central? A network analysis of the Psychopathy Checklist-Revised (PCL-R) in three large samples. *Journal of Abnormal Psychology*, 127(1), 51–65. <https://doi.org/10.1037/abn0000315>
- Waddell, C., Van Doorn, G., March, E., & Grieve, R. (2020). Dominance or deceit: The role of the Dark Triad and hegemonic masculinity in emotional manipulation. *Personality and Individual Differences*, 166, 110160. <https://doi.org/10.1016/j.paid.2020.110160>
- Williams, K., Nathanson, C., & Paulhus, D. (2003). Structure and validity of the self-report psychopathy scale-III in normal populations. *111th Annual Convention of the American Psychological Association, Toronto, Canada*. http://www2.psych.ubc.ca/~dpaulhus/research/DARK_TRIAD/PRESENTATIONS/APA03_kevin_SRP_poster.pdf



Research Article

Frustration elevates arousal in individuals high on the psychopathy scale: The role of approach, not avoidance motivation

Dino Krupić  

¹University of Osijek, Faculty of Humanities and Social Science, Department of psychology

ABSTRACT

Psychopaths tend to react with aggression when mistreated. The literature offers two contradicting explanations of this subject. The aim of this study is to determine whether approach or (the lack of) avoidance motivation underlie emotional reactions of individuals with elevated psychopathic tendencies in frustrative situations. The sample of sixty participants (43.3% male) participated in the experiment in which the Ultimatum Game was used to induce the feeling of injustice. The participants received four fair offers in the first phase of the game and six unfair offers in the second phase of the experiment. Their electrodermal activity (EDA) was recorded during both parts of the experiment. Along with the EDA recording, the participants fulfilled Short Dark Triad (SD3) questionnaire and Questionnaire of Approach and Avoidance Motivation (QAAM). Generally, the unfair offers significantly elevated EDA in comparison to the levels of EDA during the fair part of the experiment. The mediational analysis conducted by hierarchical regression analysis revealed that psychopathy is associated with a higher EDA in frustrative conditions, which is entirely explained by QAAM wanting, i.e. approach-related scale. Neither of avoidance-related scales predicted the EDA. This result indicates that individuals with elevated psychopathic tendencies experience stronger emotional reactions when facing the potential loss of rewards, which is driven by their stronger approach motivation, and not by the lack of avoidance motivation. Hence, the study contributes to the understanding of the underlying reason for emotional reactions of individuals with elevated psychopathic tendencies in unfair conditions within the

approach-avoidance framework. Implications for the methodological setting of future studies on this subject are discussed.

Keywords: psychopathy, wanting, approach-avoidance, Ultimatum Game, electrodermal activity

UDC: 159.97.072

DOI: 10.19090/pp.2021.4. 571-596

Received: 14.05.2021.

Revised: 17.11.2021.

Accepted: 30.11.2021.



Copyright © 2021 The Author(s).

This is an open access article distributed under the terms of the [Creative Commons Attribution License](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

✉ Corresponding author email: dkrupic@ffos.hr

Introduction

Imagine completing a big project and obtaining significant financial gain for your company. Before the project, you had promised a certain financial reward to your employee. However, you cannot reward him or her as promised prior to the project due to some unexpected reasons. In addition, the employee from this example, who will not be treated fairly, might be described as a person with elevated psychopathic tendencies. What kind of reaction could we expect from the employee in the given situation?

Such and similar situations are likely to occur in the organisational context (e.g. Akhtar et al., 2013) since the subclinical levels of psychopathic tendencies are normally distributed in the population. Therefore, this study aims to explore relations between emotional reactions and psychopathy within the approach-avoidance context. The following text describes basic characteristics of psychopathy, explains how frustration is defined within the approach-avoidance framework, and defines the psychophysiological response to frustration.

Psychopathy, alongside Machiavellianism and narcissism, is one of the three personality traits known under the term - Dark triad. It encompasses characteristics such as callousness, impulsivity, recklessness and tendency to manipulate others to obtain some immediate rewards. Machiavellianism is characterised by a cynical worldview, lack of morality, and manipulateness, where individuals high on this trait are prone to planning, coalition formation, and reputation building. The key feature of narcissism is grandiosity associated with underlying insecurity. All three dark traits share in common the tendency to manipulate others, callousness and antagonism (Dinić et al., 2021; Jones & Paulhus, 2014).

In the approach-avoidance terminology, unfair treatment is interpreted as reward-omission or frustrative nonreward condition (Corr, 2002). Such conditions typically provoke anger as a response, which was found in animal (e.g., Gallup, 1965) and human studies (e.g., Berkowitz, 1989). Knowing that frustration

leads to aggression and that psychopathy is related to aggression (Blais et al., 2014; Cornell et al., 1996; Dinić & Wertag, 2018; Dinić et al., 2019; Reidy et al., 2011; Woodworth & Porter, 2002), it is expected that the employee from the above-mentioned example will display some sort of uncooperative and/or aggressive response. Needless to say, all individuals might react with disagreement in such a situation, but this study tries to examine whether the magnitude of reaction will be higher for individuals with higher psychopathic tendencies.

Two economic games are typically used in experimental studies to evoke the feeling of injustice in laboratory settings resembling the above-mentioned fictional example; the Dictator's Game (DG) and Ultimatum Game (UG) (e.g., Fetscherin & Huang, 2004; Suleiman, 1996). There are several variations of these two games (for a detailed review, see Diekmann, 2004), but they all share the same paradigm and emotion-motivational effects on an individual. In the most typical case, there are two players in the game. One player is placed in a position of power and can decide how to split a financial reward with another player. In the DG, the first player suggests, whereas the second accepts the offers with no influence on the outcome. In the UG, the first player proposes how to share the reward, but in contrast to the DG, the recipient can either accept or decline the offer. If the recipient rejects the offer, neither of the players will receive the reward. Conversely, if the recipient agrees with the given proposition, the reward is shared as proposed. These two games can be adjusted in many ways to represent different real-world scenarios. In this study, participants played the role of the second player in the UG, i.e. they were in the role of the offer recipient.

The results of studies exploring the behavioural outcome of individuals with higher psychopathic tendencies in the position of the recipient in the UG are inconclusive. Some studies found that individuals with elevated psychopathic tendencies are more willing to accept unfair offers (Mayer et al., 2019; Osumi & Ohira, 2010), others found the opposite effect (Koenigs et al., 2010), and the rest did not find any effect (Radke et al., 2013; Vieira et al., 2014). In addition to inconsistent findings, these empirical studies lack a theoretical framework, which seems necessary to organize the existing findings on this

subject. Therefore, the aim of this study is to examine the psychophysiological response of individuals high on the psychopathy scale during the UG within the approach-avoidance theoretical framework. More specifically, this study aims to determine whether approach or avoidance motivation underlies the frustration of individuals with the subclinical level of psychopathy when treated unfairly.

One way to measure frustration as an aversive emotional reaction is with electrodermal activity (EDA). The EDA is an emotionally neutral reaction of the autonomic nervous system that activates in the presence of different stimuli such as reward (e.g., Gomez & McLaren, 1997), punishment or threat (e.g., Krupić et al., 2020) and the omission of reward (e.g., Tranel, 1983). Thus, the interpretation of the EDA highly depends on the context that caused the reaction (for a detailed description of the EDA, see Dawson, et al., 1990). As elaborated above, the higher EDA obtained during the UG in the role of recipient of unfair offer can be interpreted as a higher level of frustration.

Due to a scarcity of studies, the literature review on psychophysiological reactions of individuals with elevated psychopathic tendencies in frustrative conditions is complex and contains many unanswered questions (Patrick, 2014). One reason could be the lack of a clear theoretical framework to study this topic. Within the most prominent approach-avoidance theory, the reinforcement sensitivity theory (RST), psychopathic tendencies are associated with higher levels of approach and lower levels of avoidance motivation (Corr, 2010). Numerous studies provide evidence that individuals with elevated psychopathic tendencies are less responsive to cues of punishment, i.e. have underactive avoidance motivation (e.g., Fowles, 1980; Newman et al., 2005; Ross et al., 2007). For instance, psychopathy relates to lower EDA in the conditions of conflict (Waid & Orne, 1982), aversive stimuli such as white noise (Fung et al., 2005), injected adrenalin (Hare, 1972), etc. According to Gray's original version of RST, frustration is an aversive emotional state that is associated with the workings of the behavioural inhibition system (BIS; Gray, 1977; for a detailed review, see Corr & Krupić, 2017) – that is, avoidance motivation. In short, according to Gray's original RST, the BIS is triggered by both omission of reward and the presence of

punishment. The revised version of RST (Gray & McNaughton, 2000) relates frustration to the workings of the second type of avoidance motivation: the fight-flight-freeze system (FFFS). Thus, according to both versions of RST, it follows that individuals with elevated psychopathic tendencies would have lower levels of EDA in a situation when they are treated unfairly since they have reduced activation of avoidance motivation.

Harmon-Jones and colleagues (Carver & Harmon-Jones, 2009) contradicted Gray's explanation of frustration and advocated that anger (and thereby frustration as well) is under the control of approach, not avoidance mechanism (Harmon-Jones, 2003). They found that students with overactive behavioural approach system (BAS), the representative of the approach motivation, reacted more strongly to insults (Harmon-Jones & Peterson, 2008), while insults resulted in greater activation of the left hemisphere (Harmon-Jones & Sigelman, 2001) which is related to approach motivation (Davidson, 1992). Similarly, Corr (2002) relates anger to higher reward expectancies, where higher expectations lead to a greater discrepancy between actual and expected rewards. Thus, according to these perspectives, individuals with elevated levels of psychopathy, which are high on the BAS scale (Corr, 2010; Wallace et al., 2009), should exhibit a stronger EDA in the nonreward frustrative conditions.

To sum up, there are two contradicting hypotheses regarding the autonomous emotional reactions of individuals with elevated psychopathic tendencies in unjust conditions. According to original and revised versions of Gray's theory, it is expected that individuals with elevated psychopathic tendencies should have lower EDA in unjust conditions because frustration is mediated by underactive avoidance motivation. On the contrary, according to Corr and Harmon-Jones, a higher EDA is expected in conditions when treated unfairly (i.e., in the frustrative nonreward situation) since frustration is under the control of the overactive approach motivation in individuals with elevated psychopathic tendencies.

In this study, the relationship between psychopathy and EDA in the injustice settings in the UG was examined. In addition, the two above-elaborated hypotheses will be analysed more extensively by the hierarchical regression

analysis with approach and avoidance scales entered as mediators of the relationship between psychopathy and EDA. The mediational effect of avoidance- or approach-type of scale will support either Gray's or Corr/Harmon-Jones's hypothesis, respectively. Finally, the hypotheses will also be analysed alongside Machiavellianism and narcissism to determine the distinctive effects of psychopathy from the rest of the dark traits.

Method

Participants

Participants were community members recruited by advertising the study on social networks. A total of 70 participants (42 female and 28 male) gave consent to participate in the study. The whole study was conducted in a laboratory at Faculty of Humanities and Social Sciences, University of Osijek. Due to poor quality or loss of signal, ten records of participants' EDA were excluded from the analysis. Hence, the final sample consisted of 26 male and 34 female participants in the age range from 19 to 27 ($M = 21.70$, $SD = 1.74$). Excluded participants differed on neither of the self-report scales from the participants retained in the final sample, which was examined by Mann-Whitney nonparametric test for independent samples. A statistical power analysis using G*Power 3.1 (Erdfelder et al., 2007) was performed for sample size estimation and reported according to recommendation of (Sun et al., 2010). With an alpha error = .05 and power = .80, with the final sample size, it was possible to achieve statistical significance for beta regression weights above $b = .25$, which according to Cohen (1988) corresponds to a weak to moderate effect. The research was approved by the Institutional Review Board of Faculty of Humanities and Social Sciences, University of Osijek.

Instruments

Short Dark Triad (SD3)

Short Dark Triad (SD3; Jones & Paulhus, 2014) was used to assess psychopathy. In addition to psychopathy (e.g., "People who mess with me always regret it."), this questionnaire contains two further scales; Machiavellianism (e.g., "You should wait for the right time to get back at people.") and narcissism (e.g., "Many group activities tend to be dull without me"). Each of these three scales contains nine items. The questionnaire is translated and validated in the Croatian language, and reliability coefficients of the translated version were comparable to the original version, ranging from .69 for narcissism, .73 for psychopathy and .74 for Machiavellianism scale (Wertag et al., 2011).

Questionnaire of Approach and Avoidance Motivation (QAAM)

Questionnaire of Approach and Avoidance Motivation (QAAM; Krupić et al., 2021) is a 27-item questionnaire containing four approach-related (Wanting, Seeking, Getting and Liking) and two avoidance-related scales (Anxiety and Fear). Wanting (e.g., "I would like to be an important person.") presents the level of aspiration, which explains the strength of desire to possess relevant resources. Seeking (e.g., "I have a wide range of interests.") assesses curiosity and ability to make plans for achieving the desired goals. Getting (e.g., "I don't give up easily if I want to achieve something.") captures the level of persistence in following the plan until the final attainment of the goal. The last approach-related scale, Liking (e.g., "It is quite easy to make me happy.") measures individual differences in the activation on the cues of reward or attained goals. Finally, Anxiety (e.g., "My voice trembles when I need to say something in public.") and Fear (e.g., "I have experienced the feeling of choking due to panic attacks.") represent two avoidance-related scales. All scales contain four items except the seven-item Anxiety scale. The participants were instructed to rate themselves on a six-point Likert scale (1 - *Completely disagree* to 6 - *Completely agree*). All scales from the questionnaire achieve Cronbach alpha's reliability coefficients above .80 (Table 1). The questionnaire contains good psychometric characteristics, which are tested against well-known approach-avoidance related personality measures

such as BIS/BAS Scales (Krupić et al., 2021) and was used previously in similar psychophysiological studies (Krupić et al., 2020).

Electrodermal activity (EDA)

Electrodermal activity (EDA) was recorded by Moodmetric Ring (MM; Jussila et al., 2018, Torniainen et al., 2015). This instrument contains ring-shaped sensors with a sandwich-like arrangement of two electrode bands around an insulating layer. It was attached to the ring finger on the non-dominant hand. The EDA signal was recorded from the outer rims of the ring at a sampling rate of 4 Hz, pre-processed by dividing the raw signal with the slow-changing skin conductance level and transformed into the Mood Metric (MM) scale ranging from 1 to 100. There were two measurement points during UG. The first recording started at the beginning of the fair conditions, where the participants received four fair offers. After receiving the fourth fair offer, the EDA recording was stopped. The following measurement lasted during the rest of the six unfair offers. The final EDA in fair and unfair conditions represent the average values of the phasic component of the EDA during the two conditions. Larger values indicate higher arousal that can be either positive (e.g., excitement) or negative (e.g., stress). The MM ring has a small data storage capacity, and the data was transferred by Bluetooth to the computer for permanent storage.

The version of the Ultimatum Game (UG)

The version of the Ultimatum Game (UG) adapted in this study was not used in typical dyad interactions. Instead, participants were playing the game only in the role of the offer recipient, who could either accept or reject the offer. There were ten offers presented to each participant in the same (fixed) order. The first four were fair offers suggesting to split the reward equally (50:50). The subsequent six offers were unfair offers presented in the fixed order (40:60, 30:70, 10:90, 20:80, 40:60, 30:70), offering a smaller share to the recipient. The order of offers was determined randomly and was kept the same for all participants to avoid the potential distinctive effect of the first offer. Namely, a highly unfair offer (e.g., 10:90) at the beginning of the unfair condition might

affect the decision on the subsequent offers. To avoid that source of variation, it is determined to keep the schedule of offers constant, where the first offer was the least unfair (40:60). The recording of EDA in the first part of the game represented EDA in fair, and the recording during the second phase represents the measure of EDA during unfair conditions.

Procedure

Before the UG, participants completed both questionnaires. In the experimental part of the study, they were instructed to imagine themselves in a situation where they were working very hard on a project with their partner who was in the position to decide how to split the reward. They were told that a partner was sitting in the room next to them. Each of the ten offers was handed in an envelope, while experimenters were pretending that they arrived from the real partner next door. The participants had only eight seconds to decide whether to accept or reject the offer. The first four envelopes contained fair offers. The EDA was recorded during that time, starting from the acceptance of the first and ending after the decision of the last, fourth offer. In the second part of the study, six unfair offers were also brought one by one, and the arithmetic mean of EDA recorded during that time was used as the criterion variable in the study – EDA in injustice conditions. Since the unfair treatment was at the centre of the study, there were more unfair offers in comparison to fair offers to make sure that the experimental manipulation would produce a significant effect, i.e., to evoke frustration. In addition, the EDA was not recorded for each offer separately, as the envelopes were arriving one by one, which will make the measurement impractical. In addition, it would be debatable to determine when to start and stop recording the EDA, as the frustration is emotional state that is not present only in the presence of the stimuli (in this case unfair offers). It may have a lasting effect. Alongside the EDA, participants had to write whether they accepted or rejected offers on the envelopes. After the experiment, participants were thanked and fully debriefed. Psychology students conducted the experiment under supervision in exchange for course credits.

Results

The analyses were conducted with IBM SPSS v26 and Hayes Process v3.5. (Hayes, 2017). All scales achieved Cronbach alpha coefficients above .70 except Machiavellianism and narcissism (Table 1). The average MM score (representing the EDA) was $M = 44.80$, but the variation was substantial ($SD = 15.66$). The EDA in unfair conditions was statistically significantly higher than the EDA in fair conditions (Wilcoxon Signed Ranks Test $Z = 4.70, p < .01$). On average, participants rejected 3.50 out of six ($SD = 1.71$) unfair offers. Only a few participants rejected fair offers, which resulted in extreme positively asymmetric distribution ($M = 0.02, SD = 0.13$). Therefore, the correlation coefficients regarding the number of rejected fair offers in Table 1 should not be interpreted. As Table 1 indicates, the MM Score is positively related to Psychopathy and Wanting scale (one of approach motivation measures), which supports Corr/Harmon-Jones's hypothesis. The number of rejected offers was related to neither psychopathy nor Wanting scales. In addition, Anxiety and Fear scales did not correlate with EDA, which rejects Gray's hypothesis. Finally, age and gender, used as the control variables, were not correlated to EDA in either of these conditions, but males achieved higher results in Machiavellianism and psychopathy, which is in line with previous studies (e.g., Miller et al., 2011).

Further analysis explored the mediational effect of the Wanting in explaining the relationship between psychopathy and EDA using Hayes Process v3.5. Table 2 indicated that the Wanting has completely explained the effect of the psychopathy scale on EDA (completely standardised indirect effect psychopathy – Wanting – EDA obtained by 2000 bootstrap samples; $b = .11$; $se = .05$; 95% bootstrap confidence interval $.04 \leftrightarrow .21$), which also supported Corr's and Harmon-Jones's hypothesis. The observed effect size for the psychopathy on EDA is low ($R^2 = .10$), while psychopathy and Wanting combined explain 19%, representing a low to moderate effect. The mediational effects of the rest of the QAAM scales were also analysed, but none achieved statistical significance. The only unpredicted effect beyond the hypothesis is the positive relationship between the Liking scale and the number of rejected unfair offers. **Table 1**

Descriptive statistics and zero-order correlation

	Demographics		Electrodermal activity				Number of rejected offers		Short Dark Triad			Questionnaire of Approach and Avoidance Motivation				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1. Age	-															
2. Gender ^a	-.20	-														
3. Fair offers	.05	-.13	-													
4. Unfair offers	.00	-.05	.87 ^{**}	-												
5. Fair offers	-.05	-.15	-.15	-.16	-											
6. Unfair offers ^b	-.16	.32 [*]	-.19	-.15	.04	-										
7. Narcissism	-.13	.00	.03	.11	-.01	-.04	.65									
8. Machiavellianism	.03	-.30 [*]	.17	.23	.28 [*]	-.23	.06	.68								
9. Psychopathy	-.02	-.29 [*]	.29 [*]	.32 [*]	.30 [*]	-.19	.37 ^{**}	.59 ^{**}	.73							
10. Wanting	.01	-.07	.30 [*]	.40 ^{**}	.07	-.10	.47 ^{**}	.33 [*]	.35 ^{**}	.81						
11. Seeking	-.12	.11	.00	.04	.15	.09	.32 [*]	-.00	.08	.42 ^{**}	.85					
12. Getting	-.05	.21	.06	.07	-.11	.15	.19	-.06	-.03	.17	.21	.90				
13. Liking	-.19	.48 ^{**}	-.21	-.16	-.01	.42 ^{**}	.09	-.38 ^{**}	-.23	-.06	.44 ^{**}	.20	.84			
14. Anxiety	-.18	.16	.13	.03	-.10	.25	-.45 ^{**}	.06	-.15	-.28 [*]	-.18	-.27 [*]	.05	.86		
15. Fear	-.08	.00	-.07	-.03	-.00	.17	-.01	.35 ^{**}	.17	-.17	-.09	-.06	-.03	.50 ^{**}	.84	
M	2172	-	4116	4480	002	3.50	25.55	27.33	19.06	17.63	18.95	18.43	19.38	23.23	7.25	
SD	174	-	14.40	15.66	0.13	1.71	5.32	5.08	6.10	4.34	4.36	4.25	4.45	8.59	4.29	

Notes: * $p < .05$; ** $p < .01$. Cronbach alpha coefficients are placed in diagonal; a – positive correlations indicate higher results for females; b – data for the number of rejected fair offers are transparently presented, but should not be interpreted because of the extreme asymmetrical distribution

Table 2*Mediational effect of wanting between psychopathy and EDA in injustice situation*

Predictors	Outcome variables		
	Wanting	EDA in injustice condition	EDA in injustice condition
Psychopathy	.35**	.32*	.21
Wanting	-	-	.32*
	$R^2 = .13$	$R^2 = .10$	$R^2 = .19$
	$F(1, 58) = 8.23^{**}$	$F(1, 58) = 6.55^{**}$	$F(2, 57) = 6.82^{**}$

Note: * $p < .05$; ** $p < .01$.

Discussion

This study examined the underlying motivation of emotional reactions of individuals with elevated levels of psychopathy in frustrative nonreward conditions. The results indicate that individuals with elevated psychopathic tendencies have higher EDA when treated unfairly. However, the main contribution of this study is that the increase of EDA is mediated by higher social aspirations (measured by Wanting) for individuals with elevated psychopathic tendencies, which supports Corr's (2002) and Harmon-Jones's (2003) hypothesis that aggression (as a result of frustration) is mediated by approach, not avoidance motivation. Narcissism and Machiavellianism were not related to the EDA.

This study is one of the few psychophysiological studies that explored the role of psychopathy in economic games adjusted to evoke the sense of unfairness (frustration). As could be expected, the finding of this study is more congruent with studies employing a similar methodology. One such study is Vieira et al.'s (2014) fMRI study indicating that individuals with elevated psychopathic tendencies tend to experience more frustration during the unfair phase in the UG. This frustration appears to be related to the reward system in the brain-behavioural circuits, such as the ventral striatum that activates during the reward anticipation (Abler et al., 2005; Murray et al., 2018). On the contrary, Osumi and Ohira (2010) found that individuals with elevated

psychopathic tendencies have lower EDA and a higher level of acceptance of unfair offers in the UG, which contradicts the finding from this study. Later, Osumi et al. (2012) conducted an fMRI study where they found that individuals with elevated psychopathic tendencies have a dysfunctional amygdala, which reduces aggressive reactions toward the proposer of unjust offers. All of these studies were conducted on small samples and with a slightly different methodology, which might contribute to the inconsistency of the findings. For instance, Osumi and Ohira's (2010) used real money in the study and divided participants into two extreme groups according to the results of Primary and Secondary Psychopathy Scales (PSPS: Levenson et al., 1995). Hence, almost all key methodological aspects of that study (psychopathy measures, type of incentives, brain imaging instead EDA) were different from the present one. Hence, it is possible that these differences in methodology between Osumi et al's and this study led to different conclusions.

In addition, this study relates elevated psychopathic tendencies with Wanting – a component of approach motivation, which is consistent with earlier findings (e.g. Birkás et al., 2015; Brazil & Forth, 2020; Glenn et al., 2017) and neurobiological findings of the brain functioning of individuals with elevated psychopathic tendencies. Namely, higher aspirations (measured by Wanting in this study) are related to a higher level of reward anticipations that are associated with the hypersensitivity of the ventral striatum (e.g., Murray et al., 2018) and ventromedial prefrontal cortex (Blair, 2010) for individuals with elevated psychopathic tendencies. Hence, according to several studies conducted with different methodology, individuals with elevated psychopathic tendencies tend to be especially sensitive to cues of threats to their desired social status (i.e., loss of potential reward), making them more reactive aggressive and prone to frustration, which is commonly observed in the literature (e.g., Blair, 2010; Dinić & Wertag, 2018).

As mentioned in the introduction, the EDA has neither positive nor negative emotional valence, per se. Thus, the interpretation of the EDA highly depends on the context, and the RST might serve as a useful theoretical framework for the interpretation. Namely, without the context and

theoretical framework, the relationship between EDA and psychopathy might be hard to comprehend. According to RST, psychopaths have low avoidance (BIS and FFS) and high approach motivation (BAS) (Corr, 2010). Thus, individuals with elevated levels of psychopathy are less reactive to the cues of threats when confronted by stimuli that provoke avoidance motivation. For instance, psychopaths do not react to angry faces (von Borries et al., 2012) or aversive stimuli such as unpleasant noise (Fung et al., 2005). As this study shows, only the approach-related stimulus might lead to the increase of EDA in individuals with elevated psychopathic tendencies. Therefore, future experimental studies on this subject should classify stimuli within the approach-avoidance framework in order to increase the precision in predicting the change in EDA of individuals with elevated psychopathic tendencies.

The relationship between Liking and the number of rejected unfair offers was the unpredicted result in this study. Liking strongly correlates to the BAS Reward Responsiveness from the BIS/BAS Scales (Krupić, et al., 2021), which was earlier used in studies with the UG. The post-hoc literature review found only two studies exploring the role of the mentioned scale in the UG. They both revealed the same finding; Reward Responsiveness relates to the maximising rewards strategy in the economic games (Harjunen et al., 2018; Scheres & Sanfey, 2006) and avoidance of unfairness (Harjunen et al., 2018). In addition, a positive correlation between the EDA during the fair condition and psychopathy is found. There is a possibility that negotiating itself increases arousal in individuals with elevated psychopathy. Since these two topics were not previously extensively examined and were out of scope in this study, future studies should attempt to replicate these findings and explore the possible underlying mechanism of these two effects.

Limitation

A potential threat to the generalizability and replicability of the finding is that fairness in the UG varies across cultures (Oosterbeek et al.,

2004), gender (Solnick, 2001) or employment status (Carpenter et al., 2005). Furthermore, despite (or maybe because of) the fact that psychopathy is well studied in personality and clinical psychology, researchers do not agree on the definition of this construct. Consequently, there are several competing psychometric operationalisations of that construct (e.g., Colins & Andershed, 2016; Hare et al., 1990; Levenson et al., 1995; Sellbom et al., 2018). The SD3 treats psychopathy as a unidimensional trait, and it would be useful to replicate the findings of this study with another self-report measure that operationalizes psychopathy as a multidimensional construct. Also, it would be useful to replicate the findings where the personality questionnaires would be applied after the experimental manipulation. In addition, the baseline level of the EDA was not recorded, so it was not possible to determine to what extent the injustice evoked by the UG increased the EDA. However, the statistically significant difference between the EDA during the time spent in the fair and unfair conditions in this study might indicate the efficiency of the UG to evoke the emotional reaction. Nevertheless, it is necessary to replicate the findings of this study with random order and balanced length of the time spent during the fair and unfair treatments to eliminate the effects of possible confounding variables to the results of EDA recordings. Finally, despite the incongruence between implicit and explicit measures of motivation (e.g., Thrash et al., 2012), future studies on this subject could use the self-report verification of provoked emotion, which were absent in this study. The EDA here is interpreted as frustration according to the approach-avoidance theoretical framework, but nevertheless, an additional self-report of the emotional state of the participants might provide additional support for the interpretation of the EDA during unfair conditions.

To conclude, individuals with an elevated subclinical level of psychopathic tendencies react more strongly when faced with injustice. This emotional reaction appears to be motivated by their strong desire for status, which provides evidence of the usefulness of the approach-avoidance theoretical framework in understanding frustration, frustrative nonreward and unfairness in individuals with elevated psychopathic tendencies. In

addition, the findings might have practical implications in an organisational context, where unfair situations might occur. According to this study, individuals with higher psychopathic tendencies and driven by their ambition would react more strongly to injustice.

Acknowledgment

I will like to express my gratefulness to my students Valentina Galinec, Ena Kantor, Veronika Kirin, Ana Kovačević, who helped with the data collection.

Declarations of interest

I have no conflicts of interest to disclose.

Data availability statement

Raw data were generated at the University of Osijek, Faculty of Humanities and Social Science. Derived data supporting the findings of this study are available from the corresponding author Dino Krupić on request.

Reference

- Abler, B., Walter, H., & Erk, S. (2005). Neural correlates of frustration. *Neuroreport*, *16*, 669–672. <https://doi.org/10.1097/00001756-200505120-00003>
- Akhtar, R., Ahmetoglu, G., & Chamorro-Premuzic, T. (2013). Greed is good? Assessing the relationship between entrepreneurship and subclinical psychopathy. *Personality and individual differences*, *54*, 420–425. <https://doi.org/10.1016/j.paid.2012.10.013>
- Berkowitz, L. (1989). Frustration-aggression hypothesis: examination and reformulation. *Psychological bulletin*, *106*, 59–73. <https://doi.org/10.1037/0033-2909.106.1.59>
- Birkás, B., Csathó, Á., Gács, B., & Bereczkei, T. (2015). Nothing ventured nothing gained: Strong associations between reward sensitivity and two measures of Machiavellianism. *Personality and Individual Differences*, *74*, 112–115. <https://doi.org/10.1016/j.paid.2014.09.046>

-
- Blair, R. J. R. (2010). Psychopathy, frustration, and reactive aggression: the role of ventromedial prefrontal cortex. *British journal of psychology*, *101*, 383–399. <https://doi.org/10.1348/000712609X418480>
- Blais, J., Solodukhin, E., & Forth, A. E. (2014). A meta-analysis exploring the relationship between psychopathy and instrumental versus reactive violence. *Criminal Justice and Behavior*, *41*, 797–821. <https://doi.org/10.1177/0093854813519629>
- Brazil, K.J., & Forth, A.E. (2020). Psychopathy and the Induction of Desire: Formulating and Testing an Evolutionary Hypothesis. *Evolutionary Psychological Science* *6*, 64–81. <https://doi.org/10.1007/s40806-019-00213-0>
- Carpenter, J., Burks, S., & Verhoogen, E. (2005). Comparing students to workers: The effects of social framing on behavior in distribution games. *Research in Experimental Economics*, *10*, 261–290. [https://doi.org/10.1016/S0193-2306\(04\)10007-0](https://doi.org/10.1016/S0193-2306(04)10007-0)
- Carver, C. S., & Harmon-Jones, E. (2009). Anger is an approach-related affect: evidence and implications. *Psychological bulletin*, *135*, 183–204. <https://doi.org/10.1037/a0013965>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Lawrence Erlbaum Associates, Hillsdale
- Colins, O. F., & Andershed, H. (2016). The Youth Psychopathic Traits Inventory-Short Version in a general population sample of emerging adults. *Psychological Assessment*, *28*, 449–457. <https://doi.org/10.1037/pas0000189>
- Cornell, D. G., Warren, J., Hawk, G., Stafford, E., Oram, G., & Pine, D. (1996). Psychopathy in instrumental and reactive violent offenders. *Journal of Consulting and Clinical Psychology*, *64*, 783–790. <https://doi.org/10.1037/0022-006X.64.4.783>
- Corr, P. J. (2002). JA Gray's reinforcement sensitivity theory and frustrative nonreward: A theoretical note on expectancies in reactions to

- rewarding stimuli. *Personality and Individual Differences*, 32, 1247–1253.
[https://doi.org/10.1016/S0191-8869\(01\)00115-5](https://doi.org/10.1016/S0191-8869(01)00115-5)
- Corr, P. J. (2010). The psychoticism–psychopathy continuum: A neuropsychological model of core deficits. *Personality and Individual Differences*, 48, 695–703. <https://doi.org/10.1016/j.paid.2009.12.023>
- Corr, P. J., & Krupić, D. (2017). Motivating personality: Approach, avoidance, and their conflict. In A. Elliot (Ed.), *Advances in motivation science, vol 4* (pp. 39–90). London: Elsevier. <https://doi.org/10.1016/bs.adms.2017.02.003>
- Davidson, R. J. (1992). Emotion and affective style—Hemispheric substrates. *Psychological Science*, 3, 39–43. <https://doi.org/10.1111/j.1467-9280.1992.tb00254.x>
- Dawson, M. E., Schell, A. M., & Filion, D. L. (1990). The electrodermal system. In J. T. Cacioppo and L. G. Tassinar (eds.), *Principles of Psychophysiology: Physical, social, and inferential elements* (pp. 295–324), Cambridge: Cambridge University Press. <https://doi.org/10.1017/9781107415782.010>
- Diekmann, A. (2004). The power of reciprocity: Fairness, reciprocity, and stakes in variants of the dictator game. *Journal of Conflict Resolution*, 48, 487–505. <https://doi.org/10.1177/0022002704265948>
- Dinić, B. M., & Wertag, A. (2018). Effects of Dark Triad and HEXACO traits on reactive/proactive aggression: Exploring the gender differences. *Personality and Individual Differences*, 123, 44–49. <https://doi.org/10.1016/j.paid.2017.11.003>
- Dinić, B. M., Velimirović, M., & Sadiković, S. (2019). Dark traits from the variable-centered and person-centered approach and their relations with some risky behaviours. *Psihološka istraživanja*, 22, 17–32. <https://doi.org/10.5937/PSISTRA22-19038>
- Dinić, B. M., Wertag, A., & Sokolovska, V., Tomašević, A. (2021). The good, the bad, and the ugly: Revisiting the Dark Core. *Current Psychology*. <https://doi.org/10.1007/s12144-021-01829-x>

- Erdfelder, F. F., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*, 175–191. <https://doi.org/10.3758/BF03193146>
http://www.gpower.hhu.de/fileadmin/redaktion/Fakultaeten/Matematicischnaturwissenschaftliche_Fakultaet/Psychologie/AAP/gpower/GPower3-BRM-Paper.pdf
- Fetchenhauer, D., & Huang, X. (2004). Justice sensitivity and distributive decisions in experimental games. *Personality and Individual Differences*, *36*, 1015–1029. [https://doi.org/10.1016/S0191-8869\(03\)00197-1](https://doi.org/10.1016/S0191-8869(03)00197-1)
- Fowles, D. C. (1980). The three arousal model: Implications of Gray's two-factor learning theory for heart rate, electrodermal activity, and psychopathy. *Psychophysiology*, *17*, 87–104. <https://doi.org/10.1111/j.1469-8986.1980.tb00117.x>
- Fung, M. T., Raine, A., Loeber, R., Lynam, D. R., Steinhauer, S. R., Venables, P. H., & Stouthamer-Loeber, M. (2005). Reduced electrodermal activity in psychopathy-prone adolescents. *Journal of Abnormal Psychology*, *114*, 187–196. <https://doi.org/10.1037/0021-843X.114.2.187>
- Gallup, G. G. (1965). Aggression in rats as a function of frustrative nonreward in a straight alley. *Psychonomic Science*, *3*, 99–100. <https://doi.org/10.3758/bf03343104>
- Glenn, A. L., Efferson, L. M., Iyer, R., & Graham, J. (2017). Values, goals, and motivations associated with psychopathy. *Journal of social and clinical psychology*, *36*, 108–125. <https://doi.org/10.1521/jscp.2017.36.2.108>
- Gomez, R., & McLaren, S. (1997). The effects of reward and punishment on response disinhibition, moods, heart rate and skin conductance level during instrumental learning. *Personality and Individual Differences*, *23*, 305–316. [https://doi.org/10.1016/S0191-8869\(97\)00031-7](https://doi.org/10.1016/S0191-8869(97)00031-7)

- Gray, J. A. (1977). Drug effects on fear and frustration: Possible limbic site of action of minor tranquilizers. In L.L. Iversen, S.D. Iversen & S.H. Snyder (Ed.), *Handbook of Psychopharmacology: Vol. 8. Drugs, Neurotransmitters, and Behavior* (pp. 433–529). New York: Plenum Press. https://doi.org/10.1007/978-1-4684-3180-3_10
- Gray, J. A., & McNaughton, N. (2000). *The neuropsychology of anxiety: An enquiry into the functions of the septo-hippocampal system*. Oxford: Oxford University Press. [https://doi.org/10.1016/S0165-0327\(00\)00344-X](https://doi.org/10.1016/S0165-0327(00)00344-X)
- Hare, R. D. (1972). Psychopathy and physiological responses to adrenalin. *Journal of Abnormal Psychology, 79*, 138–147. <https://doi.org/10.1037/h0032725>
- Hare, R. D., Harpur, T. J., Hakstian, A. R., Forth, A. E., Hart, S. D., & Newman, J. P. (1990). The revised psychopathy checklist: reliability and factor structure. *Psychological Assessment: A Journal of Consulting and Clinical Psychology, 2*, 338–341. <https://doi.org/10.1037/1040-3590.2.3.338>
- Harjunen, V. J., Spapé, M., Ahmed, I., Jacucci, G., & Ravaja, N. (2018). Persuaded by the machine: The effect of virtual nonverbal cues and individual differences on compliance in economic bargaining. *Computers in Human Behavior, 87*, 384–394. <https://doi.org/10.1016/j.chb.2018.06.012>
- Harmon-Jones, E. (2003). Anger and the behavioral approach system. *Personality and Individual Differences, 35*, 995–1005. [https://doi.org/10.1016/S0191-8869\(02\)00313-6](https://doi.org/10.1016/S0191-8869(02)00313-6)
- Harmon-Jones, E., & Peterson, C. K. (2008). Effect of trait and state approach motivation on aggressive inclinations. *Journal of Research in Personality, 42*, 1381–1385. <https://doi.org/10.1016/j.jrp.2008.05.001>
- Harmon-Jones, E., & Sigelman, J. D. (2001). State anger and prefrontal brain activity: Evidence that insult-related relative left-prefrontal activation is associated with experienced anger and aggression. *Journal of Personality and Social Psychology, 80*, 797–803. <https://doi.org/10.1037/0022-3514.80.5.797>

- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, USA: Guilford publications.
- Jones, D. N., & Paulhus, D. L. (2014). Introducing the short dark triad (SD3) a brief measure of dark personality traits. *Assessment, 21*, 28–41. <https://doi.org/10.1111/spc3.12018>
- Jussila, J., Venho, N., Saloniemi, H., Moilanen, J., Liukkonen, J., & Rinnetmäki, M. (2018, October). Towards ecosystem for research and development of electrodermal activity applications. In *Proceedings of the 22nd International Academic Mindtrek Conference* (pp. 79–87). Retrieved from <https://dl.acm.org/doi/pdf/10.1145/3275116.3275141>
- Koenigs, M., Kruepke, M., & Newman, J. P. (2010). Economic decision-making in psychopathy: a comparison with ventromedial prefrontal lesion patients. *Neuropsychologia, 48*, 2198–2204. <https://doi.org/10.1016/j.neuropsychologia.2010.04.012>
- Krupić, D., Krupić, D., & Corr, P. J. (2021). Questionnaire of Approach-Avoidance Motivation (QAAM): Development and validation. *Submitted*.
- Krupić, D., Žuro, B., & Corr, P. J. (2020). Anxiety and threat magnification in subjective and physiological responses of fear of heights induced by virtual reality. *Personality and Individual Differences, 109720*. <https://doi.org/10.1016/j.paid.2019.109720>
- Levenson, M. R., Kiehl, K. A., & Fitzpatrick, C. M. (1995). Assessing psychopathic attributes in a noninstitutionalized population. *Journal of personality and social psychology, 68*, 151–158. <https://doi.org/10.1037/0022-3514.68.1.151>
- Mayer, S. V., Rauss, K., Pourtois, G., Jusyte, A., & Schönenberg, M. (2019). Behavioral and electrophysiological responses to fairness norm violations in antisocial offenders. *European archives of psychiatry and clinical neuroscience, 269*, 731–740. <https://doi.org/10.1007/s00406-018-0878-2>

- Miller, J.D., Watts, A., & Jones, S.E. (2011). Does psychopathy manifest divergent relations with components of its nomological network depending on gender? *Personality and Individual Differences, 50*, 564–569. <https://doi.org/10.1016/j.paid.2010.11.028>
- Murray, L., Waller, R., & Hyde, L. W. (2018). A systematic review examining the link between psychopathic personality traits, antisocial behavior, and neural reactivity during reward and loss processing. *Personality Disorders: Theory, Research, and Treatment, 9*, 497–509. <https://doi.org/10.1037/per0000308>
- Newman, J. P., MacCoon, D. G., Vaughn, L. J., & Sadeh, N. (2005). Validating a distinction between primary and secondary psychopathy with measures of Gray's BIS and BAS constructs. *Journal of Abnormal Psychology, 114*, 319–323. <https://doi.org/10.1037/0021-843X.114.2.319>
- Oosterbeek, H., Sloof, R., & van de Kuilen, G. (2004). Cultural differences in Ultimatum Game experiments: Evidence from a meta-analysis. *Experimental economics, 7*, 171–188. <https://doi.org/10.1023/B:EXEC.0000026978.14316.74>
- Osumi, T., & Ohira, H. (2010). The positive side of psychopathy: Emotional detachment in psychopathy and rational decision-making in the Ultimatum Game. *Personality and individual differences, 49*, 451–456. <https://doi.org/10.1016/j.paid.2010.04.016>
- Osumi, T., Nakao, T., Kasuya, Y., Shinoda, J., Yamada, J., & Ohira, H. (2012). Amygdala dysfunction attenuates frustration-induced aggression in psychopathic individuals in a non-criminal population. *Journal of Affective Disorders, 142*, 331–338. <https://doi.org/10.1016/j.jad.2012.05.012>
- Patrick, C. J. (2014). Physiological correlates of psychopathy, antisocial personality disorder, habitual aggression, and violence. In *Electrophysiology and Psychophysiology in Psychiatry and*

Psychopharmacology (pp. 197–227). Springer, Cham.

https://doi.org/10.1007/7854_2014_345

- Radke, S., Brazil, I. A., Scheper, I., Bulten, B. H., & De Bruijn, E. R. (2013). Unfair offers, unfair offenders? Fairness considerations in incarcerated individuals with and without psychopathy. *Frontiers in human neuroscience*, *7*, 406. <https://doi.org/10.3389/fnhum.2013.00406>
- Reidy, D. E., Shelley-Tremblay, J. F., & Lilienfeld, S. O. (2011). Psychopathy, reactive aggression, and precarious proclamations: A review of behavioral, cognitive, and biological research. *Aggression and Violent Behavior*, *16*, 512–524. <https://doi.org/10.1016/j.avb.2011.06.002>
- Ross, S. R., Molto, J., Poy, R., Segarra, P., Pastor, M. C., & Montanés, S. (2007). Gray's model and psychopathy: BIS but not BAS differentiates primary from secondary psychopathy in noninstitutionalized young adults. *Personality and Individual Differences*, *43*, 1644–1655. <https://doi.org/10.1016/j.paid.2007.04.020>
- Scheres, A., & Sanfey, A. G. (2006). Individual differences and decision making: Drive and reward responsiveness affect strategic bargaining in economic games. *Behavioral and Brain Functions*, *18*, 35. <https://doi.org/10.1186/1744-9081-2-35>
- Sellbom, M., Lilienfeld, S. O., Fowler, K. A., & McCrary, K. L. (2018). The self-report assessment of psychopathy: Challenges, pitfalls, and promises. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 211–258). The Guilford Press. <https://doi.org/10.1023/a:1023605205115>
- Solnick, S. J. (2001). Gender differences in the Ultimatum Game. *Economic Inquiry*, *39*, 189–200. <https://doi.org/10.1111/j.1465-7295.2001.tb00060.x>
- Suleiman, R. (1996). Expectations and fairness in a modified Ultimatum Game. *Journal of Economic Psychology*, *17*, 531–554. [https://doi.org/10.1016/S0167-4870\(96\)00029-3](https://doi.org/10.1016/S0167-4870(96)00029-3)
- Sun, S., Pan, W., & Wang, L. L. (2010). A comprehensive review of effect size reporting and interpreting practices in academic journals in education

- and psychology. *Journal of Educational Psychology*, *102*, 989–1004.
<https://doi.org/10.1037/a0019507>
- Thrash, T. M., Maruskin, L. A., & Martin, C. C. (2012). In R. M. Ryan (Ed.) Implicit-explicit motive congruence. *The Oxford handbook of human motivation*, (pp. 141–156). Oxford: Oxford University Press.
- Torniainen, J., Cowley, B., Henelius, A., Lukander, K., & Pakarinen, S. (2015). Feasibility of an electrodermal activity ring prototype as a research tool. In *2015 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)* (pp. 6433–6436). IEEE.
<https://doi.org/10.1109/EMBC.2015.7319865>
- Tranel, D. T. (1983). The effects of monetary incentive and frustrative nonreward on heart rate and electrodermal activity. *Psychophysiology*, *20*, 652–657.
<https://doi.org/10.1111/j.1469-8986.1980.tb00117.x>
- Vieira, J. B., Almeida, P. R., Ferreira-Santos, F., Barbosa, F., Marques-Teixeira, J., & Marsh, A. A. (2014). Distinct neural activation patterns underlie economic decisions in high and low psychopathy scorers. *Social cognitive and affective neuroscience*, *9*, 1099–1107. <https://doi.org/10.1093/scan/nst093>
- von Borries, A. K. L., Volman, I., de Bruijn, E. R. A., Bulten, B. H., Verkes, R. J., & Roelofs, K. (2012). Psychopaths lack the automatic avoidance of social threat: relation to instrumental aggression. *Psychiatry Research*, *200*, 761–766. <https://doi.org/10.1016/j.psychres.2012.06.026>
- Waid, W. M., & Orne, M. T. (1982). Reduced electrodermal response to conflict, failure to inhibit dominant behaviors, and delinquency proneness. *Journal of Personality and Social Psychology*, *43*, 769–774.
<https://doi.org/10.1037/0022-3514.43.4.769>
- Wallace, J. F., Malterer, M. B., & Newman, J. P. (2009). Mapping Gray's BIS and BAS constructs onto factor 1 and factor 2 of Hare's psychopathy checklist-revised. *Personality and Individual Differences*, *47*, 812–816.
<https://doi.org/10.1016/j.paid.2009.06.019>

- Wertag, A., Vrselja, I. & Tomić, T. (2011, October). Provjera konstruktne valjanosti Paulhusovog i Williamsovog (2002) upitnika Mračne trijade D3–27. *Paper presented at 19th Annual Conference of Croatian Psychologists, Osijek.*
- Woodworth, M., & Porter, S. (2002). In cold blood: Characteristics of criminal homicides as a function of psychopathy. *Journal of Abnormal Psychology, 111*, 436–445. <https://doi.org/10.1037/0021-843X.111.3.436>



Acknowledgment of Reviewers

The Editorial board of the *Primenjena psihologija* would like to thank the following colleagues who dedicated their time and acted as reviewers in 2021:

- Altaras Dimitrijević Ana, PhD, Associate Professor, Department of Psychology, Faculty of Philosophy, University of Belgrade, Serbia
- Babić Čikeš Ana, PhD, Assistant Professor, Department of Psychology, Faculty of Philosophy, University of Osijek, Croatia
- Barends Ard, PhD, Assistant Professor, Institute of Criminal Law and Criminology, Leiden University, Netherlands
- Belopavlović Radomir, MA, Research Assistant, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia
- Blasco Ana, PhD, Faculty of Education, Psychology and Social Work, University of Lleida, Lleida, Spain
- Bodroža Bojana, PhD, Assistant Professor, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia
- Bošković Irena, PhD, Assistant Professor, Department of Psychology, Education & Child Studies, Erasmus University Rotterdam, Netherlands
- Branovački Bojan, MA, PhD student, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia
- Bulut Tara Allred, PhD, Department of Psychology and Laboratory for Research of Individual Differences, Faculty of Philosophy, University of Belgrade, Serbia
- Čolović Petar, PhD, Associate Professor, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia
- Dinić Bojana, PhD, Associate Professor, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

Đurović Dušanka, PhD, Full Professor, Department of Psychology, Faculty of Sport and Tourism, Educons University, Serbia

Economou Elias, PhD, Assistant Professor, Department of Psychology, School of Social Sciences, University of Crete, Greece

Gatarić Isidora, MA, Data Analyst, JAGGAER, Novi Sad, Serbia

Genc Ana, PhD, Assistant Professor, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

Grabovac Beata, PhD, Hungarian Language Teacher Training Faculty in Subotica, Department of Social Sciences and Humanities, University of Novi Sad, Serbia

Hinić Darko, PhD, Associate Professor, Faculty of Science, University of Kragujevac, Serbia

Jakovljević Ivana, PhD, Assistant Professor, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

Jelić Dragana, MA, Teaching Assistant, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

Jevremov Tanja, PhD, Assistant Professor, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

Križanić Valerija, PhD, Associate Professor, Department of Psychology, Faculty of Education, Josip Juraj Strossmayer University in Osijek, Croatia

Krstić Ksenija, PhD, Associate Professor, Department of Psychology, Faculty of Philosophy, University of Belgrade, Serbia

Krupić Dino, PhD, Assistant Professor, Department of Psychology, Faculty of Philosophy, Josip Juraj Strossmayer University of Osijek, Croatia

Lakić Siniša, PhD, Associate Professor, Department of Psychology, Faculty of Philosophy, University of Banja Luka, Bosnia and Herzegovina

Láng András, PhD, Associate Professor, Institute of Psychology, University of Pécs, Hungary

Lazarević Ljiljana, PhD, Senior Research Associate, Institute of Psychology, University of Belgrade, Serbia

Lazić Milica, PhD, Research Associate, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

Lisa Elena, PhD, Associate Professor, Faculty of Social and Economic Sciences, Institute of Applied Psychology, Comenius University, Bratislava, Slovakia

Majstorović Nebojša, PhD, Associate Professor, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

March Evita, PhD, senior lecturer of psychology, Federation University Australia, Ballarat, Victoria, Australia

Međedović, Janko, PhD, Institute of Criminological and Sociological Research, Belgrade, Serbia

Mihić Ljiljana, PhD, Full Professor, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

Milovanović Ilija, PhD, Assistant Professor, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

Mitrović Dušanka, PhD, Full Professor, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

Moshagen Morten, PhD, Full Professor, Ulm University, Ulm, Germany

Nikolašević Željka, PhD, Teaching Assistant, Faculty of Medicine, University of Novi Sad, Serbia

Novović Zdenka, PhD, Full Professor, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

Oljača Milan, MA, Teaching Assistant, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

Orlić Ana, PhD, Associate Professor, Faculty of Sport and Physical Education, University of Belgrade, Serbia

Pajić Dejan, PhD, Associate Professor, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

Petrović Jelica, PhD, Associate Professor, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

Popov Boris, PhD, Associate Professor, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

Popović Stijačić Milica, PhD, Teaching Assistant, Faculty of Media and Communications, Singidunum University in Belgrade, Serbia

Rakić Bajić Gorana, PhD, Assistant Professor, Faculty of Medical Sciences, University of Kragujevac, Serbia

Ranđelović Kristina, PhD, Associate Professor, Department of Psychology, Faculty of Philosophy, University of Niš, Serbia

Rogoza Radoslav, PhD, Assistant Professor, Cardinal Stefan Wyszyński University, Warsaw, Poland

Sadiković Selka, MA, Research Assistant, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

Šakotić Kurbalija Jelena, PhD, Assistant Professor, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

Škorc Bojana, PhD, Full Professor, Faculty of Fine Arts, University of Arts, Belgrade, Serbia

Smederevac Snežana, Full Professor, Department of Psychology, Faculty of Philosophy, University of Novi Sad, Serbia

Sokić Jelena, PhD, Assistant Professor, Department of Psychology, Faculty of Sport and Tourism, Educons University, Serbia

Soranzo Alessandro, PhD, Postgraduate Research Tutor, Sheffield Hallam University, United Kingdom

Subotić Siniša, PhD, Associate Professor, Department of Psychology, Faculty of Philosophy, University of Banja Luka, Bosnia and Herzegovina

Trbojević Jocić Jovana, PhD, Visiting Lecturer, Faculty of Science, University of Kragujevac, Serbia

Vaci Nemanja, PhD, Lecturer, Department of Psychology, University of Sheffield, United Kingdom

Volarov Marija, MA, Teaching Assistant, Department of Psychology, Faculty of Sport and Tourism, Educons University, Serbia

Vukadinović Maja, PhD, Professor of Vocational Studies, Novi Sad School of Business, Novi Sad, Serbia

Žauhar Valnea, PhD, Assistant Professor, Department of Psychology, Faculty of Philosophy, University of Rijeka, Croatia

Žeželj Iris, PhD, Associate Professor, Department of Psychology, Faculty of Philosophy, University of Belgrade, Serbia

Žuljević Dragan, Assistant Professor, Faculty of Legal and Business Studies "Dr Lazar Vrkatić" in Novi Sad, Union University in Belgrade, Serbia