

The Role of Dark Triad of Personality in Predicting Self-Control in Student-Athletes

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Received date: February 18, 2023; **Accepted date:** February 27, 2023; **Published date:** March 08, 2023

Citation: Fereshteh Amouzadeh, Mahmoud sheikh, Peyman Honarmand and Seyede Samira Hosseini, (2023). Pharmacology, Medical of ALMohads Empire era in Maghreb & Iberian Peninsula medieval, *J. Pharmaceutics and Pharmacology Research*, 6(3); DOI:10.31579/2693-7247/120

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Abstract

The aim of this study was to investigate the role of dark triad of personality in predicting self-control in student-athletes. In this study, 200 student-athletes have participated and the Tangi self-control scale and Pelham and Jones questions were used to measure the self-control and dark triad of personality. Data have been analyzed using Pearson correlation coefficient and multiple regressions. The results showed that the correlation between the dark triad of personality and self-control was negative and significant, and the narcissistic component of the dark triad of personality has the ability to predict self-control by 71%. Therefore, coaches are advised to pay attention to the role and importance of the dark triad of personality in order to predict self-control in athletes.

Key words: dark triad of personality; self-control; student-athletes

Introduction

Sports psychology describes, explains and predicts human behavior, especially in athletes. From the point of view of sports psychologists, like other branches of psychology, human is a set of physical and psychological characteristics which is inseparable and includes both mental and physical characteristics (Blank, Koenigstorfer, & Baumgartner, 2018; Kemarat, Theanthong, Yeemin, & Suwankan, 2022; Piepiora, Piepiora, & Bagińska, 2022). These characteristics are an effective factor in the success and development of people, including athletes and success is described as satisfactory achievement of one's goals; for most psychologists, including sports psychologists, anyone who achieves their dreams and feels content within is successful. Many factors affect the success of people in various aspects of life, including exercise (Caliskan & Özer, 2021; Gardiner & Lawson, 2022; Greitemeyer, 2022). One of these factors is self-control, which is an effective cognitive factor on the way towards success, and usually people with strong self-control compared to other people, in addition to more efforts, react more appropriately in different situations and circumstances. As a result, they perform better (Bagheri Sheykhangafshe, Abolghasemi, & Kafi Masouleh, 2021a; Caliskan & Özer, 2021; R. S. Vaughan & Madigan, 2021).

Self-control is considered as the degree to which people's behavioral characteristics match the circumstances. People with high level self-control adjust their behavioral characteristics and are more sensitive to position-appropriate actions. But people with low level self-control have less ability or motivation to adjust their behavioral characteristics (Coulter, Mallett, Singer, & Gucciardi, 2016; Dumciene & Sipaviciene, 2021; Khalikov, Mutaeva, Gerasimova, & Gizatullina, 2021).

Self-control affects the quality of emotional health and how people are vulnerable to depression and stress and how they make the best decision in a sensitive situation; this influence varies from person to person, and one of the reasons for this difference is personality and personality traits. (Dumciene & Sipaviciene, 2021; Englert, 2021; González-Hernández, Cuevas-Campos, Tovar-Gálvez, & Melguizo-Rodríguez, 2020)

Prado et al. (2015), Joseph et al. (2018), Jones et al. (2017), Florin et al. (2021), Bagheri et al. (2021), and Greitemeyer et al. (2021) in examining the relationship between personality and self-control state that personality plays an important role in predicting self-control, cognitive beliefs and finally the emergence of different behavioral patterns (Bagheri Sheykhangafshe, Abolghasemi, & Kafi Masouleh, 2021b; Florin et al.,

2021; Greitemeyer, 2022; Jones, Woodman, Barlow, & Roberts, 2017; Josephs, 2018; Prado, Treeby, & Crowe, 2015).

Personality is one of the common topics in the field of psychology, including sports psychology, which expresses the principles and rules of a person and the similarities between people. In examining personality, some psychologists such as Blank et al. (2018) emphasize on the structure of personality and examine its characteristics, while others, such as DeClercq et al. (2017), examine personality in a limited period (e.g., childhood) or throughout life (Blank et al., 2018; De Clercq, Hofmans, Vergauwe, De Fruyt, & Sharp, 2017). To study the personality, several structures have been proposed, including the dark triad structure of personality (Dębska, Dębski, Polechoński, Rozpara, & Tomik, 2021; Jones et al., 2017). The dark three structures are narcissistic personality traits, Machiavellianism, and psychopaths that are related to each other despite being independent (Dębska et al., 2021; Nguyen, Pascart, & Borteyrou, 2021).

In their studies, Karandikar et al. (2019) and Caliskan et al. (2018) emphasize on the relationship between personality traits, especially the dark triad of personality traits, individual differences, and moral values in different individuals (Caliskan & Özer, 2021; Karandikar, Kapoor, Fernandes, & Jonason, 2019). Saburi et al. (2016), and Aluja et al. (2022), also examined the threefold relationship between personality and physical activity and stated that there is a strong association between athletic performance, the dark triad of personality, and mental stubbornness which means that successful professional athletes can be tough and ruthless at the same time. (Aluja et al., 2022; Sabouri et al., 2016)

Furthermore, the study of the dark triad of personality in athletes by Gonzalez et al. (2020), Vaughan et al. (2019) and Ueno et al. (2017) showed that athletes, like other members of society, have different levels of the dark triad of personality. They also stated that Machiavellian athletes have traits such as deceptive behavior, control over others, authoritarianism, greed, exploitation, pessimism, indifference, emotional coldness, recklessness, and self-centeredness (González-Hernández et al., 2020; Ueno, Shimotsukasa, Suyama, & Oshio, 2017; R. Vaughan, Madigan, Carter, & Nicholls, 2019). And as the results of other researches show, at a high-level dark triad of personality, there is a tendency to deviant behaviors and less perception of punishment. In addition, athletes with anti-social characteristics, like other people with this characteristic, lack empathy with others and do not express remorse for their sins or mistakes; this is considered as a very dangerous factor in predicting criminal behaviors and narcissistic athletes also consider themselves superior to others and also more important than others (Josephs, 2018; Karandikar et al., 2019; Nicholls et al., 2020; Papageorgiou et al., 2020). And in a study of the dark triad of personality and self-control, Flexin (2016), Florin (2021), and Greitemeyer (2022) emphasize on the strong and negative relationship between the dark triad of personality and self-control; they have stated that people with a high score in Machiavellianism have the lowest level of self-control compared to people with other dark personality traits (Flexin, Meldrum, Young, & Lehmann, 2016; Florin et al., 2021; Greitemeyer, 2022).

In addition, most studies have shown that dark personality traits have been linked with various factors such as mindfulness (Ryerson, 2018), decision making (Karandikar et al., 2019), physical activity (Dębska et al., 2021), sleep quality, Stress and mental stubbornness (Annen et al., 2017), doping

and antisocial behaviors (Nicholls et al., 2020). But, in Iran, few controlled studies have examined the relationship between dark personality traits and self-control. Therefore, according to what has been said, the dark traits of personality and self-control both affect the behavior and success of people in various aspects, including sports and it can have important effects on how they think, deal with problems, their emotional health and their vulnerability to depression, and their ability to make decisions in sensitive situations and, consequently, their future.

Due to the novelty of this field and the research gap in the field, conducting the present research has become necessary, which can express important and new information. Therefore, the researcher is trying to find answers to these questions: whether there is a connection between self-control and the dark triad of personality in student-athletes? Can the dark triad of personality predict self-control? What is the contribution of each of the dark triad of personality in predicting self-control? Therefore, the present study investigates the triple role of dark personality in predicting self-control in 11-16-year-old students in Tehran.

Methods

The method used in this study is correlational and the subjects of this study were all female students of first and second secondary school in Tehran in the academic year 2021-2022. Among them, 200 people were selected based on multi-stage cluster random sampling. These students have been involved in sports teams (professional and non-professional) for at least 5 years. First, the necessary permits have been obtained from Education Department in Lorestan province. After the objectives of the research and the confidentiality of the questionnaire information have been fully explained to the participants, the questionnaires have been handed over in order to answer the items. They were asked to complete the questionnaire and submit them to the researchers. Standard questionnaires were used to collect data. Athletes were also asked to answer the questionnaires individually, with complete accuracy and honesty.

Participants

The statistical population of this study includes all female students of the first and second secondary school in Tehran in the academic year 2021-2022. Due to the type of the research, 200 people have been selected based on multi-stage cluster random sampling. Participants have an average age of 13.4 and an average sports experience of 5.2 years. The participants must at least have 5 years of sports experience (professional or non-professional) in sports teams.

Demographic questionnaire

This researcher-made questionnaire includes information on age, gender, sport, sports history.

Dark triad of personality Questionnaire

The 27-item dark triad of personality Questionnaire has three subscales and has been developed by Paulus and Jones (2011). Each of these three subscales also includes nine items which have been used to assess the three personality traits of narcissism, anti-socialism, and Machiavellianism. The items of this scale have been scored on a five-point Likert, from quite agree (1) to quite disagree (5). In the research of Paulos and Williams (2014), the alpha coefficient range is 0.68 to 0.74 and also the internal correlation of 0.22 to 0.40 has been obtained for the

subscales of this questionnaire. The analysis of the collected data showed that this scale has alpha coefficients of 0.65 to 0.82 in terms of reliability in three subscales. The results of confirmatory factor analysis support the three-factor structure of the scale (34). The reliability in this study is 0.87.

Self-control scale

Self-control questionnaire, as a self-report questionnaire, has been developed by Professor Tanjani et al. (2004) in two forms – 36 and 13 items – for measuring self-control, the material of which is set in a 5-point Likert scale from dissimilarity to very similarity. The validity and reliability of this questionnaire was obtained in two stages of alpha 0.89 (1). The reliability obtained in this study is 0.83.

Data Analysis Method

In this study, the dark triad variable of personality has been considered as the predictor variable and the self-control variable has been considered as the criterion variable. The statistical method used in the present study has been descriptive and inferential statistics. Descriptive statistics have been

used to calculate central indices and dispersion. Inferential statistics has been used to estimate and predict the research parameters. Due to the normality of the data through the Kolmogorov-Smirnov test (K-S), Pearson correlation coefficient has been used to determine the relationship between the dark triad of personality and self-control. Multiple regression analytical test has been also used to estimate self-control prediction by dark personality components. This statistical analysis has been performed using SPSS software version 23.

Results

Table 1 presents descriptive statistics indices (mean and standard deviation) and correlation coefficients between the three dark components of personality and self-control in student-athletes.

The results of correlation test show that the relationship between self-control and Machiavellianism ($P < 0.01$, $r = -0.646^{**}$), narcissism ($P < 0.01$, $r = -0.582^{**}$) and anti-socialism ($P < 0.01$, $r = -0.524^{**}$) has a negative and significant correlation (Table 1).

Variables	Descriptive Statistics		Inter-factor correlation			
	Mean	standard deviation	1	2	3	4
Self-control	43.10	4.90	-	-0.646**	-0.582**	-0.524**
Machiavellianism	2.73	0.61		-	0.422**	0.659**
Narcissism	3.12	0.72			-	0.275**
Anti-socialism	2.33	0.55				-

Table 1. Mean, standard deviation, and correlation between variables

Multivariate regression analysis was performed with the input method to predict athletes' self-control through the three dark factors of personality

(Machiavellianism, narcissism and anti-socialism). Considering the value of determination coefficient (R^2), the three dark personality factors explained about 55% of the variance of self-control (Table 2).

Source of changes	Total squares	Degrees of freedom	Average squares	F value	Significance level	R	R ²
Regression effect	2657.38	3	885.79	80.637	0.000	0.742	0.551
The remaining	2164.20	197	10.98				
Total	4821.59	200					

Table 2: Regression analysis and determination coefficient with the input method to predict athletes' self-control through the three dark factors of personality

Beta values and significance levels indicate that the three dark factors of personality (Machiavellianism, narcissism, and antisocialism) are negatively contributing to the self-control prediction. Also, the predictor of narcissism ($P < 0.001$ and $t = -7.17$) has a greater effect on the property variable. According to (Beta = -2.57), the increase of a standard deviation in the narcissistic factor of 2.75 predicts the standard deviation of the decrease in the self-control property variable. After narcissism,

Machiavellianism ($P < 0.001$ and $t = -5.50$) and anti-socialism ($P < 0.001$ and $t = -2.76$) play a role in predicting the self-control criterion variable, respectively. Now using the value of B in Table 3 for the final step, the prediction equation is as follows:

Self-control = - 2.96 (Machiavellianism) – 2.57 (narcissism) -0.597 (anti-social) -1.56.

Model	Not standardized coefficients		Standardized coefficients	t	Significance level
	B	Standard error			
Fixed	62.921	1.31		48.01	0.000
Machiavellianism	-2.96	0.539	-0.370	-5.50	0.000
Narcissism	-2.57	0.359	-0.378	-7.17	0.000
Antisocial	-1.56	0.566	-0.176	-2.76	0.006

Table 3: Coefficients of predictor variables in the final model

Discussion

Sports psychologists and researchers in this field always emphasize on the special theories and methods to raise unique issues of sports and training. The aim of this study was to investigate the triple role of dark personality in predicting self-control in student-athletes. The results of data analysis showed that there is a significant negative relationship between dark triad of personality and self-control. And the dark triad of personality explains about 55% of the variance in self-control. Among the three dark components, the narcissistic component was able to predict self-control with a coefficient of 7.17%, while the Machiavellian and anti-social components predicted self-control with coefficients of 5.5 and 2.76, respectively. Thus, narcissism has the greatest power in predicting self-control.

Regarding the relationship between the two main variables, the results of the present study were consistent with the findings of Flexon (2016), and inconsistent with the findings of Vaughan et al. (2019), Bagheri et al. (2021) and Ueno (2017) showed that in sports, controlling one's motivation or behavioral tendencies is very important for high-level performance. For example, athletes need to adjust their anxiety levels in cases of high physical and mental stress (such as sports races) in order to become calmer and more focused. Also, about doing a real task (for example, playing a basketball free throw), Force themselves to regularly participate in strenuous physical exercise or force themselves to follow exercises and plans for long courses of time. According to the results of previous researches, people with high self-control are more resistant to stress and welcome stressful situations and consider them essential for growth and development in life and sports. They have the lowest level of anxiety in many situations, have a firm belief and are not affected by difficulties and competition; they also regulate excitement and attention and support executive performance better than others. Based on the dark triad of personality definition, both sports and non-sports society has rejected people with malicious characteristics which as a result moves them towards failure. But according to research by Jones (2019, 2017), and Papa Gorgio (2020) as a result of the dark triad of personality, People are able to withstand behavioral problems, overcome obstacles in social and sports life and achieve success and desirable results in difficult conditions. For example, recent researches have shown that narcissism and anti-socialism have a great ability to predict creativity and emotional intelligence and success in new areas and ideas.

In other words, the characteristics of dark triad of personality, despite being harmful, have good results in social and sports areas which due to the characteristics of people with high self-control and dark triad of personality, it can be said that self-control and the dark triad of personality can play a complementary role to each other. Because in life, there is defeat and victory for all people, whether athletes or non-athletes and without resistance and control, goals cannot be achieved. In addition to what has been said, this study confirmed the predictive power of self-control variance through the dark triad. And because self-control has always been affirmed as a positive attribute, it can be explained. As Flexon (2016), Khalikov et al. (2021), and Dumciene et al. (2021) emphasized, Self-control plays an important role in the performance of individuals at both individual and interpersonal levels and controlling or overcoming dominant behaviors or responsiveness tendencies to achieve a specific goal is the result of factors that result from self-control.

The results of this study are related to the components of dark triad of personality including Self-fascination, anti-socialism and Machiavelli

component and control which was consistent with research conducted by Jones (2017, 2019), Flexon (2016) and Gonzalez et al. (2020). regarding the relationship between Machiavellian factor and self-control, they showed that although Machiavellian characters has a very low inclination to join others, but they pursue their goals very seriously and in addition to considering others as an obstacle to their success They also use deception and trickery. But they have considerable self-control to achieve their goals; for example, it was reported in the research of Jones (2016) and Nicholls (2020) that Machiavellian people have a lot of ground for sports doping, aggression, perfectionism and addiction which means that they work hard to reach their goals but they allowed themselves to do anything and believe that the purpose justifies the means through which they control individual and interpersonal cases. In this study, too, after narcissism, Machiavelli has more power in predicting self-control. In examining the relationship between narcissism and self-control, they showed that people with high self-control have this ability to interpret problems in a positive way in critical situations and to control negative feelings and emotions and in this study, narcissism has the greatest power in predicting self-control. But in examining the anti-social component, it should be noted that the result of the present study shows that anti-social component has the least power in predicting self-control compared to other dark triad of personality. According to the results of previous research and the behavioral characteristics of people with high anti-social scores such as not regretting wrong behavior, lack of empathy and understanding of others and as a result a lot of conflict and dealing with others which is consistent with the results of this research.

In general, given the fact that the dark triad of personality responds in the short term and people facilitate the path to goals by considering themselves, a narcissistic character who consider themselves exceptional and special controls difficult situations; therefore, the significant relationship between the dark triad of personality and self-control component can be explained.

Athletes with high self-control consider different situations not as a threat but as an opportunity and a challenge. Because they find themselves successful in overcoming these challenges, they expect positive results. Machiavellian people, on the other hand, have a pessimistic view of other people. Pessimism that diminishes the morals of these people as a result, he can easily plan for others without feeling guilty and by taking advantage of others, pursue their goal and stay on track.

Selfish people also try to achieve success in life because of extreme fantasies about power and success and the need to be praised and encouraged by others. There is no single opinion on the extent of the control of dark triad in athletes. But according to all of the cases mentioned earlier, the researcher concluded that high self-control will definitely lead to more success for athletes and must be strengthened but caution is necessary in the dark triad of personality. These people need to maintain a degree of dark personality traits which make them stronger and more belligerent for achieving their goals. On the other hand, to prevent long-term consequences and excessive strengthening of dark triad of personality, these athletes must be under the supervision of a psychologist or sports psychologist.

Conclusion

According to the findings of the present study, the dark triad of personality has a negative and significant relationship with self-control, in such a way that high dark triad of personality leads to the lower self-

control; Therefore, it is suggested to the Federation of Student Sports and Education to pay attention to the role and importance of the dark triad of personality in predicting self-control in student-athletes. And provide the background for recognizing the required amount of the dark triad of personality traits that provide stability of step, planning for the goal and being a fighter in achieving the goal and success in general so that they can achieve better results in sports competitions. It is also suggested that researchers in future research compare the above variables in two groups of athletes and non-athletes, other communities such as people with special needs and disabilities, adults and boys with more statistical samples, individual team sports, and different blood types.

Acknowledgment

We would like to thank all the dear students Prof. Khabiri who helped us in this research with their cooperation. It should also be noted that this study with the code of ethics IR.SSRI.REC.1398.511 is approved by the ethics committee of the Research Institute of Physical Education and Sports Sciences.

References

- Aluja, A., García, L. F., Rossier, J., Ostendorf, F., Glicksohn, J., Oumar, B., et al. (2022). Dark Triad Traits, Social Position, and Personality: A Cross-Cultural Study. *Journal of Cross-Cultural Psychology*, 00220221211072816.
- Annen, H., Nakkas, C., Bahmani, D. S., Gerber, M., Holsboer-Trachsler, E., & Brand, S. (2017). Vulnerable narcissism as key link between dark triad traits, mental toughness, sleep quality and stress. *European Psychiatry*, 41(S1), S261-S261.
- Bagheri Sheykhangafshe, F., Abolghasemi, A., & Kafi Masouleh, S. M. (2021a). Predicting Mental Toughness Based on Dark Triad Personality and Psychological Well-being in Athletes Students. *Journal of Arak University of Medical Sciences*, 24(2), 0-0.
- Bagheri Sheykhangafshe, F., Abolghasemi, A., & Kafi Masouleh, S. M. (2021b). Predicting Resilience Based on Dark Triad Personality and Psychological Wellbeing in Athletes Students. *Journal of Arak University of Medical Sciences*, 24(2), 230-245.
- Blank, A. S., Koenigstorfer, J., & Baumgartner, H. (2018). Sport team personality: It's not all about winning! *Sport Management Review*, 21(2), 114-132.
- Caliskan, G., & Özer, A. (2021). Relationship between dark triad personality traits and work values among athletes. *Current Psychology*, 40(12), 5834-5841.
- Coulter, T. J., Mallett, C. J., Singer, J. A., & Gucciardi, D. F. (2016). Personality in sport and exercise psychology: Integrating a whole person perspective. *International Journal of Sport and Exercise Psychology*, 14(1), 23-41.
- De Clercq, B., Hofmans, J., Vergauwe, J., De Fruyt, F., & Sharp, C. (2017). Developmental pathways of childhood dark traits. *Journal of Abnormal Psychology*, 126(7), 843.
- 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.
- Dumciene, A., & Sipavičienė, S. (2021). The Role of Gender in Association between Emotional Intelligence and Self-Control among University Student-Athletes. *International journal of environmental research and public health*, 18(22), 11819.
- Englert, C. (2021). The Strength Model of Self-Control. In *Motivation and Self-regulation in Sport and Exercise* (pp. 102-112): Routledge.
- Flexon, J. L., Meldrum, R. C., Young, J. T., & Lehmann, P. S. (2016). Low self-control and the Dark Triad: Disentangling the predictive power of personality traits on young adult substance use, offending and victimization. *Journal of Criminal Justice*, 46, 159-169.
- Florin, V., Germina, C., Raluca, S., Alexandru, C., Alina, C., & Robert, M. (2021). DARK TRIAD AND AGGRESSION IN A SPORT STUDENTS ROMANIAN SAMPLE. *Ovidius University Annals, Series Physical Education and Sport/Science, Movement and Health*, 21(2), 210-219.
- Gardiner, J. D., & Lawson, J. (2022). Depending on the Dark Triad: exploring relationships between malign personality traits, substance and process addictions. *Journal of Substance Use*, 1-6.
- González-Hernández, J., Cuevas-Campos, R., Tovar-Gálvez, M. I., & Melguizo-Rodríguez, L. (2020). Why negative or positive, if it makes me win? Dark personality in Spanish competitive athletes. *International journal of environmental research and public health*, 17(10), 3504.
- Greitemeyer, T. (2022). The dark side of sports: Personality, values, and athletic aggression. *Acta psychologica*, 223, 103500.
- Jones, B. D., Woodman, T., Barlow, M., & Roberts, R. (2017). The darker side of personality: Narcissism predicts moral disengagement and antisocial behavior in sport. *The Sport Psychologist*, 31(2), 109-116.
- Josephs, M. V. (2018). Body Dissatisfaction, Self-Efficacy and Trait Self-Control in NCAA Athletes. *Southern Illinois University at Edwardsville*.
- Karandikar, S., Kapoor, H., Fernandes, S., & Jonason, P. K. (2019). Predicting moral decision-making with dark personalities and moral values. *Personality and Individual Differences*, 140, 70-75.
- Kemarat, S., Theanthong, A., Yeemin, W., & Suwankan, S. (2022). Personality characteristics and competitive anxiety in individual and team athletes. *Plos one*, 17(1), e0262486.
- Khalikov, G. Z., Mutaeva, I. S., Gerasimova, I. G., & Gizatullina, C. A. (2021). Structure and content of Web-site "self-control of a functional state of an athlete". *Педагогико-психологические и медико-биологические проблемы физической культуры и спорта*, 16(2 (eng)), 32-40.
- Nguyen, N., Pascart, S., & Borteyrou, X. (2021). The dark triad personality traits and work behaviors: A person-centered approach. *Personality and Individual Differences*, 170, 110432.
- Nicholls, A. R., Madigan, D. J., Duncan, L., Hallward, L., Lazuras, L., Bingham, K., et al. (2020). Cheater, cheater, pumpkin eater: the dark triad, attitudes towards doping, and cheating behaviour among athletes. *European journal of sport science*, 20(8), 1124-1130.
- Papageorgiou, K. A., Likhonov, M., Costantini, G., Tsigeman, E., Zaleshin, M., Budakova, A., et al. (2020). Personality, Behavioral strengths and difficulties and performance of adolescents with high achievements in science, literature, art and sports. *Personality and Individual Differences*, 160, 109917.
- Piepiora, P., Piepiora, Z., & Bagińska, J. (2022). Personality and Sport Experience of 20–29-Year-Old Polish Male Professional Athletes. *Frontiers in Psychology*, 13, 854804.
- Prado, C. E., Treeby, M. S., & Crowe, S. F. (2015). Examining relationships between facial emotion recognition, self-control, and psychopathic traits in a non-clinical sample. *Personality and Individual Differences*, 80, 22-27.
- Ryerson, M. K. (2018). The Relationship between the Dark Tetrad using the HEXACO Personality Models in Relationship to Mental Toughness in College Athletes.
- Sabouri, S., Gerber, M., Bahmani, D. S., Lemola, S., Clough, P. J., Kalak, N., et al. (2016). Examining Dark Triad traits in relation to mental toughness and physical activity in young adults. *Neuropsychiatric disease and treatment*, 12, 229.

29. Ueno, Y., Shimotsukasa, T., Suyama, S., & Oshio, A. (2017). Correlations between competitive sports' characteristics and the dark triad. *Journal of Physical Education and Sport*, 17(2), 533-536.
30. Vaughan, R., Madigan, D. J., Carter, G. L., & Nicholls, A. R. (2019). The Dark Triad in male and female athletes and non-athletes: Group differences and psychometric properties of the Short Dark Triad (SD3). *Psychology of Sport and Exercise*, 43, 64-72.
31. Vaughan, R. S., & Madigan, D. J. (2021). The winner takes it all: The mediating role of competitive orientations in the Dark Triad and sport task performance relationship. *European Journal of Sport Science*, 21(8), 1183-1192.



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DOI: [10.31579/2693-7247/120](https://doi.org/10.31579/2693-7247/120)

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