

RESEARCH ARTICLE / ARAŞTIRMA YAZISI

Investigation of Personality Traits, Dark Triad and Aggression in the Context of Impostor Phenomenon in University Students

Üniversite Öğrencilerinde Durumluk Sahtecilik Olgusu Bağlamında Kişilik Özellikleri, Karanlık Üçlü ve Saldırganlığın İncelenmesi

Zihniye Okray¹, Ece E. Müezzini²

Abstract:

The aim of this study is to examine personality traits, dark triad and aggression in the context of the impostor phenomenon in university students. The population of this study consists of university students studying in the Republic of Turkey and the Turkish Republic of Northern Cyprus. A total of 278 university students, 66.2% (n=184) female and 33.8% (n=94) male, studying at universities in the Republic of Turkey and TRNC in the academic year 2021-2022 were included in the study by snowball sampling method, also known as chain referral sampling. Impostor Phenomenon Scale, Ten-item Personality Scale, Aggression Inventory, Abbreviated Dark Triad Scale and socio-demographic information form were used as data collection tools in the study. SPSS (Statistical Package for the Social Sciences), a statistical program used in social sciences, was used to analyse the data. As a result of the study, it was found that there was a positive relationship between subjective forgery and Machiavellianism, narcissism and psychopathy. It was concluded that Machiavellianism and psychopathy were positively related to forgery against others. It was concluded that openness to experience, emotional stability, and conscientiousness personality traits were positively related to subjective dishonesty. It was found that emotional stability, conscientiousness, and extraversion personality traits were positively related to falsification towards others. It was found that those with subjective forgery exhibited physical, impulsive and general aggression more than those without. It was revealed that those who were dishonest with others had more impulsive, aggression-avoidant and general aggression than those who were not. It was concluded that those who were subjective and dishonest with others had more Machiavellianism and psychopathy traits than those who were not. The results of the study were discussed with the related literature and recommendations were made

Keywords: Impostor Phenomenon, Personality Traits, Dark Triad, Aggression.

¹Prof. Dr. Psychology Department, Arts and Science Faculty, European University of Lefke, TRN Cyprus, e-mail: zokray@eul.edu.tr, Orcid id: 0000-0002-9117-4991

²Assoc. Prof. Cyprus Science University, Faculty of Economics, Administrative, and Social Sciences, Department of Psychology, TRN Cyprus, e-mail: ecemuezzin@csu.edu.tr, Orcid id: 0000-0002-5496-8813

Address of Correspondence/Yazışma Adresi: Assoc. Prof. Ece E. Müezzini, Dr. Fazıl Küçük Caddesi No.80 Ozanköy/Kyrenia TRN Cyprus e-mail: ecemuezzin@csu.edu.tr

Date of Received/Geliş Tarihi: 20.04.2024, **Date of Revision/Düzeltilme Tarihi:** 04.06.2024, **Date of Acceptance/Kabul Tarihi:** 04.06.2024, **Date of Online Publication/Çevrimiçi Yayın Tarihi:** 26.06.2024

Citing/Referans Gösterimi: Okray, Z. & Müezzini, E. E. (2024). Investigation of Personality Traits, Dark Triad and Aggression in the Context of Impostor Phenomenon in University Students. *European Archives of Social Sciences*, 1(1): 30-38

© 2024 The Author(s). Published by Cyprus Mental Health Institute / European Archives of Social Sciences (www.eassjournal.com). This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution 4.0 license which permits use, sharing, adaptation, distribution and reproduction in any medium or format, provided the original work is properly cited and is not used for commercial purposes. <http://creativecommons.org/licenses/by/4.0/>

Öz:

Araştırmanın amacı üniversite öğrencilerinde durumluk sahtecilik olgusu bağlamında kişilik özellikleri, karanlık üçlü ve saldırganlığın incelenmesidir. Bu araştırmanın evreni Türkiye Cumhuriyeti ve Kuzey Kıbrıs Türk Cumhuriyeti'nde eğitim gören üniversite öğrencilerinden oluşmaktadır. Araştırmaya olarak zincir sevk örnekleme olarak da bilinen kartopu örnekleme yöntemiyle 2021-2022 öğretim yılında T.C. ve KKTC'deki üniversitelerde öğrenim gören %66.2 (n=184) kadın ve %33.8 (n=94) erkek olmak üzere toplam 278 üniversite öğrencisi dahil edilmiştir. Araştırmada veri toplama aracı olarak Durumluk Sahtecilik Olgusu Ölçeği, On-Maddeli Kişilik Ölçeği, Saldırganlık Envanteri, Kısaltılmış Karanlık Üçlü Ölçeği ve sosyo-demografik bilgi formu kullanılmıştır. Verilerin analizinde sosyal bilimlerde kullanılan istatistik programı olan SPSS (Sosyal Bilimler için İstatistik Programı) kullanılmıştır. Araştırmada sonucunda öznel olarak sahtecilikle makyavelizm, narsisizm ve psikopati arasında pozitif yönde ilişki olduğu bulunmuştur. Başkalarına karşı sahtecilikle makyavelizm ve psikopatinin pozitif yönde ilişkili olduğu sonucuna varılmıştır. Öznel olarak sahtecilikle deneyime açıklık, duygusal dengelilik, sorumluluk kişilik özelliklerinin pozitif yönde ilişkili olduğu sonucuna varılmıştır. Başkalarına karşı sahtecilikle duygusal dengelilik, sorumluluk, dışa dönüklük kişilik özelliklerinin pozitif yönde ilişkili olduğu bulunmuştur. Öznel sahteciliği olanların olmayanlara göre fiziksel, dürtüsel ve genel saldırganlığı daha çok sergiledikleri saptanmıştır. Başkalarına karşı sahteciliği olanların olmayanlara göre dürtüsel, saldırganlıktan kaçınan ve genel saldırganlık durumlarının daha fazla olduğu ortaya konmuştur. Öznel ve başkalarına karşı sahteciliği olanların olmayanlara göre makyavelizm ve psikopati özelliklerinin daha fazla olduğu sonucuna varılmıştır. Araştırma sonuçları ilgili literatürle tartışılmış ve önerilerde bulunulmuştur.

Anahtar Kelimeler: Durumluk Sahtecilik, Kişilik Özellikleri, Karanlık Üçlü, Saldırganlık.

Introduction

Personality has been tried to be defined by many theorists. As a result of all these definition efforts, some common features have been revealed about the concept of personality. Personality is a hypothetical structure and organisation (Okroy, 2020). The basic human trait that ensures the consistency of responses in different times and situations was defined as personality by (Allport, 1966). Just as there are debates about the definition of personality and on the other hand there are some issues on which there is consensus, normality and pathology in personality have also been discussed a lot. These discussions were also defined as the coexistence of Machiavellianism, narcissism and psychopathic personality traits, which they called the Dark Triad, which are aggressive but not considered psychopathological. Although the Dark Triad is not considered as a personality psychopathology, they carry socially malicious character traits (Paulhus, & Williams, 2002).

The psychopathic personality traits defined in the Dark Triad include an impulsive and irresponsible behavioural style characterised by insufficient emotional involvement, arrogance and deception in interpersonal relationships (Cooke, & Michie, 2001). Machiavellianism refers to the personality traits of using deception and manipulation in interpersonal relationships in order to prioritise personal interests (Christie, & Geis, 1970; McHoskey, 1995; McHoskey, Worzel, & Szyarto, 1998). The narcissism was defined as a pathological manifestation of self-love (Freud, 1914). The concept as an increase in shame-induced anger due to the inhibition of development by narcissistic injuries in childhood (Kohut, 1977). Narcissistic characteristics defined within the Dark Triad can be summarised as the intensity of the individual's grandiose type behaviours and overestimation of his/her own competence (McHoskey, 1995; McHoskey, Worzel, & Szyarto, 1998).

The relationship between personality traits and aggressive behaviour is one of the most frequently researched topics. It is emphasised that personality variables are the main determinants of aggressive behaviour (Anderson, &

Huesmann, 2007). The researchers found that impulsivity directly triggers aggression (Campbell, & Muncer, 2009). The other researchers found that narcissism is a personality trait that directly draw on aggression (Bushman, & Baumeister, 1998). In another study it is found that openness to experience and agreeableness dimensions are directly and indirectly related to physical aggression, but this connection is indirect in terms of the emergence of violent behaviour; similarly, although neuroticism (emotional stability) is also related to physical aggression through aggressive emotions, they did not find a relationship between violent behaviour (Barlett, & Anderson, 2012).

Examining the relationships between aggressive behaviour and the Dark Triad is another widely researched topic, just like personality traits and aggressive behaviour. The researcher found that manipulation and lack of emotion, which are common characteristics of the Dark Triad, predict aggression. On the other hand, psychopathy was found to predict physical aggression, and narcissism and Machiavellianism were found to predict hostility (Jones, & Neria, 2015).

Impostor Phenomenon was defined the first time as a phenomenon in which an individual thinks that his/her existing and achieved success is due to external factors and characterises himself/herself as 'impostor' and experiences intense anxiety due to this (Clance, & Imes, 1978; Clance, & OToole, 1987). Although it was revealed in the first studies that it was experienced by highly educated women, recent studies have shown that the phenomenon of situational dishonesty is independent of gender (Sonnak, & Towell, 2001).

The aim of this study is to examine personality traits, dark triad and aggression in the context of impostor phenomenon. When the literature is reviewed, although many studies have been conducted to determine the relationships between personality traits and aggression, on the other hand, dark triad and aggression, no study has been found on how personality traits, dark triad and aggression factors affect the impostor phenomenon. In line

with this information and purpose, this study mainly focused on impostor phenomenon, personality traits, aggression and dark triad in university students. Based on this basic problem, answers to the following sub-problems were sought.

Sub-problems

1. Is there a statistically significant relationship between impostor phenomenon, personality traits and dark triad scores in university students?
2. Is there a statistically significant difference between impostor phenomenon scale subscale scores, aggression scale subscale scores and dark triad subscale scores according to gender in university students?
3. Is there a statistically significant difference between the dark triad scale subscale (Machiavellianism, Psychopathy and Narcissism) and aggression scale subscale (physical, verbal, impulsive, aggression avoidant, aggression total) scores of university students with and without impostor phenomenon?
4. Is there a statistically significant difference between the dark triad scale subscale (Machiavellianism, Psychopathy and Narcissism) and aggression scale subscale (physical, verbal, impulsive, aggression avoidant, aggression total) scores of university students with and without impostor phenomenon against others?

Method

This research was conducted using quantitative methods. Quantitative methods are a research technique in which the data collected through scales or questionnaires are analysed numerically using statistical, mathematical or computational techniques and emphasise objective measurements by manipulating pre-existing statistical data. Quantitative research focuses on collecting numerical data and generalising it across groups of people or explaining a particular phenomenon (Babbie, 2010).

Universe and Sample

The population of this study consists of university students studying in the Republic of Turkey (T.R.) and the Turkish Republic of Northern Cyprus (TRNC). Snowball sampling, also known as chain-referral sampling, is a survey sampling method commonly used to find rare or hard-to-find populations (Johnson, 2014). The sample group consisted of a total of participating voluntarily 278 university students, 66.2% (n=184) female and 33.8% (n=94) male, studying at universities in the Turkish Republic and TRNC in the academic year 2021-2022. The mean age of the students was 23.95 ± 5.43 years. While 75.2% (n=209) of the university students were studying at universities in the Turkish Republic, 24.8% (n=69) were continuing their education in the TRNC. The grade point average of the students was 2.97 ± 0.62 .

Measurement Tools

In this study, in addition to the socio-demographic information form, which includes variables such as age, gender, where the university is located and the student's GPA, the Impostor Phenomenon Scale, the Ten-Matter Personality Scale, the Aggression Inventory and the Abbreviated Dark Triad Scale were used.

Impostor Phenomenon Scale (IPS)

The situational fraud phenomenon scale aims to measure the fraud phenomenon exhibited in certain situations. The

scale is a 5-point Likert-type scale and consists of 12 items. The total score varies between 12-16. In addition to the total score obtained from the scale, separate scores can be obtained from the dimensions of Subjective Falsification and Falsification Against Others. In the original study of the scale, the author reported the internal consistency coefficient for the whole scale as 0.86, the internal consistency coefficient of the Subjective Falsification sub-dimension as 0.80 and the internal consistency coefficient of the Falsification Against Others sub-dimension as 0.86 (Fujie, 2010). The Turkish validity and reliability study of the scale was conducted (Buran et al., 2019). In this study, the internal consistency coefficient for the whole scale was 0.88, the internal consistency coefficient for Subjective Forgery was 0.82, and the internal consistency coefficient for the Forgery Against Others sub-dimension was 0.77.

Ten-item Personality Scale (TPS)

Ten-item Personality Scale has 10-item scale evaluates personality in the sub-dimensions of openness to experience, conscientiousness, extraversion, agreeableness and emotional stability (Gosling, Rentfrow, & Swann, 2003). It was adapted to Turkish culture (Atak, 2013). In this study, the internal consistency coefficient for the sub-dimensions of the scale is 0.83 for the openness to experience sub-dimension, 0.81 for the agreeableness sub-dimension, 0.83 for the emotional stability sub-dimension, 0.84 for the conscientiousness sub-dimension and 0.86 for the extroversion sub-dimension.

Aggression Inventory

The inventory consists of 30 items. Since 10 items of the inventory are filler items, they are not evaluated and scored over 20 items. Aggression Inventory consists of physical, verbal, impulsive aggression and aggression avoidance sub-dimensions (Gladue, 1994). Turkish adaptation, validity and reliability studies of the inventory were conducted (Çelik, & Otrar, 2009). In this study, the internal consistency coefficient for the overall aggression scale was 0.82 and the internal consistency coefficients for the sub-dimensions were 0.74 for physical aggression, 0.69 for verbal aggression, 0.62 for impulsive aggression and 0.58 for avoidance of aggression.

Short Dark Triad Scale (DTS)

The scale has 12 items in the scale measure Machiavellianism, Psychopathy and Narcissism. In the original study, internal consistency coefficients were 0.92 for Machiavellianism, 0.84 for psychopathy and 0.92 for narcissism (Jonason, & Webster (2010). Abbreviated Dark Triad Scale translated into Turkish language and conducted validity and reliability studies (Özsoy, Rauthmann, Jonason, & Ardiç, 2017). The 12-item short form conducted validity and reliability studies (Yaşloğlu, & Atılgan, 2018). In this study, the internal consistency coefficients of Machiavellianism, Psychopathy and Narcissism sub-dimensions were found to be 0.84, 0.79 and 0.82, respectively.

Data Analysis

The data of the study were collected by asking permission from the authors who developed or adapted the scales into Turkish and by obtaining permission from the European University of Lefke ethics committee (Ethics committee no: 24.06.2022, BAYEK011.01). For the data collected online, the application of the data collection tool was carried out after obtaining informed consent from the students. Before the application, the students were given

instructions about the data collection tool to be used in the research and the application took approximately 20 minutes. SPSS (Statistical Package for the Social Sciences), the statistical programme used in social sciences. Normality tests were performed before the analyses. In the evaluation, kurtosis and skewness values were also examined and after it was determined that the data showed a normal distribution, further analysis continued. It was used to analyse the data and percentage breakdowns, arithmetic mean, correlation and t-test calculation methods were used. In this study, the level of significance was taken as .05.

Findings

Based on the main problem of the research, answers to six sub-problems were sought. The first sub-problem of the research, "Is there a statistically significant relationship between forgery, personality traits and dark triad scores in university students?" was sought to be answered. Accordingly, whether there is a statistically significant relationship was calculated by correlation calculation method and the relationship between impostor phenomenon, personality traits and dark triad is presented in Table 1.

Table 1. The Relationship between Impostor Phenomenon, Personality Traits and Dark Triad Scores

		IPS Sub.	IPS To oth.	SDTS Mach.	SDTS Nar.	SDTS Psych.	TPS Open. Exp.	TPS Mild.	TPS Emo. stab.	TPS Resp.	TPS Extro.
IPS Subjective	r	1	.543**	.248**	.131*	.199**	.193**	.047	.152*	.332**	.079
	n		.000	.000	.029	.001	.001	.431	.011	.000	.189
	p	278	277	278	278	277	276	278	278	278	278
IPS To others	r	.543**	1	.160**	-.024	.269**	.111	-.006	.266**	.216**	.136*
	n	.000		.008	.691	.000	.067	.917	.000	.000	.024
	p	277	277	277	277	276	275	277	277	277	277
SDTS Machiavellism	r	.248**	.160**	1	.571**	.422**	.135*	.161**	-.207**	.131*	.131*
	n	.000	.008		.000	.000	.025	.007	.001	.028	.028
	p	278	277	278	278	277	276	278	278	278	278
SDTS Narcissism	r	.131*	-.024	.571**	1	.318**	.094	.120*	-.281**	.061	-.120*
	n	.029	.691	.000		.000	.117	.045	.000	.307	.046
	p	278	277	278	278	277	276	278	278	278	278
SDTS Psychopathy	r	.199**	.269**	.422**	.318**	1	.064	.290**	.013	.049	-.047
	n	.001	.000	.000	.000		.288	.000	.827	.413	.440
	p	277	276	277	277	277	275	277	277	277	277
TPS Openness to experience	r	.193**	.111	.135*	.094	.064	1	.234	.080	.127	.076
	n	.001	.067	.025	.117	.288		.000	.185	.035	.209
	p	276	275	276	276	275	276	276	276	276	276
TPS Mildness	r	.047	-.006	.161**	.120*	.290**	.234	1	.016	.092	-.032
	n	.431	.917	.007	.045	.000	.000		.796	.126	.597
	p	278	277	278	278	277	276	278	278	278	278
TPS Emotional stability	r	.152*	.266**	-.207**	-.281**	.013	.080	.016	1	.175**	.330**
	n	.011	.000	.001	.000	.827	.185	.796		.003	.000
	p	278	277	278	278	277	276	278	278	278	278
TPS Responsibility	r	.332**	.216**	.131*	.061	.049	.127	.092	.175**	1	.178**
	n	.000	.000	.028	.307	.413	.035	.126	.003		.003
	p	278	277	278	278	277	276	278	278	278	278
TPS Extroversion	r	.079	.136*	-.162**	-.120*	-.047	.076	-.032	.330**	.178**	1
	n	.189	.024	.007	.046	.440	.209	.597	.000	.003	
	p	278	277	278	278	277	276	278	278	278	278

**p <.001 statistically significant relationship

* p <.05 statistically significant relationship

As a result of the correlation analysis, a positive, low level statistically significant relationship was found between subjective forgery, which is a sub-dimension of the IPS, and the sub-dimensions of the SDTS: Machiavellianism ($r=.248, p<.001$), Nazrism ($r=.029, p<.05$), Psychopathy ($r=.199, p<.001$). A statistically significant relationship was found between subjective falsification, which is a sub-dimension of IPS, and TPS sub-dimensions openness to experience ($r=.193, p<.001$), emotional stability ($r=.152, p<.05$) at a low level in the positive direction and responsibility ($r=.332, p<.001$) at a moderate level in the positive direction. There was no statistically significant correlation between subjective falsification, a sub-dimension of the IPS, and the softness ($r=.332, p>.05$) and extroversion ($r=.079, p>.05$) sub-dimensions of the OCQ.

There was a low level statistically significant positive correlation between the sub-dimension of IPS, falsification against others, and the sub-dimensions of SDTS, Machiavellianism ($r=.160, p<.001$), Psychopathy ($r=.269, p<.001$), but no statistically significant correlation was found between Nazism ($r=-.024, p>.05$). A low level statistically significant positive correlation was detected between the sub-dimension of IPS, falseness towards others, and the sub-dimensions of TPS, emotional stability ($r=.266, p<.001$), conscientiousness ($r=.216, p<.001$), extroversion ($r=.136, p<.05$), while no statistically significant correlation was detected between openness to experience ($r=-.111, p>.05$), and agreeableness ($r=-.006, p>.05$).

There was a positive, low level statistically significant relationship between Machiavellianism, which is a sub-

dimension of SDTS, and openness to experience ($r=.135, p<.05$), mildness ($r=.161, p<.001$), conscientiousness ($r=.131, p<.001$), which are sub-dimensions of TPS, and a negative, low level statistically significant relationship between emotional stability ($r=-.207, p<.001$) and extraversion ($r=-.162, p<.001$).

There was a low level statistically significant positive relationship between narcissism, a sub-dimension of SDTS, and soft-headedness, a sub-dimension of TPS ($r=.120, p<.05$), a low level statistically significant negative relationship was found between emotional stability ($r=-.281, p<.001$) and extraversion ($r=-.162, p<.001$), while no statistically significant relationship was found between openness to experience ($r=.094, p>.05$) and conscientiousness ($r=.061, p>.05$).

There was a low level statistically significant positive correlation between psychopathy, which is a sub-dimension of SDTS, and soft-headedness, which is a sub-dimension of TPS ($r=.260, p<.001$). No statistically significant correlation was found between psychopathy, which is a sub-dimension of SDTS, and TPS sub-dimensions of openness to experience ($r=.064, p>.05$), emotional stability ($r=.013, p>.05$), conscientiousness ($r=.049, p>.05$), and extraversion ($r=-.047, p>.05$).

The second sub-problem of the study, "Is there a statistically significant difference between the subscale scores of the impostor phenomenon scale, the subscale scores of the aggression scale and the dark triad subscale scores according to gender in university students?" was sought to be answered. Accordingly, the t-test calculation method was used to determine whether there was a statistically significant difference and presented in Table

Table 2. Comparison of students' gender and situational forgery phenomenon, aggression and dark triad scores

Scales	Sub-scales	Gender	n	\bar{x}	ss	sd	t	p
Impostor Phenomenon Scale	Subjective Forgery	Female	184	10.57	4.21	276	-1.638	.102
		Male	94	11.42	3.82	204.31		
Aggression Scale	Diğerlerine karşı sahtecilik	Female	183	8.75	3,64	275	-.396	.692
		Male	94	8.93	3.57	191.42		
	Physical	Female	184	7.03	3.39	276	-4.160	.000**
		Male	94	9.09	4.13	158.63		
	Verbal	Female	181	18.69	5.35	273	-3.503	.001**
		Male	94	21.12	5.65	179.52		
Impulsive	Female	182	17.15	5.84	274	.524	.601	
	Male	94	16.77	5.58	195.90			
Aggression Avoidance	Female	183	5.14	2.27	275	.031	.009*	
	Male	94	5.13	2.46	174.86			
Aggression Total	Female	178	48.10	12.15	270	-2.584	.010*	
	Male	94	52.13	12.45	185.36			
ShortDark Triad Scale	Machiavellism	Female	184	7.55	3.70	276	-2.569	.011*
		Male	94	8.79	3.99	175.32		
	Psychopathy	Female	183	12.99	3.98	275	.616	.538
		Male	94	12.68	4.05	184.75		
	Narcissism	Female	184	7.53	3.40	276	-2.336	.021*
		Male	94	8.69	4.12	159.36		

**p <.001 statistically significant difference

* p <.05 statistically significant difference

As a result of the analysis, no statistically significant difference was found in the situational dishonesty scale, subjective dishonesty ($t=-1.638, p>.05$) and dishonesty towards others ($t=-.692, p>.05$) sub-dimensions according to gender.

Aggression scale according to gender, physical aggression ($t=-4.160, p<.001$), verbal aggression ($t=-3.503, p<.001$) and total aggression ($t=-2.584, p<.05$) sub-dimensions. When the averages were analysed, it was found that males had higher averages than females in these sub-dimensions. A statistically significant difference was found in the sub-dimension of aggression scale, avoidance of aggression

($t=-2.584, p<.05$) according to gender. When the averages were analysed, it was found that females had higher averages than males in these sub-dimensions. There was no statistically significant difference in the impulsivity ($t=-.524, p>.05$) sub-dimension of the aggression scale according to gender.

A statistically significant difference was found in the sub-dimensions of the shortened dark triad scale, Machiavellianism ($t=-2.336, p<.05$), narcissism ($t=-4.160, p<.05$) according to gender. When the averages were analysed, it was found that males had higher averages than females in these sub-dimensions. There was no statistically significant difference in the sub-dimension of psychopathy

($t=.616, p>.05$) of the abbreviated dark triad scale according to gender.

The third sub-problem of the study, "Is there a statistically significant difference between the dark triad scale subscale (Machiavellianism, Psychopathy and Narcissism) and aggression scale subscale (physical, verbal, impulsive, aggression avoidant, aggression total) scores of university students with and without impostor phenomenon?" was sought to be answered. Accordingly, the t-test calculation method was used to determine whether there was a statistically significant difference and presented in Table 3.

Table 3. Comparison of Dark Triad and Aggression scores of those with and without Subjective Forgery

Scales	Sub-scales	Subjective Forgery	n	\bar{x}	ss	sd	t	p
Aggression Scale	Physical	No	143	7.13	3.19	276	-2.758	.007*
		Yes	135	8.37	4.24	248.60		
	Verbal	No	143	18.98	5.04	273	-1.670	.096
		Yes	132	20.11	6.05	255.95		
	Impulsive	No	143	15.34	5.26	274	-5.272	.000**
		Yes	133	18.83	5.71	267.64		
Aggression Avoidance	No	142	4.88	2.25	275	-1.885	.061	
	Yes	135	5.41	2.40	271.39			
Aggression Total	No	142	46.45	10.64	270	-4.326	.000**	
	Yes	130	52.81	13.30	246.94			
Short Dark Triad Scale	Machiavellism	No	143	7.31	3.34	276	-2.990	.003*
		Yes	135	8.68	4.20	255.627		
	Narcissism	No	143	7.77	3.64	276	-.704	.482
		Yes	135	8.08	3.76	273.76		
	Psychopathy	No	143	12.18	4.19	275	-3.046	.003*
		Yes	134	13.63	3.66	273.72		

**p <.001 statistically significant difference

* p <.05 statistically significant difference

As a result of the analysis, a statistically significant difference was found in the sub-dimensions of the aggression scale, physical aggression ($t=-2.758, p<.05$), impulsivity ($t=-5.272, p<.001$), total aggression ($t=-4.326, p<.001$), according to those with and without subjective falsification. When the averages were analysed, it was found that in these sub-dimensions, those with subjective dishonesty had higher averages than those without impostor phenomenon. There was no statistically significant difference in the sub-dimensions of aggression scale, verbal aggression ($t=-1.670, p>.05$) and avoidance of aggression ($t=-1.885, p>.05$) according to those with and without subjective falsification.

A statistically significant difference was found in the sub-dimensions of the short dark triad scale, Machiavellianism ($t=-2.990, p<.05$), psychopathy ($t=-3.046, p<.05$) according to those with and without impostor phenomenon. When the averages were analysed, it was found that in these sub-dimensions, those with impostor phenomenon had higher averages than those without impostor phenomenon. There was no statistically significant difference in the narcissism ($t=-.704, p>.05$) sub-dimension of the short dark triad scale between those with and without impostor phenomenon.

The last sub-problem of the study, "Is there a statistically significant difference between the dark triad scale subscale (Machiavellianism, Psychopathy and Narcissism) and aggression scale subscale (physical, verbal, impulsive, aggression avoidant, aggression total) scores of university students with and without forgery against others?" was

sought to be answered. Accordingly, the t-test calculation method was used to determine whether there was a statistically significant difference and presented in Table 4.

As a result of the analysis, a statistically significant difference was found in the sub-dimensions of the aggression scale, impulsivity ($t=-3.818, p<.001$), avoidance of aggression ($t=-2.558, p<.05$), total aggression ($t=-3.016, p<.05$), according to those with and without forgery against others. When the averages were analysed, it was found that in these sub-dimensions, those with dishonesty against others had higher averages than those without dishonesty against others. No statistically significant difference was found in the aggression scale, physical aggression ($t=-.960, p>.05$), verbal aggression ($t=-1.119, p>.05$) sub-dimensions according to those with and without forgery against others.

A statistically significant difference was found in the sub-dimensions of the abbreviated dark triad scale, Machiavellianism ($t=-2.772, p<.05$), psychopathy ($t=-3.046, p<.05$) according to those with and without dishonesty towards others. When the averages were analysed, it was found that in these sub-dimensions, those who had dishonesty towards others had higher averages than those who did not. There was no statistically significant difference in the narcissism ($t=.628, p>.05$) sub-dimension of the abbreviated dark triad scale between those with and without dishonesty towards others.

Table 4. Comparison of Dark Triad and Aggression scores of those with and without forgery against others

Scales	Sub-scales	Forgery Against Others	n	\bar{x}	ss	sd	t	p
Aggression Scale	Physical	No	173	7.57	3.79	275	-.960	.338
		Yes	104	8.02	3.76	218.24		
	Verbal	No	171	19.22	5.28	272	-1.119	.264
		Yes	103	20.00	6.02	193.35		
	Impulsive	No	171	16.00	5.50	273	-3.818	.000**
Yes		104	16.66	5.77	209.62			
Aggression Avoidance	No	172	4.86	2.17	274	-2.558	.011*	
	Yes	104	5.62	2.53	192.08			
Aggression Total	No	168	47.72	11.62	269	-3.016	.003*	
	Yes	103	52.33	13.14	195.77			
Short Dark Triad Scale	Machiavellism	No	173	7.05	3.85	275	-2.772	.006*
		Yes	104	8.80	3.68	224.78		
	Narcissism	No	173	8.01	3.80	275	.485	.628
		Yes	104	7.78	3.54	229.49		
	Psychopathy	No	173	12.31	4.10	274	-3.046	.003*
		Yes	103	13.81	3.68	233.05		

**p <.001 statistically significant difference

* p <.05 statistically significant difference

Discussion

In this study, personality traits, dark triad and aggression were examined in the context of situational falsification in university students. As a result of the analysis based on the collected data, it was first revealed that there was a positive relationship between subjective falsification and the dark triad. In another study conducted it was found that narcissism is associated with interpersonal guilt, insecure attachment styles, cognitive distortions, maladaptive defence mechanisms, experiential avoidance, impostor syndrome, weak sense of self, inauthenticity, and low self-esteem (Kaufman, Weiss, & Miller, 2020).

It was found that the personality traits of emotional stability, responsibility, and extroversion were positively related to forgery against others. The other study conducted with 439 university students and found that there was a relationship between forgery and emotional, physiological, cognitive, behavioural, extroversion and mindfulness, which is similar to the results of this study (Fahira, & Hayat, 2021).

In this study, it was found that there was a positive relationship between Machiavellianism and the personality traits of openness to experience, softness and responsibility, and a negative relationship between the personality traits of equilibrium and extroversion. It was concluded that there is a positive relationship between narcissism and softness personality traits, and there is a negative relationship between emotional stability and extroversion personality traits. It was found that there was a positive correlation between psychopathy and soft-headedness personality trait. In the meta-analysis until 2019, studies investigating (a) the interrelationships between narcissism, Machiavellianism and psychopathy; (b) gender differences in these traits; (c) how these traits are linked to normal personality factors; and (d) psychosocial correlates of the dark triad were compiled. In line with these studies, it was found that there were positive relationships between narcissism and extroversion and openness to experience, a negative relationship between Machiavellianism and agreeableness, and significant negative relationships between psychopathy and agreeableness and conscientiousness personality traits (Muris et al., 2017). These studies were found to support the results of the study. The other researchers found a

negative relationship between extroversion and responsibility and Machiavellianism and psychopathy in a study involving 544 university students at the University of South Alabama (Jonason, & McCain, 2012). In the current study, the opposite relationship was found. It is predicted that this is due to the fact that the sample group of the study has different cultures.

In the study, it was found that there was no difference between men and women in terms of subjective forgery and forgery against others. In a study it was revealed that the impostor phenomenon is equally common in both men and women who continue their undergraduate education (Kaur, & Jain, 2022). The other researchers found that although women suffer from forgery, 62 studies evaluating the gender effect found no difference in the rates of men and women in terms of impostor phenomenon (Dena et al., 2019). The results of these studies support the findings of this study. However, in a study conducted with 200 computer science students in North America, it was found that women experienced feelings of dishonesty more frequently than men (Rosenstein, Raghu, & Porter, 2020). The fact that the results of the study and this study do not support each other shows that the study conducted in different countries and only with computer science students has revealed different results.

Results and Suggestions

As a result, it was found that there was a positive relationship between subjective forgery and Machiavellianism, narcissism and psychopathy. It was concluded that openness to experience, emotional stability, responsibility personality traits were positively related to subjective falsification. It was concluded that Machiavellianism and psychopathy were positively related to dishonesty towards others. It was found that emotional stability, conscientiousness, and extroversion personality traits were positively related to dishonesty towards others. It was found that there is a positive relationship between Machiavellianism and openness to experience, mildness and conscientiousness personality traits, while there is a negative relationship between the personality traits of equilibrium and extroversion. It was concluded that there was a positive relationship between narcissism and softness personality traits, while there was a negative relationship between emotional stability and extroversion

personality traits. It was found that there was a positive relationship between psychopathy and soft-headedness personality traits.

When analysed according to gender, it was found that there was no difference in subjective forgery and forgery towards others. In verbal, physical and general aggression, it was concluded that males exhibited these types of aggression more than females. According to gender, it was found that men had more Machiavellianism and narcissism characteristics than women.

It was found that those with subjective forgery exhibited physical, impulsive and general aggression more than those without subjective forgery. It was concluded that those with subjective forgery had more Machiavellianism and psychopathy characteristics than those without subjective forgery.

It was revealed that those who were dishonest towards others had more impulsive, aggression-avoidant and general aggression than those who were not. It was concluded that those who had forgery towards others had more Machiavellianism and psychopathy than those who did not.

In this study, in which university students were included for the results of the research, it was seen that there were changes in personality traits, dark triad and aggression levels of students with forgery. This study is limited to 278 university students and the scales used. Accordingly, it is recommended to organise trainings for university students within the scope of both subjective forgery and forgery against others and to inform them about the different

dimensions that will emerge. In this study, the impostor phenomenon was analysed within the scope of personality traits, aggression and dark triad. In future studies, it is recommended to look at the relationship between forgery and different concepts, and to conduct this study, which was conducted with quantitative research method, qualitatively in more depth or to examine the level of effect with experimental methods.

Declarations

Ethics Approval and Consent to Participate

The study obtained permission from the Ethics Committee of European University of Lefke with decision number BAYEK011.01, dated 24/06/2022. Ethical rules were followed during the study, and consent forms were obtained from the participants.

Consent for Publication

Not applicable

Availability of Data and Materials

Not applicable.

Competing Interests

The author declares that no competing interests in this manuscript.

Funding

Not applicable.

Authors' Contributions

ZO and EEM made equal contributions to outreach, data collection, literature review, statistical analysis, and article writing

REFERENCES

- Allport, G. W. (1966). Traits revisited. *American Psychologist*, 21(1), 1-10.
<https://doi.org/10.1037/h0023295>
- Anderson, C. A., & Huesmann, L. R. (2007). *Human aggression: A social-cognitive view*. Sage.
- Atak, H. (2013). On-Maddeli Kişilik Ölçeği'nin Türk Kültürü'ne Uyarlanması. *Archives of Neuropsychiatry/Noropsikiatri Arsivi*, 50(4), 312-319.
<https://acikerisim.kku.edu.tr/xmlui/bitstream/handle/20.500.12587/13777/889ff232-91e3-4a47-ac9b-8762b5fc2c54.pdf?sequence=1&isAllowed=y>
- Babbie, E. R. (2010). *The Practice of Social Research*. 12th ed. Belmont, CA: Wadsworth Cengage, 2010; Mujijs, Daniel. *Doing Quantitative Research in Education with SPSS*. London: SAGE Publications.
- Buran, A., Balkır, F., & Okray, Z. (2019). *Turkish validity and reliability of the state impostor case scale. in with International Eurasian Educational Research Congress*, (pp. 434-435). Turkey: Ani Publishing.
- Barlett, C. P., & Anderson, C. A. (2012). Direct and indirect relations between the Big 5 personality traits and aggressive and violent behavior. *Personality And Individual Differences*, 52(8), 870-875.
<https://doi.org/10.1016/j.paid.2012.01.029>
- Bushman, B. J., & Baumeister, R. F. (1998). Threatened egotism, narcissism, self-esteem, and direct and displaced aggression: Does self-love or self-hate lead to violence?. *Journal of personality and social psychology*, 75(1), 219-229. <https://psycnet.apa.org/buy/1998-04530-016>
- Campbell, A., & Muncer, S. (2009). Can 'risky' impulsivity explain sex differences in aggression?. *Personality and Individual Differences*, 47(5), 402-406.
<https://doi.org/10.1016/j.paid.2009.04.006>
- Christie, R., & Geis, F. (1970). *Studies in Machiavellianism*. New York: Academic Press.
- Clance, P. R., & Imes, S. A. (1978). The imposter phenomenon in high achieving women: Dynamics and therapeutic intervention. *Psychotherapy: Theory, Research & Practice*, 15(3), 241-247.
<https://doi.org/10.1037/h0086006>
- Clance, P. R., & O'Toole, M. A. (1987). The Imposter Phenomenon: An internal barrier to empowerment and achievement. *Women & Therapy*, 6(3), 51-64.
https://doi.org/10.1300/J015V06N03_05
- Cooke, D. J., & Michie, C. (2001). Refining the construct of psychopath: towards a hierarchical model. *Psychological Assessment*, 13(2), 171-188.
<https://doi.org/10.1037/1040-3590.13.2.171>

- Çelik, H., & Otrar, M. (2009). Saldırganlık Envanterinin (Aggression Inventory) Türkçeye uyarlanması: Geçerlik ve güvenilirlik çalışmaları. *Marmara Üniversitesi Eğitim Bilimleri Dergisi*, 29, 101-120. <https://dergipark.org.tr/en/pub/maruabed/issue/370/2120>
- Dena M., Sharon A., Autumn L., Divya K., Katie T., Dani M., Ross S., Kevin O., & Heather K. (2019). Prevalence, predictors, and treatment of impostor syndrome: a systematic review. *Journal of General Internal Medicine*, 35(4), 1252-1275. <https://doi.org/10.1007/s11606-019-05364-1>
- Fahira, U. D., & Hayat, B. (2021). Impostor Phenomenon on First and Second-year College Students. *TAZKIYA: Journal of Psychology*, 9(2), 177-188. <http://dx.doi.org/10.15408/tazkiya.v9i2.19449>
- Freud, S. (1914). *On Narcissism: An introduction*. In *complete psychological works*. London: Hogarth Press.
- Fujie, R. (2010). Development of the state impostor phenomenon scale. *Japanese Psychological Research*, 52, 1-11. <https://doi.org/10.1111/j.1468-5884.2009.00417.x>
- Gladue B. A. (1994). *Measures for clinical practice*. Asourcebook, Vol. 2 Adults (4th ed.).
- Gosling, S. D., Rentfrow, P. J., & Swann Jr, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*, 37(6), 504-528. [https://doi.org/10.1016/S0092-6566\(03\)00046-1](https://doi.org/10.1016/S0092-6566(03)00046-1)
- Johnson, T. P. (2014). *Snowball sampling: introduction*. Wiley StatsRef: Statistics Reference Online. <https://onlinelibrary.wiley.com/doi/abs/10.1002/9781118445112.stat05720>
- Jonason, P.K., & Webster, G.D. (2010). The Dirty Dozen: A concise measure of the Dark Triad. *Psychological Assessment*, 22(2), 420-432. <https://doi.org/10.1037/a0019265>
- Jonason, P. K., & McCain, J. (2012). Using the HEXACO model to test the validity of the Dirty Dozen measure of the Dark Triad. *Personality and Individual Differences*, 53(7), 935-938. <https://doi.org/10.1016/j.paid.2012.07.010>
- Jones, D. N., & Neria, A. L. (2015). The Dark Triad and dispositional aggression. *Personality and Individual Differences*, 86, 360-364. <https://doi.org/10.1016/j.paid.2015.06.021>
- Kaur, T., & Jain, N. (2022). Relationship Between Impostor Phenomenon and Personality Traits: A Study on Undergraduate Students. *Journal of Positive School Psychology*, 6(11), 734-746. <https://www.journalppw.com/index.php/jpsp/article/view/14030>
- Kaufman, S. B., Weiss, B., Miller, J. D., & Campbell, W. K. (2020). Clinical correlates of vulnerable and grandiose narcissism: A personality perspective. *Journal of personality disorders*, 34(1), 107-130. https://doi.org/10.1521/pedi_2018_32_384
- Kohut, H. (1977). *The restoration of the self*. New York: International Universities Press.
- McHoskey, J. (1995). Narcissism and Machiavellianism. *Psychological Reports*, 77(3), 757-759. <https://doi.org/10.2466/pr0.1995.77.3.7>
- McHoskey, J. W., Worzel, W., & Szyarto, C. (1998). Machiavellianism and psychopathy. *Journal of Personality and Social Psychology*, 74(1), 192-210. <https://doi.org/10.1037/0022-3514.74.1.192>
- Muris, P., Merckelbach, H., Otgaar, H. ve 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/10.1177/17456916166666070>
- Okray, Z. (2020). *Kişilik: Tanımı, sınıflamaları ve kişilik bozuklukları*. Efe Akademi.
- Özsoy, E., Rauthmann, J.F., Jonason, P.K., & Ardiç, K. (2017). Reliability and validity of the Turkish versions of Dark Triad Dirty Dozen (DTDD-T), Short Dark Triad (SD3-T), and Single Item Narcissism Scale (SINS-T). *Personality and Individual Differences*, 117, 11-14. <https://doi.org/10.1016/j.paid.2017.05.019>
- 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)
- Rosenstein, A., Raghu, A., & Porter, L. (2020, February). Identifying the prevalence of the impostor phenomenon among computer science students. In *Proceedings of the 51st ACM Technical Symposium on Computer Science Education* (pp. 30-36).
- Sonnak, C., & Towell, T. (2001). The impostor phenomenon in British University students: Relationships between self-esteem, mental health, parental rearing style and socioeconomic status. *Personality and Individual Differences*, 31, 863- 874. [https://doi.org/10.1016/S0191-8869\(00\)00184-7](https://doi.org/10.1016/S0191-8869(00)00184-7)
- Yaşloğlu-Toplu, D., & Atılğan, Ö. (2018). Karanlık Üçlü Ölçeği: Türkçe'ye uyarlama, güvenilirlik ve geçerlilik çalışması. *Mehmet Akif Ersoy Üniversitesi, İktisadi ve İdari Bilimler Fakültesi Dergisi*, 5(3): 725-739. <https://doi.org/10.30798/makuiibf.435604>