

## THE RELATIONSHIP BETWEEN THE DARK TRIAD, ANXIETY, AND COGNITIVE DISTORTIONS AMONG ACADEMICIAN IN TURKEY

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### Abstract

The present study aims to investigate the relationship between the Dark Triad, cognitive distortions, and anxiety among academics in Turkey, and to compare these relationships based on certain demographic variables. Data were collected from 95 participants using the Sociodemographic Information Form, the Short Dark Triad Scale, the Cognitive Distortions Scale, and the Beck Anxiety Inventory. Notable findings include the significant results of catastrophizing in many analyses and the lower levels of Machiavellianism among individuals with higher academic titles. Catastrophizing has shown significant differences in many analyses. Academicians with the title of Associate Professor are more disadvantaged in terms of cognitive distortions compared to other academicians. In the analyses related to the Dark Triad personality traits, only Machiavellianism yielded significant results. These findings have been discussed in light of the literature.

**Keywords:** Dark Triad, cognitive distortions, anxiety, academicians in Turkey.

### 1. Introduction

Personality is a dynamic concept that encompasses all our internal processes, such as emotions and thoughts, as well as external behaviors. These internal and external processes can occur within or outside the realm of consciousness (Kernberg, 2016). Personality traits, which exhibit similar patterns of emotion, thought, and behavior, can be classified into a common cluster (American Psychiatric Association, 2013). Paulhus and Williams (2002) discovered that subclinical narcissism, machiavellianism, and psychopathy share characteristics that can be combined into a common cluster, which they termed the Dark Triad. The Dark Triad is notable for representing the dark side of an individual, containing malicious intent, and being aggressive but not pathological. Additionally, it is characterized by aggression, duplicity, deceitfulness, emotional detachment, and behaviors that prioritize and emphasize self-interest, often leading to socially malignant actions. While studies adopting both genetic and environmental perspectives on the formation and persistence of these behaviors exist, a meta-analysis has revealed a strong correlation between these externalizing behaviors and cognitive distortions (Helmond et al., 2014).

Cognitive distortions are the individual's misrepresentation or inadequate evaluation of reality when assessing an event or situation, which may lead to negative emotional states (Beck, 1963). Initially defined and classified by Beck (1979), cognitive distortions were later expanded by Burns (1980). Cognitive distortions are associated with many psychopathologies (Leung & Poon, 2001; Gürsoy, 2018) and personality traits (Pace et al., 2019; Maheshwari & Chadha, 2021; Puri et al., 2021; Lorzangeneh & Soleimani, 2022) and have a strong relationship with anxiety (Basha, 2015; Kuru et al., 2017; Yüksel & Bahadır-Yılmaz, 2019).

Considering the issues such as mobbing in Turkish academia (Erdemir, 2019), gender inequality (Boyacıoğlu & Hünler, 2019), inequalities in hierarchical positioning (Günsan, 2024), management problems in academic units (Gümüş & Gülmez, 2020), and various ethical issues (Apaydın et al., 2021), the present study aims to investigate the relationship between cognitive distortions, the Dark Triad, and anxiety, as well as the differences between these variables based on demographic characteristics, specifically among academics in Turkey. The study also aims to understand and explain the dynamics related to the problems experienced in academia within the framework of the aforementioned concepts.

### 2. Materials and methods

A total of 95 academics participated in the study. Of the participants, 60% were women (n = 57), and 40% were men (n = 38). Regarding income distribution, 3.2% of the participants had a low income level (n = 3), 83.2% had a medium income level (n = 79), and 13.7% had a high income level (n = 13).

In terms of marital status, 62.1% of the participants were married ( $n = 59$ ), 8.4% were in a romantic relationship ( $n = 8$ ), and 29.5% were single ( $n = 28$ ). While 13.8% of the participants indicated that they had a psychiatric disorder ( $n = 13$ ), 86.2% stated they did not have any psychiatric disorders ( $n = 81$ ). Additionally, one participant ( $n = 1$ , 1.1%) did not respond to this question. Furthermore, 20% of the participants reported using psychiatric medication ( $n = 19$ ), while 80% did not ( $n = 76$ ). 37.9% of the participants expressed that they needed psychological help ( $n = 36$ ), whereas 62.1% indicated they did not ( $n = 59$ ). Regarding legal issues, 11.6% of the participants had been victims of a legal case ( $n = 11$ ), and 1.1% reported being both a victim and an offender ( $n = 1$ ). The majority, 87.4% ( $n = 83$ ), indicated that they had not experienced any legal issues.

## 2.1. Data collection tools

**2.1.1. Sociodemographic information form.** A form created by the researchers containing questions related to age, gender, income level, marital status, psychiatric disorders, medication use, any legal events experienced, title, university region (state, private, foundation), days spent at university, work experience, and satisfaction with life and profession.

**2.1.2. Shortened Dark Triad Scale.** Developed by Jones and Paulhus (2014) and adapted into Turkish by Özsoy et al. (2014), this scale consists of 27 items and includes three subdimensions: narcissism, Machiavellianism, and psychopathy.

**2.1.3. Thought characteristics scale.** Developed by Covin et al. (2011) and adapted into Turkish by Özdel et al. (2014), this scale includes 10 items related to mind reading, catastrophizing, all-or-nothing thinking, emotional reasoning, labeling, mental filtering, overgeneralization, personalization, should statements, and minimization or disqualifying the positive.

**2.1.4. Beck anxiety inventory.** Developed by Beck et al. (1988) and adapted into Turkish by Ulusoy et al. (1998), this scale consists of 21 items.

## 2.2. Procedure

Ethical approval for the study was obtained from the Ethics Committee of Fatih Sultan Mehmet Foundation University on 05.12.2024 (approval number: 2024-42/03). Data were collected via an online survey created using Google Forms. The survey was distributed via email to faculty members from state, foundation, and private universities across seven regions of Turkey, reaching approximately 1,200 individuals. However, only 95 participants completed the survey. Before filling out the survey, participants read a text explaining the purpose of the study and indicated their voluntary consent by checking a box. Completing the survey took approximately 15 minutes.

## 2.3. Data analysis

Initially, the study aimed to investigate the mediating role of anxiety in the relationship between cognitive distortions and the Dark Triad. However, anxiety did not show a mediating effect in any of the models, so the model was modified. Due to the lack of significant regression and high correlation results, comparative analyses were preferred. R and SPSS v.25 were used for the analyses.

## 3. Findings

The Brunner-Munzel test results indicated that there were significant differences in some variables based on gender. Women had higher rank averages than men in the interpersonal domain of mind reading ( $BM = -2.616$ ,  $p = 0.011$ ) and catastrophizing ( $BM = -3.056$ ,  $p = 0.003$ ). Similarly, regarding the total anxiety score, women had higher rank averages than men, and this difference was statistically significant ( $BM = -2.768$ ,  $p = 0.007$ ). These findings suggest that women have higher tendencies for catastrophizing and anxiety levels compared to men.

The Brunner-Munzel test results for individuals with and without psychiatric disorders showed a significant difference in catastrophizing in the interpersonal domain ( $BM = -2.82$ ,  $p = 0.010$ ). The negative statistic indicates that individuals with psychiatric disorders scored higher in this cognitive distortion.

The Brunner-Munzel test results for individuals who reported needing psychological help and those who did not indicated that individuals needing psychological help had significantly higher scores in the following variables: interpersonal catastrophizing ( $BM = -3.63$ ,  $p < 0.001$ ), personal achievement catastrophizing ( $BM = -3.62$ ,  $p < 0.001$ ), interpersonal emotional reasoning ( $BM = -3.45$ ,  $p < 0.001$ ), interpersonal labeling ( $BM = -2.59$ ,  $p = 0.012$ ), interpersonal overgeneralization ( $BM = -5.43$ ,  $p < 0.001$ ), interpersonal personalization ( $BM = -2.90$ ,  $p = 0.005$ ), interpersonal minimization or disqualifying the positive ( $BM = -2.42$ ,  $p = 0.018$ ), anxiety level ( $BM = -3.71$ ,  $p < 0.001$ ), and overall interpersonal cognitive distortion ( $BM = -4.13$ ,  $p < 0.001$ ).

The Jonckheere-Terpstra test results indicated that Machiavellianism showed a statistically significant decreasing trend as the title level increased ( $T_{JT} = 1318.000$ ,  $p = 0.010$ ). The trend was supported by Dunn test results, where as title level increased, the rank averages for Machiavellianism decreased. Professors' rank averages ( $R_{\text{mean}} = 35.89$ ) were statistically significantly lower than those of research assistants ( $R_{\text{mean}} = 56.84$ ) ( $Z = 195.00$ ;  $p = 0.03$ ).

Kruskal-Wallis H tests were applied to determine whether there were differences in the rank averages for interpersonal catastrophizing between title groups. The results showed a significant difference in interpersonal catastrophizing ( $H(4) = 10.686$ ,  $p = 0.030$ ). Post-hoc Dunn test results showed that the group with the highest rank average for interpersonal catastrophizing was Associate Professors ( $M_R = 69.44$ ), and a statistically significant difference was found between Professors and Associate Professors ( $p = 0.023$ ).

Similarly, for interpersonal emotional reasoning, Kruskal-Wallis H test results indicated a significant difference ( $H(4) = 13.501$ ,  $p = 0.009$ ), with Associate Professors having the highest rank average ( $M_R = 68.19$ ). A significant difference was found between Professors and Associate Professors ( $p = 0.014$ ).

For interpersonal mental filtering, Kruskal-Wallis H test results showed a significant difference ( $H(4) = 12.371$ ,  $p = 0.015$ ), with Associate Professors having the highest rank average ( $M_R = 69.62$ ). A significant difference was found between Professors and Associate Professors ( $p = 0.022$ ).

Regarding interpersonal personalization, Kruskal-Wallis H test results showed a significant difference ( $H(4) = 11.416$ ,  $p = 0.022$ ), with the highest rank average observed in Lecturers ( $M_R = 57.07$ ). A significant difference was found between Professors and Lecturers ( $p = 0.021$ ).

For the total interpersonal domain score, Kruskal-Wallis H test results indicated a significant difference ( $H(4) = 13.525$ ,  $p = 0.009$ ), with Associate Professors having the highest rank average ( $M_R = 67.31$ ). Statistically significant differences were found between Professors and Associate Professors ( $p = 0.016$ ) and between Professors and Lecturers ( $p = 0.035$ ).

The Pearson correlation analysis revealed significant correlations between several variables. A significant positive relationship was found between the number of days worked per week and interpersonal catastrophizing ( $r = 0.206$ ,  $p = 0.045$ ). Positive correlations were also observed between work duration (in years) and academic satisfaction ( $r = 0.214$ ,  $p = 0.038$ ), as well as life satisfaction ( $r = 0.207$ ,  $p = 0.044$ ). Furthermore, as work duration increased, the tendency for interpersonal catastrophizing decreased ( $r = -0.242$ ,  $p = 0.018$ ). There was a strong positive relationship between Machiavellianism and interpersonal catastrophizing ( $r = 0.734$ ,  $p < 0.001$ ), and a significant relationship between narcissism and interpersonal catastrophizing ( $r = 0.336$ ,  $p = 0.001$ ). A strong positive relationship was also observed between the total cognitive distortions score and anxiety ( $r = 0.864$ ,  $p < 0.001$ ).

#### 4. Discussion

In the present study, the relationships between gender, academic title, and the need for psychiatric assistance with cognitive distortions and the Dark Triad personality traits among academicians were examined. Among the 95 participants, 60% were female ( $n = 57$ ) and 40% were male ( $n = 38$ ). Only 13.8% ( $n = 13$ ) of the participants reported having a psychiatric disorder, and 20% ( $n = 19$ ) stated that they were using psychiatric medication. Additionally, 11.6% ( $n = 11$ ) of the participants reported being victims in a legal case, while 1.1% ( $n = 1$ ) stated that they were both victims and perpetrators. The majority of the participants (87.4%,  $n = 83$ ) indicated that they had never been involved in any legal cases.

Given that the prevalence of mobbing among Turkish academicians ranges between 12% and 66.8%, and 75% of academicians report the existence of mobbing in academia (Cinli et al., 2020), the low rates of legal involvement reported in this study are noteworthy. This may suggest that the sample is relatively homogeneous or that academicians tend to ignore workplace difficulties such as mobbing or choose not to take legal action against such issues.

A notable finding is that academicians who reported needing psychological assistance exhibited higher levels of cognitive distortions in the interpersonal domain rather than in the personal achievement domain. Considering the nature of academic responsibilities, this finding is significant and may be associated with mobbing in academia (Erdemir, 2019), gender inequality (Boyacıoğlu & Hünler, 2019), hierarchical conflicts (Günsan, 2024), administrative issues (Gümüş & Gülmez, 2020), and various ethical challenges (Apaydin et al., 2021).

Another noteworthy result is the observed decline in Machiavellianism with increasing academic rank. Machiavellianism, defined as a tendency to engage in manipulative behaviors to achieve one's goals, sometimes disregarding ethical boundaries (Christie & Geis, 1970), was found to decrease as academic rank increased. This finding aligns with a large-scale study (Götz et al., 2020) that examined age-related changes in Machiavellian tendencies across the lifespan, involving 1,118,643 participants aged 10 to 65, and reported a decline in Machiavellian traits with age. Therefore, it is plausible that academicians who attain a certain academic rank experience a sense of accomplishment, leading to a reduction in Machiavellian tendencies. Furthermore, this result can also be interpreted in light of the inverse relationship

between Machiavellianism and conscientiousness, a personality trait that generally increases with age (Zhu et al., 2021).

Another significant finding is the strong correlation between Machiavellianism and catastrophizing in the interpersonal domain. Machiavellian individuals are known for their manipulative tendencies, which are often rooted in suspicious thinking and emotional dysregulation (Furnham et al., 2013). Given their inclination towards controlling situations and ensuring that outcomes align with their desires, anxiety and tension stemming from these tendencies may lead them to engage in cognitive distortions such as catastrophizing. This suggests a potential vicious cycle in which Machiavellian traits fuel catastrophic thinking and vice versa.

Additionally, significant differences in interpersonal cognitive distortions—including catastrophizing, emotional reasoning, mental filtering, and personalization—were observed across academic ranks. Specifically, associate professors exhibited higher scores in catastrophizing, emotional reasoning, and personalization compared to full professors. Previous research has indicated that associate professors perceive disparities in respect and rewards, experience higher administrative workloads, and are more likely to feel disadvantaged in terms of promotions and salaries (Bernat & Holschuh, 2015). Moreover, female associate professors encounter additional obstacles in their transition to full professorship, including increased teaching responsibilities, excessive service loads that hinder research, lack of knowledge about external funding sources, insufficient institutional support, limited collaboration opportunities, high mentoring responsibilities, and lack of travel funding (Easterly & Pemberton, 2008). These findings suggest that associate professors are in a particularly stressful and disadvantaged position within academia.

Considering the positive correlation between academic stress and cognitive distortions (El-Shokheby, 2020), the persistent exposure to stressful and anxiety-inducing situations may lead individuals to engage in cognitive distortions such as emotional reasoning or the inability to recognize positive events. Furthermore, given that these stressors are often chronic, repetitive, and involve tangible difficulties, they may impair an individual's ability to assess their circumstances realistically, thereby increasing catastrophic thinking about both the present and the future.

#### 4.1. Conclusion and limitations

In summary, catastrophizing demonstrated significant differences across multiple analyses, and associate professors exhibited more pronounced cognitive distortions compared to academicians at other ranks. Additionally, within the Dark Triad traits, only Machiavellianism yielded significant results.

A major limitation of the study was the low response rate—despite reaching out to approximately 1,200 academicians via email and messaging, only 95 responses were received. This limited sample size may have resulted in insufficient heterogeneity, which restricted the application of certain parametric analyses and hindered the detection of statistically significant findings. Another limitation was that data regarding participants' university type and geographic location were incomplete, as these details were added to the form later, leading to missing information. These factors should be considered when interpreting the findings.

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