



European Journal of Psychology and Educational Research

Volume 6, Issue 1, 45 - 53

ISSN: 2589-949X

<https://www.ejper.com>

Dark Triad Personality and Online Trolling: The Mediating Role of Empathy

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Received: September 17, 2022 • Revised: January 26, 2023 • Accepted: March 6, 2023

Abstract: Online trolling is online behavior in which the troll provokes, harms, and pretends to be someone else to achieve their goals. The purpose of trolls may be to harm the other person, but they can also be for entertainment purposes. Online trolling, for whatever purpose, can have significant psychological effects on individuals and people who are socially exposed. In addition, online trolling is becoming more common every day. However, there are very few studies on trolling. Therefore, the study aims to examine the mediating role of empathy in the relationship between dark triad personality traits and levels of online trolling. For this purpose, structural equation modeling and bootstrapping method was used. The participants comprised 516 (%71.6 females; %28.4 males) undergraduates. The ages of the participants ranged from 18 to 31 ($\bar{X} = 21.09$). The measures used included the Online Trolling Scale, Dirty Dozen Scale, and Toronto Empathy Questionnaire. In the study, it was found that there were significant relationships between the dark triad, online trolling, and empathy. Also, the results of the structural equation model showed that the effect of the dark triad on online trolling was mediated by empathy. This result was found to be significant with bootstrapping.

Keywords: *Cyberpsychology, dark triad, empathy, online trolling, undergraduates.*

To cite this article: Hamarta, E., Akat, M. & Akbulut, Ö. F. (2023). Dark triad personality and online trolling: The mediating role of empathy. *European Journal of Psychology and Educational Research*, 6(1), 45-53. <https://doi.org/10.12973/ejper.6.1.45>

Introduction

Today, the internet has become a basic need for individuals and is attributed to great importance. The fact that the internet has many positive functions such as communicating, socializing, having fun, and fulfilling responsibilities increase the use of the internet for individuals of youngs (Ögel, 2014). Due to all these positive aspects, the prevalence and duration of internet usage are increasing every year.

The widespread use of the internet in all age groups and the anonymization of real identity on the internet may cause to transfer the of antisocial behaviors in daily life to the internet platforms (Buckels et al., 2014; Sest & March, 2017). These online problematic behaviors are discussed in the literature with different concepts such as cyberbullying, cyber obsessive stalking, and online trolling (Hamarta et al., 2021). It is known that the prevalence of problematic behaviors on the internet has increased in recent years (Zych et al., 2016). In a study conducted with 10,930 adolescents, it was found that 21.4% of adolescents were exposed to cyberbullying (Tsitsika et al., 2015). Today, with the increase in research in the field of cyberpsychology and focusing on different concepts, it has been seen that research on online problematic behaviors has increased. Online trolling is one of the online problem behaviors and they have been discussed in a very limited number in the literature, therefore, in this study, the mediating role of empathy in the relationship between dark triad personality traits and online trolling behavior was examined.

Although the concept of online trolling is one of the topics that has attracted the attention of researchers in the field of cyberpsychology in recent years, it can be said that there has not been enough work on this subject yet. The concept of online trolling is defined as an antisocial online behavior that includes aggressive behaviors such as deceiving, provoking, and upsetting others in online environments and creates satisfaction for the person performing the trolling behavior (Howard et al., 2019). Hardaker (2010) emphasized that trolling behavior has four basic characteristics: deception,

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aggression, discomfort, and success. In addition, trolling behaviors can have a wide variety of motivational sources. For example, in a study, it was seen that the motivation sources of troll behaviors performed by trolls are boredom, attracting attention, and revenge (Shachaf & Hara, 2010). As a result, it is seen very important to reveal the underlying causes of trolling behavior, which can lead to many negative consequences in terms of individual and social psychology.

Dark Triad and Trolling

Dark triad personality traits include features that cause the individual to have social problems with other people (Paulhus & Williams, 2002). Narcissism, which is considered within the dark triad personality traits, describes an individual's excessive self-love (Geçtan, 2010). Although individuals with this personality trait tend to see themselves as superior to other individuals, they can use other individuals for their benefit (American Psychiatric Association, 2013). Machiavellianism, on the other hand, is an antisocial personality trait that expresses individuals' seeing other individuals as a tool for their interests (Ruiz-Palomino et al., 2019). Individuals with this personality trait can see other individuals as a tool to achieve their interests and ignore the situation of other individuals (Furnham et al., 2013). Finally, psychopathy is an antisocial personality trait that includes features such as a lack of moral values in the behavior of individuals, a lack of empathy, and no regret for their actions (Lyons, 2019). Some previous studies have concluded that dark triad personality traits may be associated with online antisocial behaviors (Craker & March, 2016; Masui, 2019). In a study, it was observed that there were positive relationships between Machiavellianism, psychopathy, and narcissism personality traits and online trolling behavior (Craker & March, 2016). The study conducted by Sest and March (2017) showed that individuals with high levels of psychopathy are in a risky position to perform online trolling behaviors. Because, in dark triad personality traits, using other individuals as a tool and engaging in behaviors such as aggression, deception, and cheating are similar to online trolling behavior (Craker & March, 2016; Hardaker, 2010). In the literature, there are studies examining the relationship between dark triad personality traits and trolling behaviors, but it can be claimed that the relationships between these two variables have not been fully clarified yet.

Empathy and Trolling

Empathy is defined as the ability of individuals to understand others and to feel and share their emotions (Davis, 2018; Elliott et al., 2011). As a social skill, the concept of empathy can affect the quality of individuals' interpersonal relationships. Some research found that individuals with empathy skills establish qualified relationships with others in their interpersonal relationships (Jo et al., 2020; Khodabakhsh & Besharat, 2011). In addition, several studies show that individuals with high empathy levels are less prone to online problematic behaviors (Ang & Goh, 2010; Jolliffe & Farrington, 2006; March, 2019; Sest & March, 2017). Individuals with empathy skills have an awareness that their behaviors toward other individuals can affect people (Gladstein, 1983). Therefore, it can be said that individuals with low empathy skills are also in the risk group in terms of showing online antisocial behaviors (Sest & March, 2017). Although there are studies on the relationship of empathy with online antisocial behaviors (Ang & Goh, 2010; March, 2019; Zych et al., 2016), it is still unclear whether empathy and trolling behaviors are related.

Empathy and Dark Triad

The concept of the dark triad, which includes personality traits such as narcissism, Machiavellianism, and psychopathy, is characterized by antisocial behaviors in individuals' interpersonal relationships (Paulhus & Williams, 2002). The concept of empathy, on the other hand, is found at a low level in individuals with dark triad personality traits, since it includes individuals' understanding and positive behaviors toward each other in interpersonal relationships (Elliott et al., 2011). Individuals with dark triad personality traits often use other individuals as a tool for their interests in their social lives, may tend to see themselves as superior to other individuals, and show antisocial behaviors in their social lives (Paulhus & Williams, 2002). Individuals with empathy skills, on the other hand, can more easily understand the emotions of other individuals in their social lives and feel positive experiences in their relationships (Davis, 2018). In this respect, it can be claimed that there may be a negative relationship between empathy and the dark triad.

Empathy as Mediator

Considering the behavior patterns of the dark triad, it can be claimed that an increase in the dark triad level may increase the risk of exhibiting online trolling behavior (Nocera & Dahlen, 2020). It is thought that the negative effect of the dark triad on the risk of online trolling behavior can be reduced by the empathy levels of individuals. Empathy is associated with positive interpersonal relationship behaviors in that the individual realizes the feelings of the other person, makes sense of these feelings, and makes the other person feel understood (Elliott et al., 2011). Therefore, individuals with empathy skills may be less likely to perform online trolling behaviors (Sest & March, 2017). In this context, it is thought that empathy may have a mediating effect on the relationship between the dark triad and online trolling behavior.

The Present Study

Today, one of the antisocial behaviors in online environments is trolling. Just like other anti-social behaviors, trolling will affect the emergence of important psychological problems in the exposed person and the adaptation of individuals

exhibiting this behavior to society. It is thought that dealing with the relationships of online trolling behavior, which is a new concept in the field of cyberpsychology, with different psychological and social structures may enable the planning of mental health services for prevention and intervention. In addition, there are very limited studies on online trolling behavior in the literature, and it is thought that this research can contribute to the field of cyberpsychology. In this context, the study aims to examine the mediating role of empathy in the relationship between dark triad personality traits and levels of online trolling. For this purpose, the hypotheses of the research are as follows:

H₁: Dark triad positively predicts trolling.

H₂: Dark triad negatively predicts empathy.

H₃: Empathy negatively predicts trolling.

H₄: Empathy has a mediating role in the relationship between dark triad and trolling.

Methodology

Participants

The study group of this research is comprised of 516 (%71.6 females; %28.4 males) respondents. The mean age of the participant was 21.09 years with a range from 18 to 31 years. The data were collected from a university in the Central Anatolia Region of Turkey using the convenient sampling method. In the study, data were collected between April and June 2021.

Measures

Online Trolling Scale

The Online Trolling Scale was developed by Hamarta et al. (2021). The OTS comprises 13 items rated on a 5-point Likert scale. An increase in the score obtained from the scale indicates that the level of online trolling is high. The OTS is comprised of three subdimensions; harm-based trolling, provocation-based trolling, and fraudulent-based trolling. The Cronbach alpha internal consistency coefficient of the scale was found to be .89.

Toronto Empathy Questionnaire

The Toronto Empathy Questionnaire was developed by Spreng et al. (2009) and adapted into Turkish by Totan et al. (2012). The TEQ comprises 13 items rated on a 5-point Likert scale. An increase in the score obtained from the scale indicates that the level of empathy is high. The scale consists of one dimension. In addition, the internal consistency reliability coefficient of the measurement tool was found to be .79.

Dark Dozen Scale

The Dark Dozen Scale was developed by Jonason and Webster (2010) and adapted into Turkish by Kayış et al. (2018). The DDS consists of 12 items and each item is scored on a 1-9 scale. An increase in the score obtained from the sub-dimension indicates that the level in the relevant dimension is high. The DDS is comprised of three subdimensions, Machiavellianism, psychopathy, and narcissism. The Cronbach alpha internal consistency coefficients calculated for the internal consistency of the scale were found to be between .71 and .87.

Data Collection and Procedure

This study was carried out by the Declaration of Helsinki and ethics committee approval was obtained from Karamanoğlu Mehmetbey University. Data were collected online. Participants were given an informed consent form before participating in the study, and volunteers were included in the study. In this study, various procedures were carried out in order to prevent common method bias (Podsakoff et al., 2003). The participants were directed to the volunteer participation form before they start filling the scale items. In this form, it is stated that the information of the participants will remain anonymous. It is stated that no information that will show the identity of the participants is not asked within the scope of the research. In addition, it is stated that there is no correct and wrong in the scale items. Therefore, the participants were informed to respond as honest as possible.

Data Analysis

In this study, SPSS 20.0 was used for descriptive and correlation analysis. Structural equation modeling (SEM) analysis was also carried out in this study. In the study, in addition to structural equation modeling, the bootstrap process was also used to control the significance of the mediator role of empathy in the relationship between dark triad personality traits and trolling (Preacher & Hayes, 2008). In the bootstrap process, 95% confidence interval and 10000 resamples were used. In the study, the SEM was carried out with AMOS 22. The preconditions were examined before the mediation

analysis. It is seen that the skewness and kurtosis values of the variables vary between -.98 and 2.80. Based on these results, it can be said that the data show a normal distribution (Finney & DiStefano, 2013). The data set was also examined in terms of multicollinearity. The correlations between the variables were found to be between -.35 and .41. therefore, it was seen that there was no multi-connectivity problem in the data set (Çokluk et al., 2012). The data set was also examined in terms of outliers. The data of 10 participants who were determined to be outliers were extracted.

Results

In this study, Cronbach's alpha was used to determine the measurement reliability. The results in Table 1 show that Cronbach's alpha values ranged between .74 and .86, which exceeded the threshold value of .70 (Nunnally & Bernstein, 1994). Table 1 shows validity and reliability as well as correlations between variables. When the correlations are examined, it is seen that the variables are moderately related to each other. In addition, standard deviation and mean values of the variables, skewness, and kurtosis values are given. Skewness and kurtosis values are seen to vary between -.98 and .2.80.

Table 1. Measurement Model Assessment

Variables	Alpha	Correlations		
		1	2	3
1.Trolling	.74	-	.41**	-.35**
2. Dark triad	.86	.41**	-	-.40**
3. Empathy	.80	-.35**	-.40**	-
Mean		1.26	2.68	4.26
SD ^a		.29	1.28	.55
Skewness		1.60	.91	-.98
Kurtosis		2.80	.51	-.73

aSD: standard deviation.

Structural Equation Model

Measurement Model

In this study, the measurement model was tested in order to determine whether each of the latent variables is represented by their indicators. In this study, the measurement model consists of three latent factors (dark triad, empathy, and trolling) and 19 observed variables. As a result of the measurement model, the goodness of fit values was obtained as follows; Chi-square = 353.455, Degree of freedom = 142, Chi-squared/ degree of freedom = 2.49, GFI = .93, CFI = .90, AGFI = .91, RMSEA = .05, SRMR = .06. In addition, factor loadings of all indicators were significant (range from .20 to .75, $p < .001$). These values show that the relevant indicators are true representatives of the latent factors.

Hypothesis Testing

In this study, mediation analysis based on structural equation modeling was used to perform hypothesis testing. Bootstrapping was performed to determine whether the mediation was significant or not (10.000 resampling; %95 confidence interval). Results showed that the dark triad has a direct positive effect on online trolling ($\beta = .530$ $p = .001$). Therefore, it was concluded that hypothesis 1 was supported. Furthermore, the results indicated that the dark triad has a direct negative effect on empathy ($\beta = -.595$ $p = .001$). Therefore, it was concluded that hypothesis 2 was supported. The results indicated that empathy has a direct negative effect on online trolling ($\beta = -.218$ $p = .032$). This result proves that hypothesis 3 is also supported. Finally, the H4 has been tested. The results showed that empathy significantly and positivity mediates the relationship between dark triad and online trolling ($\beta = .129$ $p = .032$ LLCL = .013; ULCL = .238). The lower limit of the confidence interval and the upper limit of the confidence interval did not include zero. This result shows that the last hypothesis (hypothesis 4) is also supported. The results of the hypothesis tests carried out in this study are given in Table 3.

The model of the study and R2 values are given in Figure 1. According to Figure 1, the dark triad traits and empathy together explained 47% of the variance in trolling. It has been concluded that dark triad alone explains 44% of Trolling.

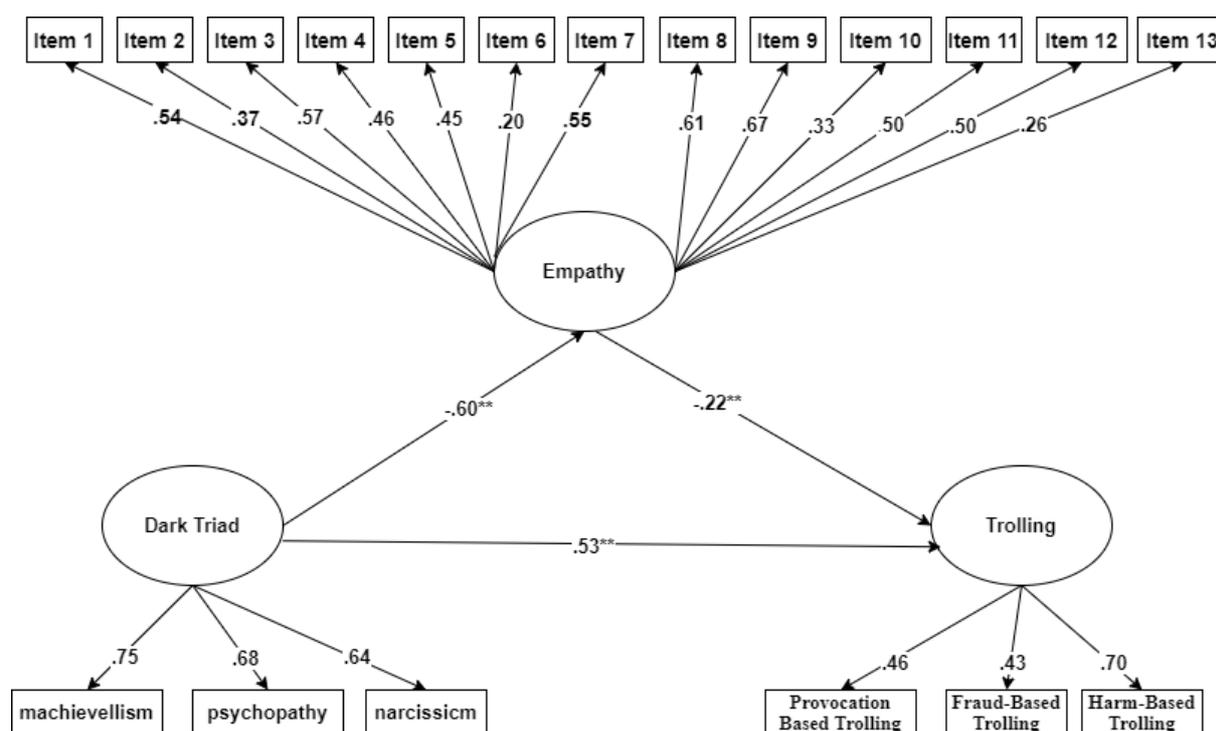


Figure 1. Mediation Model of the Relationships Between the Research Variables

In this study, the structural model was tested with hypotheses. The results regarding the analysis of the hypotheses are given in Table 3.

Table 2. Hypotheses Testing Results

Direct, indirect, and total effect	β	SE	LLCL	ULCL	p
Standardized direct effect					
H1. Dark triad \rightarrow Trolling	.530	.095	.346	.721	.001
H2. Dark triad \rightarrow empathy	-.595	.062	-.711	-.471	.001
H3. Empathy \rightarrow Trolling	-.218	.096	-.397	-.019	.032
Standardized indirect effect					
H4. Dark triad \rightarrow Empathy \rightarrow Trolling	.129	.057	.013	.238	.032
Standardized Total Effect					
Dark triad \rightarrow Trolling	.659	.068	.523	.788	.001
Dark triad \rightarrow empathy	-.595	.062	-.711	-.471	.001
Empathy \rightarrow Trolling	-.218	.096	-.397	-.019	.032

Discussion

In this study, the mediating role of empathy in the relationship between dark triad personality traits and trolling behaviors was investigated. In this context, the main findings of this study are as follows: (1) dark triad personality traits have a significant positive effect on trolling, (2) dark triad personality traits have a significant negative effect on empathy, (3) empathy has a significant negative effect on trolling, and (4) empathy mediated the relationship between dark triad and trolling. In this section, the findings of the research will be discussed in the order of the hypotheses.

The findings show that H1 was confirmed. More specifically, an increased dark triad was associated with increased trolling. This result is consistent with previous research findings that found a positive relationship between dark triad personality traits and trolling behaviors (Gylfason et al., 2021; Schade et al., 2021). However, there is no significant relationship between narcissism and trolling behaviors (Gylfason et al., 2021). There are some reasons to explain the positive relationship between dark triad personality traits and trolling. Dark triad personality traits cause more cyberbullying behaviors as seen in previous studies (Baughman et al., 2012). It has also been observed that individuals with this personality are more likely to engage in cyber dating violence behaviors (Pineda et al., 2022). Therefore, it can be claimed that individuals with these personality traits are in the risk group in terms of showing antisocial behaviors. In addition, individuals with this personality show high impulsivity and low self-control (Goodboy & Martin, 2015). Therefore, individuals with this personality may find it normal not to respect other people's needs to meet their own needs. For example, psychopathy and Machiavellian personality traits are associated with using other people to achieve their own goals. Although there are studies that found a relationship between dark triad personality traits and trolling

behaviors, these studies are insufficient to explain the relationship between the two variables. Therefore, the role of dark triad personality traits on trolling behavior needs further research.

The findings show that H2 is confirmed. More specifically, an increased dark triad was associated with decreased empathy. Studies with dark triad personality traits show that individuals with these personality traits have low levels of empathy. For example, in a study by Jonason and Krause (2013), a negative relationship was found between dark triad personality traits and empathy. Similar to the findings of this study, it was concluded that the increase in dark triad personality traits reduces the level of empathy (Schimmenti et al., 2019). The findings of both this study and previous studies seem to reveal the negative relationship between dark triad personality traits and empathy. However, there are very few studies comparing these two variables, therefore, new studies are needed to further clarify the relationship between them. The lack of empathy of individuals with dark triad personalities can facilitate in fulfilling some goals in their lives. However, the behaviors to achieve these goals can cause social negativities, which result from a lack of empathy (Jonason & Krause, 2013).

According to another result of this study, H3 was confirmed. More specifically, decreased empathy was associated with increased trolling. Therefore, as a result of the findings of this study, it is seen that empathy is a protective factor in terms of showing trolling behaviors. The result of this study is similar to the findings of Sest and March (2017). In their study, they concluded that online trolling behaviors were associated with low emotional empathy. Previous studies in the literature also support the findings of this study. For example, in previous studies, it has been concluded that individuals with low empathy levels have a higher risk of engaging in antisocial behavior both in daily life (Gandhi et al., 2021) and online (Şincek et al., 2020). These results show that trolls exhibit these behaviors because they cannot understand the negativities experienced by people who are exposed to trolling behaviors (Sest & March, 2017). Empathy is associated with many psychological variables that make interpersonal relationships healthier. Individuals with high levels of empathy show more prosocial behaviors toward other people (Eisenberg et al., 2010). In addition, the findings of previous studies show that individuals with high empathy levels solve interpersonal problems more effectively (Schuman & Dragotta, 2021). Therefore, empathy can have a protective role against trolling, which is a behavior that harms interpersonal relationships.

According to another result of this study, H4 was confirmed. More specifically, empathy mediated the relationship between dark triad and trolling. Previous studies have revealed that a lack of empathy is a risk factor for displaying antisocial behaviors (Marshall & Marshall, 2011). Individuals with psychopathic personality traits can give much less emotional reactions to situations where other people will give intense emotional reactions. The Machiavellian personality trait is also characterized by not feeling or caring about other people's feelings. Finally, the narcissism personality trait is characterized by caring for one's thoughts and feelings and ignoring other people's desires and wishes. Therefore, it can be claimed that all three types of dark triad personalities lack empathy (Paulhus & Williams, 2002). This situation may cause individuals with dark triad personalities to exhibit more antisocial behaviors such as trolling. Individuals with low empathy levels may have difficulties in recognizing the emotions of other people and evaluating the events from the perspective of others. This situation may cause them not to react emotionally and to continue their antisocial behavior while harming other people (Goodboy & Martin, 2015).

Conclusion

The present study set out to reveal the relationships between the dark triad, empathy, and trolling among university students. However, the current study examined the mediating role of empathy in the relationship between the dark triad and trolling in college students. In the current study, positive relationships were found between trolling and the dark triad, and negative relationships between trolling and empathy. The positive relationship between the dark triad and trolling is an important result in terms of identifying individuals at risk of trolling and preventing individuals with these personality traits from trolling. In addition, in the current study, a negative relationship was found between the dark triad and empathy. Finally, in the study, it was concluded that empathy has a mediating role in the relationship between the dark triad and trolling. The mediating role of empathy is one of the important results of the research. This finding is thought to contribute to the use of empathy skills in programs designed to prevent trolling.

Recommendations

In this study, the relationship between dark triad personality traits and trolling behaviors was examined. According to the results of this study, the relationship between the two variables has been clarified. However, the relationship between dark triad personality traits (narcissism-Machiavellianism-psychopathy) and trolling behaviors should be examined separately. Because these three personality structures may be related to trolling at different levels, and therefore they may affect trolling behaviors at different levels. Empathy can be measured in different dimensions. It is recommended to examine the effects of emotional and cognitive empathy dimensions on trolling separately. In addition, it can be said that conducting training programs to develop empathy skills may have a protective role in terms of dark triad personality traits and trolling behaviors.

Limitations

The results of this study will contribute to the literature as it is one of the first studies to examine the mediating role of empathy in the relationship between dark triad personality traits and trolling behaviors. However, as in every study, there are some limitations in this study. Firstly, in this study is that empathy was measured as a single dimension. It is known that empathy has different dimensions. Another limitation of this study is data collection from only one university. Each university has different social and economic characteristics. Therefore, this study can be carried out by collecting data from students studying at different universities. Finally, a limitation of this study is that it was conducted with a quantitative research method. More detailed results about trolling can be obtained by conducting qualitative research in future studies.

Funding

The authors declare that this study received nonfinancial support.

Authorship Contribution Statement

Hamarta: Conceptualization, design, statistical analysis, editing/reviewing, supervision. Akat: Conceptualization, design, data acquisition, statistical analysis, writing. Akbulut: Conceptualization, design, data acquisition, statistical analysis, writing.

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