Scientific Reports

https://doi.org/10.1038/s41598-025-33239-5

Article in Press

Correlates of relative bullying roles among youth

Received: 7 September 2025

Accepted: 17 December 2025

Published online: 30 December 2025

Cite this article as: Belen H. Correlates of relative bullying roles among youth. *Sci Rep* (2026). https://doi.org/10.1038/s41598-025-33239-5

Hacer Belen

We are providing an unedited version of this manuscript to give early access to its findings. Before final publication, the manuscript will undergo further editing. Please note there may be errors present which affect the content, and all legal disclaimers apply.

If this paper is publishing under a Transparent Peer Review model then Peer Review reports will publish with the final article.

ARTICLE IN PRESS

© The Author(s) 2026. **Open Access** This article is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License, which permits any non-commercial use, sharing, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if you modified the licensed material. You do not have permission under this licence to share adapted material derived from this article or parts of it. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by-nc-nd/4.0/.

ARTICLE IN PRESS

Correlates of Relative Bullying Roles among Youth

Hacer Belen, Bursa UludagUniversity[1]
ORCID: https://orcid.org/0000-0001-9065-3504
Address: Bursa Uludag University
Ozluce, Gorukle Campus, 16059 Nilüfer/Bursa, Turkey
Tel: 02242942241 Email: hacerbelen@uludag.edu.tr

ARTICLE IN PRESS

ARTICLE IN PRESS

Abstract

This study investigated the contribution of personality, psychological, and familial factors as differential risk factors associated with specific relative bullying roles. Participants included one thousand and ninety-six high school students (59.3% female and 40.7% male) who were aged between 13 and 19 years (M= 16.21±0.96). Exploratory (EFA) and Confirmatory Factor Analysis (CFA) were conducted to explore the factor structure of the Relative Bullying Scale-Youth and Relative Victimization Scale-Youth among adolescents, and multinomial logistic regression was performed in order to investigate the risk factors for specific relative bullying roles. Results for EFA and CFA revealed a unidimensional factor structure for both of the scales. While Machiavellianism, psychopathy, narcissism, aggression, and sibling perpetration were associated with being a pure-bully, narcissism, aggression, sibling, and parental victimization were associated with being a pure-victim. Moreover, psychopathy, aggression, sibling perpetration, and sibling and parental victimization were correlated with being a bully-victim. The findings demonstrated that, besides individual personality factors, psychological and family factors also have an impact on specific roles of relative bullying. More importantly, findings suggest that prevention and intervention strategies should be tailored by targeting Dark Triad traits in perpetrators and providing support for familial victimization experiences in victims and bully-victims.

Keywords: Relative bullying, youth, dark personality, aggression

ARTICLE IN PRESS

ARTICLE IN PRESS

Introduction

Bullying is considered any *repetitive* aggressive behavior involving a *power imbalance* and *intentional harm* to the victim [1]. Previous research has shown that bullying can have a significant and long-lasting impact on victims' mental health, including depression [2], anxiety and loneliness [3], and reduced levels of positive affect [4] and life satisfaction [5].

Bullying has been conceptualized and classified in various ways and across different contexts. For example, the literature identifies three roles of bullying involvement, referring to the act of exhibiting bullying behavior as 'perpetration' and to the individual who engages in it as the 'perpetrator' or 'bully,' while exposure to such aggressive behavior as 'victimization' and the affected individual as the 'victim' [6]. However, it is noteworthy that a subset of these victims transform and become perpetrators, who are referred to as "bully-victims" as previous empirical studies documented that experiences of victimization among adolescents positively predict perpetration behaviors [7]. With regard to its contexts, bullying victimization is classified as peer victimization when it occurs among students in school settings, as workplace victimization within professional environments, as cyberbullying when enacted via electronic devices, as sibling victimization in interactions between brothers and sisters, and as parental victimization (parent–child violence) within the family context [8-1- 9-10]. However, bullying victimization in the family context is not mutually exclusive to sibling or parental bullying. For instance, members of the wider family also exhibit aggressive behaviors that involve long-term intentional harm with some elements of power imbalance, which refers to *relative bullying* [11].

Relative bullying refers to repeated aggressive behaviors carried out by extended family members—such as grandparents, aunts, uncles, or cousins (excluding parents and siblings)—that are characterized by a power imbalance and are intended to inflict physical,

ARTICLE IN PRESS

psychological, or social harm over time. Previous research demonstrated that victims of relative bullying suffer many negative consequences, including increased levels of depression, anxiety, social anxiety, loneliness, perceived stress, negative affect, and decreased levels of positive affect, life satisfaction, and resilience [11]. Moreover, such studies demonstrated the incremental impact of relative victimization on such mental health indicators above and beyond sibling and parental victimization. Therefore, relative victimization should be addressed alongside the other forms of victimization.

On the other hand, why relatives engage in perpetration behaviors might be grounded in Bronfenbrenner's Bioecological theory. The theory posits that for human development and behavior to be accurately understood is contingent upon taking the entire ecological system the person interacts with into consideration, and this includes personal characteristics and diverse patterns of interactions the person is involved in, such as perpetration or victimization behaviors within the family [12]. Considering previous literature highly links these behaviors with personality characteristics and highlights the recurring patterns of such behaviors with siblings and peers across different contexts, such behaviors might be conceptualized as phenomena resulting from the complex interactions within an ecological system. In line with ecological theory, the first two of Bronfenbrenner's subsystems are the focus of this study. Personality traits and aggression are classified in the first of Bronfenbrenner's individual characteristics subsystem, and sibling perpetration, victimization, and parental victimization are the variables drawn from the second microsystem level.

ARTICLE IN PRESS

As a support, previous studies demonstrated that exhibiting perpetration behaviors within family or other contexts are predisposed by regulatory personality traits [13] and dark triad [14]. Dark triad is a group of personality traits that are more directly linked to antisocial and violent behaviors [15]. *Machiavellianism*, one of these personality traits, refers to a manipulative attitude characterized by a lack of concern for the well-being of others, while

ARTICLE IN PRESS

psychopathy entails a lack of empathy and remorse, a pattern of insensitivity and impulsiveness. *Narcissism* signifies a need for admiration and a sense of superiority [16]. Previous studies demonstrated that individuals with high levels of Machiavellianism are more prone to engaging in aggressive and intimidating behaviors with others as bullies, while narcissistic individuals are more likely to get involved both as a bully and a victim.

Alongside personality traits, aggression has been identified as an antecedent of bullying involvement and refers to intentional behavior directed at harming others through physical, verbal, or relational means. Empirical studies consistently indicated that bullying is associated with heightened levels of aggression, which is not limited to perpetrators [17]. Victims may develop externalizing behaviors in response to frequent peer and sibling harassment [18], yet aggression may also function as a risk factor for later victimization among preadolescents [19]. Although linked with aggression, prior experiences of bullying, either as a victim or as a perpetrator, are particularly influential in shaping later involvement in bullying dynamics as well [20]. For example, children who have been victimized, particularly those exposed to maltreatment or family violence, are at greater risk of experiencing further victimization in schools by peers [21]. Similarly, perpetrators in one context (e.g., sibling bullying) are more likely to exhibit bullying behaviors in other contexts [22]. These findings suggest that prior experiences of victimization increase susceptibility to subsequent victimization, while engagement in perpetration behaviors fosters the likelihood of continued perpetration.

In sum, dark personality traits, aggression, and previous involvement in bullying victimization within the family context are factors that might predict specific bullying roles in the context of relative bullying. However, none of the studies in the literature examined such factors' impact on adolescents within this context. Therefore, the current study aims to explore the risk factors for relative bullying in terms of personality, aggression, and previous

ARTICLE IN PRESS

bullying experiences within the immediate family environment. Moreover, the current study also sought to explore the factor structure of the Relative Victimization Scale for adults [RVS; 11] among Youth (RVS-Y) and the Relative Bullying Scale for Youth (RBS-Y), as the properties of the youth versions (RBS-Y and RVS-Y) were not established within an adolescent sample in the literature. To methodologically ground the current study, the factor structure and internal consistency of both RVS-Y and RBS-Y were examined before testing the main hypotheses.

Method

Participants

Participants included one thousand and ninety-six high school students (59.3% female and 40.7% male) who were aged between 13 and 19 years (M= 16.21±0.96). Data was collected through a convenience sampling method, and five public high schools located in an urban area in the southern part of Turkey were reached in order to collect the data. Students were invited to participate in the study, and data were collected through an online survey platform. Informed consent was obtained from the parents and/or legal guardians of all minors, and assent was obtained from the participants.

ARTICLE IN PRESS

Measures

RVS-Y/RBS-Y: Relative Victimization Scale-Youth (RVS-Y) and Relative Bullying Scale-Youth (RBS-Y) are self-report questionnaires encompassing eight items scored by using a five-point rating scale (1= never, 5= very frequently). The RVS was designed to evaluate adults' retrospective recollections of the extent to which they experienced victimization by relatives during childhood and adolescence [11]. The current study employed the same eight items asking adolescents the degree to which they were victimized to these situations by their relatives for the last six months (RVS-Y). Moreover, participants were prompted to respond whether they were involved in bullying their relatives according to the items for the last six

ARTICLE IN PRESS

months (RBS-Y). Items of both scales are presented in Table 1. The total scores of the scales were calculated by summing the item scores of the respondents, and higher scores of the scales reveal higher levels of exposed relative victimization and higher levels of involvement in relative bullying. The Cronbach's alphas were found to be 0.83 for RVS-Y and 0.78 for RBS-Y for the present study.

Dark Triad Dirty-Dozen Scale (DTDD): DTDD is a self-report measure including twelve items scored using a seven-point rating scale (1=strongly disagree, 7=strongly agree). The scale was developed to assess the individuals' levels of Machiavellianism, psychopathy, and narcissism [23]. Each subscale score is calculated by summing the relevant items, with higher scores reflecting greater levels of Machiavellianism, psychopathy, and narcissism. The Özsoy et al. [24] adapted the scale into Turkish (DTDD-T), which exhibited strong psychometric properties. The Cronbach's alphas were found to be 0.80 for Machiavellianism, 0.66 for psychopathy, and 0.83 for narcissism for the current study.

Aggression Scale-Short Form (AQ-SF): The AQ-SF is a 12-item questionnaire scored on a five-point rating scale (1 = uncharacteristic of me, 5 = very characteristic of me) designed to measure trait aggression across four subdimensions: physical aggression, verbal aggression, hostility, and anger [25]. Total scores are obtained by summing item responses, with higher scores reflecting greater levels of aggression. The Turkish adaptation, validated by Kuzucu and Sarıot [26], demonstrated satisfactory psychometric properties. In the present study, the AQ-SF yielded a Cronbach's alpha of .85.

Sibling Bullying Questionnaire (T-SBQ): The T-SBQ is a self-report questionnaire encompassing 14 items scored on a five-point rating scale (1 = never, 5 = several times a week) designed to assess the frequency with which adolescents engage in or experience sibling bullying [27]. The bullying subscale consists of seven items addressing the frequency of perpetration, while the victimization subscale includes the same seven items rephrased to

ARTICLE IN PRESS

capture experiences of victimization. Subscale scores are calculated by summing the relevant items, with higher scores indicating greater involvement in sibling bullying or victimization. The Turkish adaptation of the T-SBQ has demonstrated satisfactory psychometric properties [28]. In the present study, Cronbach's alpha coefficients were found to be .84 for the victimization subscale and .83 for the perpetration subscale.

Parental Victimization (Parent-to-Child Violence): Parental victimization was assessed using an adapted version of four items originally developed by Thoresen et al. [29]. Responses were rated on a five-point Likert scale (1 = Never, 5 = Very often), and the total scale score was obtained by summing across all items. In the present study, the parental victimization scale demonstrated acceptable internal consistency, with a Cronbach's alpha coefficient of 0.74.

Data Analysis

To determine the factorial validity of the RVS-Y and RBS-Y, the total sample (N = 1,096) was half-split. The first subsample (N = 548) was used for Exploratory Factor Analysis (EFA), while the second subsample (N = 548) was reserved for Confirmatory Factor Analysis (CFA). The EFA was performed using principal axis factoring with direct oblimin rotation. Confirmatory factor analysis (CFA) was performed to examine the expected structure of RVS-Y and RBS-Y derived from exploratory factor analysis (N=548). Multiple commonly reported indices were employed to evaluate the model-data fit, including the CFI, IFI, TLI, and RMSEA. A CFI, IFI, and TLI value above 0.90 and an RMSEA of below 0.08 is considered an adequate and acceptable fit [30].

In terms of multinomial logistic regression analyses, mutually exclusive relative bullying groups were constructed based on the established cut-off scores [31]: *bully-only* group were identified based on responses of the participants who frequently perpetrated but not victimized, *victim-only* group frequently victimized but not perpetrated, *bully-victim* both

ARTICLE IN PRESS

frequently perpetrated and victimized, *uninvolved* does not meet the criteria for any of these categories [32]. In their seminal work on sibling bullying, Wolke and Samara [31] used a cut-off criterion for a similar statistical analysis: the responses "never" (1) and "rarely" (2) were considered as not involved in regular bullying, whereas frequently (4) and upper frequency responses (5) were considered as the child being regularly involved in bullying. This study used the same definition for constructing the mutually exclusive participant groups for the dependent variable in subsequent analyses. To explore the risk factors and test the correlates of relative bullying, seven regression models were fitted with independent variables of dark triad personality traits (1-2-3), aggression (4), sibling bullying (5), sibling victimization (6), and parental victimization (7). For each model, the dependent variable was entered as relative bullying group (uninvolved, bully-only, victim-only, bully-victim) with the uninvolved group as the reference category. Analysis was conducted using SPSS software.

Results

Exploratory Factor Analysis

In order to determine the factorial validity of RVS-Y and RBS-Y among the adolescent sample, exploratory factor analysis (EFA) was performed using principal axis factoring with direct oblimin rotation method (N=548). The results demonstrated that the KMO value was .87 and .85, respectively (greater than .50), and the Barlett's Test of Sphericity value was significant (RVS, Bartlett's $\chi 2$ =1588.91, df=28, p<.001; RBS, Bartlett's $\chi 2$ =1305.67, df=28, p<.001), supporting the adequacy of the scales for exploratory factor analysis. The factor structure of the scale was determined based on the conventional criteria: The Eigenvalues > 1.0 and evaluation of the scree plot analysis. According to EFA results, a one-factor structure for both RVS-Y and RBS-Y was supported with eigenvalues of 4.02 and 3.65 and ranging factor loadings from .43 to .73 (Table 2).

Confirmatory Factor Analyses

ARTICLE IN PRESS

In order to support the factorial validity of the scales among youth, a separate confirmatory factor analysis was conducted on each scale with half of the sample of 548 participants. The one-factor model of RVS-Y and RBS-Y with eight items on each scale was then fitted to the data. As hypothesized, the fit statistics suggested that the model provided a good fit to the data ($\chi 2$=262.68, p<.001, $\chi 2$/df= 2.86, CFI= .91, IFI= .92, RMSEA= .05). Results yielded high factor loadings between items and their respective factors (Table 2).

Multinomial Logistic Regression

A multinomial logistic regression analysis was performed to investigate the correlates of relative bullying using SPSS. Four identified categories of relative bullying victimization were included in the model as dependent variables, involving relative bullying as a perpetrator (pure bully), as a victim (pure victim), and as bully-victim and non-involved group. Non-involved group composed of participants who were not involved in bullying, victimization, and this group was used as a reference group to evaluate how the involved group differed from the non-involved group. In the regression model, Machiavellianism, psychopathy, narcissism, aggression, sibling victimization, sibling perpetration, and parental victimization (parent-child violence) were added as independent variables.

ARTICLE IN PRESS

Table 3 presents the results of the multinomial logistic regression analysis. Compared to the non-involved group, Machiavellianism (b =0.10, Wald $x^2(1) = 4.31$, p≤ .05), psychopathy (b =0.17, Wald $x^2(1) = 11.19$, p≤ .001), narcissism (b =-0.10, Wald $x^2(1) = 6.10$, p≤ .01), aggression (b =0.005, Wald $x^2(1) = 5.11$, p≤ .05), and sibling perpetration (b =0.09, Wald $x^2(1) = 6.49$, p≤ .01) were found significantly correlated with involving in relative bullying as a pure bully. In terms of the pure victim group, narcissism (b =0.06, Wald $x^2(1) = 6.59$, p≤ .05), aggression (b =0.03, Wald $x^2(1) = 4.55$, p≤ .05), sibling victimization (b =0.10, Wald $x^2(1) = 25.05$, p≤ .001), and parental victimization (b =0.13, Wald $x^2(1) = 28.26$, p≤ .001) were significant predictors of relative victimization as pure victim. In terms of the bully-

ARTICLE IN PRESS

victim group, psychopathy (b =0.10, Wald $x^2(1) = 6.13$, $p \leq .01$), aggression (b =0.06, Wald $x^2(1) = 9.54$, $p \leq .01$), sibling victimization (b =0.13, Wald $x^2(1) = 23.06$, $p \leq .001$), sibling perpetration (b =0.10, Wald $x^2(1) = 11.51$, $p \leq .001$), parental victimization (b =0.14, Wald $x^2(1) = 13.37$, $p \leq .001$) were found as significant and positive correlates of relative bullying victimization.

Discussion

The current study contributes to the literature by supporting the unidimensional factor structure of the Relative Victimization (RVS-Y) and the Relative Bullying Scale for Youth (RBS-Y) among adolescents. Moreover, the current study adds to the knowledge by identifying risk factors of specific bullying roles of relative bullying. In terms of results, increased levels of Machiavellianism, psychopathy, aggression, sibling perpetration, and decreased levels of narcissism were associated with the pure bully role, while narcissism, aggression, and sibling and parental victimization were associated with being a pure-victim. Additionally, psychopathy, aggression, sibling perpetration, and sibling and parental victimization were associated with being a bully-victim.

ARTICLE IN PRESS

Dark personality traits were significantly related to the specific roles of relative bullying. According to the findings of this study, the increased levels of Machiavellianism and psychopathy are expected to increase the likelihood of relative perpetration behaviors, particularly with the role of pure bully, while being a bully-victim is solely associated with the personality trait of psychopathy. This result is in line with previous research. For instance, previous research documented that students with high levels of Machiavellianism are more likely to get involved in aggressive behaviors in school, as individuals with high levels of Machiavellianism have a tendency to be manipulative and strategic leaders who are eager to dominate others in their relationships and feel less remorse for their actions to cause damage to the victims [33-34]. Similar to the results of this study, previous studies documented that

ARTICLE IN PRESS

the dark personality trait of psychopathy is a significant predictor of violent behaviors [35]. Thus, individuals with higher levels of psychopathy frequently engage in bullying their relatives compared to those with lower levels of this personality trait.

Interestingly, contrary to existing literature, lower levels of narcissism were found to be associated with higher levels of relative perpetration behaviors in terms of being a pure bully, although higher levels of the same trait are associated with a pure victim role. This finding contradicts the findings of the previous studies [36]. Essentially, narcissism is a multifaceted construct in nature with different classifications, such as grandiose vs. vulnerable narcissism. Vulnerable narcissism is characterized by individuals' belief in their own exceptionalism, which aligns with grandiose agentic narcissism. However, vulnerable narcissism is also identified by hypersensitivity to criticism and shame, and inner fragility [37]. Thus, the pure bully group in the current sample, characterized by lower levels of narcissism, might be driven by more non-grandiose forms of aggression. Contrarily, the higher levels of narcissism among pure victims could reflect the characteristics of vulnerable narcissism—a facet marked by self-doubt, insecurity, threat, and inadequacy, and a tendency to perceive themselves as targets of others' contempt due to the interpretation of the situations as ego-threatening and cognitive biases of self-representation [38-39-40]. Thus, this specific finding might suggest that the relationship between general narcissism scores and bullying roles is highly nuanced, and future research should use measures that differentiate between these grandiose and vulnerable facets to accurately map their roles in relative bullying.

According to the results, aggression was significantly related to three roles of relative bullying victimization, although the association was stronger for the bully-victim group, followed by being a pure bully, and this finding is in line with the literature. Previous research documented that aggression was a significant correlate of bullying victimization regardless of the roles, although bully-victims constituted the most aggressive group of all, attributed to

ARTICLE IN PRESS

being the “multiple problem group” [41]. Sibling and parental bullying were also found as significant correlates of relative bullying victimization in this study. For instance, sibling perpetration was found to be associated with the pure bully and bully-victim role of relative bullying. Thus, findings highlight the overlap between sibling and relative perpetration and suggest that adolescents involved in sibling bullying are more likely to engage in bullying behaviors among relatives and to be victimized by them. This reflects the relationship within the wider family, where sibling perpetration extends to a broader tendency to exercise power aggressively within the family context [42]. Similarly, the current study findings demonstrated that being exposed to victimization by parents and siblings at home was also found to be related to pure victim and bully-victim roles. Previous research documented similar findings that exposure to family violence at home and hostile parenting predicted whether or not a child is in a victimization group [43]. Consistently, another study showed that severely victimized children reported the highest level of adverse family conditions, underscoring the strong link between family environment and victimization [44].

The current study has several limitations. First, employing only self-report measures was clearly a limitation. It is therefore recommended that future studies use a wider range of methodologies, including qualitative approaches. A further limitation of the present study lies in its cross-sectional design, which prevents causal inferences; longitudinal studies are needed to establish of cause-and-effect relationship. Moreover, the current study specifically selected relative bullying as its main focus due to the scarcity of the topic within the literature. Yet, further studies are encouraged to integrate peer bullying as a risk factor alongside sibling and parental bullying to provide a more comprehensive understanding of the environmental risks contributing to an adolescent's overall profile. Despite these limitations, the findings of the current study add to knowledge in a few ways. First, this study provides support for the factorial validity of the youth form of the Relative Perpetration Scale (RBS-Y) as well as the

ARTICLE IN PRESS

youth form of the Relative Victimization Scale [RVS;11], an assessment tool that was recently proposed in the literature for assessing adults' remembrances of exposed relative victimization during adolescence and childhood. Moreover, this study provides the risk factors associated with differential profiles of relative bullying in terms of the relationship with dark personality traits, aggression, and sibling and parental bullying victimization.

ARTICLE IN PRESS

ARTICLE IN PRESS

References

1. Menesini, E., Camodeca, M. & Nocentini, A. Bullying among siblings: The role of personality and relational variables. *Br. J. Dev. Psychol.* **28**, 921–939 (2010)
2. Liu, X. et al. The impact of school bullying on the mental health of boarding secondary school students: the mediating roles of school belongingness and resilience. *Child Adolesc. Psychiatry Ment. Health* **19**, 32 (2025).
3. Zhou, Y. et al. Early bullying's long shadow: how victimization in childhood and adolescence is associated with university students' mental health and loneliness. *J. Interpers. Violence* **08862605251327392** (2025).
4. Katsantonis, I., Barrado, B., McLellan, R. & Gimenez, G. Subjective well-being and bullying victimisation: a cross-national study of adolescents in 64 countries and economies. *Child Indic. Res.* **17**, 1563–1585 (2024).
5. Seon, Y. & Smith-Adcock, S. Adolescents' meaning in life as a resilience factor between bullying victimization and life satisfaction. *Child. Youth Serv. Rev.* **148**, 106875 (2023).
6. Benavides Abanto, C. M., Jara-Almonte, J. L., Stuart, J. & La Riva, D. Bullying victimization among Peruvian children: the predictive role of parental maltreatment. *J. Interpers. Violence* **36**, 6369–6390 (2021).
7. Hui-Fen, D. A. N., Cui-Yang, F. A. N., Xiao-Wei, C. H. U., Xue-Chen, Z. H. A. N. G., & Ling-Ling, W. U. Cyberbullying victimization and cyberbullying perpetration among adolescents: The roles of normative beliefs about aggression and dual-mode of self-control. *J. Psychol. Sci.* ***43****, 1117 (2020).*
8. Ding, H., Zhao, C., Huang, F., Wei, H., & Lei, L. Do Cyberbullying Victims Feel more Entitled to Bully Others Online? The Moderating Role of Gender. *J. Interpers. Violence* **08862605241275991** (2024).

ARTICLE IN PRESS

9. Olweus, D. *Bullying at School: What We Know and What We Can Do* (Blackwell Publishing, 1993).

10. Peltonen, K., Ellonen, N., Larsen, H. B., & Helweg-Larsen, K. Parental violence and adolescent mental health. *Eur. Child Adolesc. Psychiatry* ***19****, 813–822 (2010).*

11. Belen, H. Relative victimization scale: initial development and retrospective reports of the impact on mental health. *BMC Psychol.* ***12****, 1–11 (2024).*

12. Bronfenbrenner, U., & Morris, P. A. The bioecological model of human development. In *Handbook of Child Psychology* (ed. Lerner, R. M.) 793–828 (John Wiley & Sons, Inc., 2006). https://doi.org/10.1002/9780470147658.chpsy0114

13. Mitsopoulou, E., & Giovazolias, T. Personality traits, empathy and bullying behavior: A meta-analytic approach. *Aggress. Violent Behav.* **21**, 61–72 (2015).

14. Davis, A. C., Farrell, A. H., Brittain, H., Krygsman, A., Arnocky, S., & Vaillancourt, T. The dark triad and bullying in adolescence: A three-wave random intercept cross-lagged panel analysis. *J. Res. Pers.* ***96****, 104178 (2022).*

15. Pineda, D., Rico-Bordera, P., Martínez-Martínez, A., Galán, M., & Piqueras, J. A. Dark tetrad personality traits also play a role in bullying victimization. *Front. Psychol.* ***13****, 984744 (2022).*

16. Jones, D. N., & Paulhus, D. L. Introducing the short dark triad (SD3) a brief measure of dark personality traits. *Assessment* ***21****, 28–41 (2014).*

17. Schwartz, D., Proctor, L. J., & Chien, D. H. (2001). The aggressive victim of bullying: emotional and behavioral dysregulation as a pathway to victimization by peers. In *Peer Harassment in School: The Plight of the Vulnerable and Victimized* (eds. Juvonen, J. & Graham, S.) 147–174 (The Guilford Press, 2001).

ARTICLE IN PRESS

18. Perren, S., Ettekal, I., & Ladd, G. The impact of peer victimization on later maladjustment: Mediating and moderating effects of hostile and self-blaming attributions. *J. Child Psychol. Psychiatry* ***54****, 46–55 (2013).*

19. Salmivalli, C., & Helteenvuori, T. Reactive, but not proactive aggression predicts victimization among boys. *Aggress. Behav.* ***33****, 198–206 (2007).*

20. Ttofi, M. M., Farrington, D. P., Lösel, F., & Loeber, R. The predictive efficiency of school bullying versus later offending: A systematic/meta-analytic review of longitudinal studies. *Crim. Behav. Ment. Health* ***21****, 80–89 (2011).*

21. Duncan, R. D. Peer and sibling aggression: An investigation of intra-and extra-familial bullying. *J. Interpers. Violence* ***14****, 871–886 (1999).*

22. Tanrikulu, I., & Campbell, M. A. Sibling bullying perpetration: Associations with gender, grade, peer perpetration, trait anger, and moral disengagement. *J. Interpers. Violence* ***30****, 1010–1024 (2015).*

23. Jonason, P. K., & Webster, G. D. The dirty dozen: a concise measure of the dark triad. *Psychol. Assess.* ***22****, 420 (2010).*

24. Özsoy, E., Rauthmann, J. F., Jonason, P. K., & Ardıç, K. 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). *Personal. Individ. Differ.* ***117****, 11–14 (2017).*

25. Bryant, F. B., & Smith, B. D. Refining the architecture of aggression: A measurement model for the Buss–Perry Aggression Questionnaire. *J. Res. Pers.* ***35****, 138–167 (2001).*

26. Kuzucu, Y., & Sarıot, Ö. Psychometric properties of Turkish Version of Aggression Questionnaire Short Form in adolescents and adults.*J. Meas. Eval. Educ. Psychol.* **11**, 243–265 (2020).

27. Dantchev, S., & Wolke, D. Trouble in the nest: Antecedents of sibling bullying victimization and perpetration. *Dev. Psychol.* ***55****, 1059 (2019).*

ARTICLE IN PRESS

28. Deniz, E. et al. Sibling bullying in Turkish adolescents: Translation and cross-cultural validation of the sibling bullying questionnaire. *J. Fam. Violence* ***38****, 379–392 (2023).*

29. Thoresen, S., Myhre, M., Wentzel-Larsen, T., Aakvaag, H. F., & Hjemdal, O. K. Violence against children, later victimisation, and mental health: a cross-sectional study of the general Norwegian population. *Eur. J. Psychotraumatol.* ***6****, 26259 (2015).*

30. McDonald, R. P., & Ho, M. H. R. Principles and practice in reporting structural equation analyses. *Psychol. Methods 7, 64 (2002).*

31. Wolke, D., & Samara, M. M. Bullied by siblings: Association with peer victimisation and behaviour problems in Israeli lower secondary school children. *J. Child Psychol. Psychiatry* ***45****, 1015–1029 (2004).*

32. Toseeb, U & Wolke, D. Sibling bullying: A prospective longitudinal study of associations with positive and negative mental health during adolescence. *J. Youth Adolesc.* ***51****, 940–955 (2022).*

33. Jones, D. N., & Neria, A. L. The Dark Triad and dispositional aggression. *Personal. Individ. Differ.* ***86****, 360–364 (2015).*

34. Massey-Abernathy, A., & Byrd-Craven, J. Seeing but not feeling: Machiavellian traits in relation to physiological empathetic responding and life experiences. *Adapt. Hum. Behav. Physiol.* ***2****, 252–266 (2016).*

35. Sehar, G., & Fatima, I. Dark Triad personality traits as predictors of bullying and victimization in adolescents. *J. Behav. Sci.* **26**, 51–65 (2016).

36. van Geel, M., Toprak, F., Goemans, A., Zwaanswijk, W., & Vedder, P. Are youth psychopathic traits related to bullying? Meta-analyses on callous-unemotional traits, narcissism, and impulsivity. *Child Psychiatry Hum. Dev.* ***48****, 768–777 (2017).*

37. Sedikides, C., & Hart, C. M. Narcissism and conspicuous consumption. *Curr. Opin. Psychol.* ***46****, 101322 (2022).*

ARTICLE IN PRESS

38. Fanti, K. A., & Kimonis, E. R. Bullying and victimization: The role of conduct problems and psychopathic traits. *J. Res. Adolesc.* ***22****, 617–631 (2012)*

39. Ok, E., Qian, Y., Strejcek, B., & Aquino, K. Signaling virtuous victimhood as indicators of Dark Triad personalities. *J. Personal. Soc. Psychol.* ***120****, 1634 (2021).*

40. Engyel, M., de Ruiter, N. M., & Urbán, R. Momentarily narcissistic? Development of a short, state version of the Pathological Narcissism Inventory applicable in momentary assessment. *Front. Psychol.* ***13****, 992271 (2022).*

41. Salmivalli, C., & Nieminen, E. Proactive and reactive aggression among school bullies, victims, and bully-victims. *Aggress. Behav.* ***28****, 30–44 (2002).*

42. Tippett, N., & Wolke, D. Aggression between siblings: Associations with the home environment and peer bullying. *Aggress. Behav.* ***41****, 14–24 (2015).*

43. Updegraff, K. A., Thayer, S. M., Whiteman, S. D., Denning, D. J., & McHale, S. M. Relational aggression in adolescents' sibling relationships: Links to sibling and parent-adolescent relationship quality. *Fam. Relat.* ***54****, 373–385 (2005).*

44. Tucker, C. J., Finkelhor, D., Turner, H., & Shattuck, A. M. Family dynamics and young children's sibling victimization. *J. Fam. Psychol.* ***28****, 625 (2014).*

ARTICLE IN PRESS

Declarations

Ethics approval and consent to participate: This study was approved by the Institutional Review Board of Bursa Uludag University in accordance with the Helsinki Declaration 2013. This is a statement to confirm that all methods were carried out in accordance with relevant guidelines and regulations. The researcher considered the ethics of conducting research throughout the research process. Before the data collection, all individuals were informed of the research objectives, data collection method, and the right of acceptance to participate or refuse in the research. Informed consent to participate in the study was provided via the first page of the online survey, and all of the participants agreed to participate in the study.

Availability of Data and Materials: The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy restrictions.

Competing interests: The author declares no competing interests.

Funding: The author declares no funding.

Acknowledgments: Not Applicable

ARTICLE IN PRESS

ARTICLE IN PRESS

Table 1. Items of RVS-Y and RBS-Y

RVS-Y	RBS-Y
Instructions: This scale aims to examine the types of behaviors your relatives (excluding your mother, father, and siblings) have exhibited in their relationships with you over the past six months. Each item on the scale provides a situation. Consider yourself and rate how often you've been exposed to the given situations using the criteria listed at the beginning: 1 = "Never," 2 = "Rarely," 3 = "Sometimes," 4 = "Frequently," and 5 = "Very often." For example, if the situation "A relative called me names" has never occurred in the past six months, select response “1” for the first question.	Instructions: This scale aims to examine the types of behaviors you have exhibited in your relationships with your relatives (excluding your mother, father, and siblings) over the last six months. Each item on the scale provides a situation. Consider yourself and rate how often you engage in the given behaviors with your relatives using the criteria listed at the beginning: 1 = "Never," 2 = "Rarely," 3 = "Sometimes," 4 = "Frequently," and 5 = "Very often." ." For example, if the situation "I called a relative nasty names" has never occurred in the past six months, select response “1” for the first question
A relative called me names	I called a relative nasty names.
A relative deliberately excluded me from her/his group or ignored me.	I deliberately excluded and ignored a relative from my group.
A relative spread rumors about me	I spread false rumors about a relative of mine.
A relative made fun of my appearance, personality, or other characteristics	I made fun of a relative's appearance, personality, or other characteristics.
A relative tried to dominate me or those around me in order to control my life.	I exerted pressure on my relative or those around them in order to influence their life
A relative hurt me by comparing me to other people	I hurt a relative by comparing them to others
A relative hit me or beat me up.	I hit or beat a relative.
A relative influenced others for them to treat me badly	I directed others to treat a relative of mine badly.

ARTICLE IN PRESS

ARTICLE IN PRESS

Table 2. Descriptive Statistics, EFA and CFA results for the items

Items	Mean (N=1096)	Standard Dev. (N=1096)	EFA Factor Loadings (N=548)	CFA Factor Loadings (N=548)
RVS-Y1	1.64	0.95	0.67	0.53
RVS-Y2	1.52	0.94	0.70	0.53
RVS-Y3	1.72	1.14	0.65	0.59
RVS-Y4	1.82	1.12	0.73	0.63
RVS-Y5	1.79	1.15	0.67	0.55
RVS-Y6	2.16	1.33	0.70	0.73
RVS-Y7	1.27	0.71	0.44	0.46
RVS-Y8	1.33	0.78	0.68	0.53
RBS-Y1	1.62	0.99	0.64	0.70
RBS-Y2	1.33	0.80	0.60	0.62
RBS-Y3	1.11	0.48	0.47	0.35
RBS-Y4	1.49	0.88	0.74	0.62
RBS-Y5	1.24	0.62	0.65	0.41
RBS-Y6	1.31	0.70	0.73	0.41
RBS-Y7	1.42	0.92	0.57	0.47
RBS-Y8	1.13	0.51	0.63	0.45

ARTICLE IN PRESS

ARTICLE IN PRESS

Table 3. Multinomial Logistic Regression

Variables	Pure Bully			Pure Victim			Bully-Victim		
	B (SE)	Wald	OR (95% CI)	B (SE)	Wald	OR (95% CI)	B (SE)	Wald	OR (95% CI)
Machiavellianism	0.10(0.05)*	4.31	[1.00, 1.20]	-0.01(0.03)	0.27	[0.93, 1.04]	0.06(0.04)	2.34	[0.98, 1.14]
Psychopathy	0.17(0.05)**	11.19	[1.07, 130]	0.04(0.03)	1.36	[0.98, 1.10]	0.10(0.04)**	6.13	[1.02, 1.20]
Narcissism	-0.10(0.04)**	6.10	[0.83, 097]	0.06(0.02)*	6.59	[1.01, 1.10]	0.04(0.03)	1.29	[0.97, 1.11]
Aggression	0.51(0.02)*	5.12	[1.01, 1.10]	0.03(0.01)*	4.55	[1.01, 1.05]	0.06(0.02)*	9.54	[1.06, 1.02]
Sibling Victimization	0.06(0.03)	3.21	[0.99, 1.13]	0.10(0.02)***	25.05	[1.06, 1.15]	0.13(0.03)***	23.06	[1.08, 1.19]

ARTICLE IN PRESS

Sibling Perpetration	0.09(0.04)*	6.49	[1.02, 1.17]	-0.015(0.02)	0.40	[0.94, 1.03]	0.10(0.03)***	11.51	[1.04, 1.16]
Parental Victimization	0.01(0.05)	0.08	[0.91, 1.12]	0.13(0.03)***	28.26	[1.09, 1.20]	0.14(0.04)***	13.37	[1.07, 1.23]

ARTICLE IN PRESS