

## Research Article

# Understanding the Complexities of Adolescent Bullying: The Interplay between Peer Relationships, Emotion Regulation, and Victimization

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Bullying is a major social problem that is receiving increased attention in society and research. The overarching goal of the current study was to identify risk and protective factors of bullying examining direct effects between peer relationship, emotion regulation, and bullying involvement. Therefore, a cross-sectional study was conducted with  $N = 201$  students (55.7% female) between the ages of 10 and 15 ( $M = 12.86$ ;  $SD = 1.29$ ). Path model analysis revealed that trust had a negative effect on victimization, dysfunctional emotion regulation had a positive effect on perpetration and victimization, alienation had a positive effect on dysfunctional emotion regulation, and victimization and communication had a positive effect on functional emotion regulation. Additionally, dysfunctional emotion regulation strategies mediate the path from alienation to bullying and to victimization. Study results underline the importance of considering the bullying dynamic from a combined perspective of intra- and interindividual factors. The results partially confirmed the hypotheses and contribute to our knowledge about individual and contextual correlates of bullying in adolescents. The present findings suggest that group facilitation with the entire class in team building could be a useful intervention to strengthen peer relationships as well as the relationships between classmates and teachers and students.

## 1. Introduction

Peer attachment plays a significant role in young people's leisure time as well as in their school years. These relationships can be characterized both positively by trust and communication and negatively by alienation from peers. The way in which friendships are formed has an influence on how close to their peers' adolescents are and whether they are involved in bullying dynamics in school [1, 2]. Studies show that one in seven youth experiences bullying [3]. In a global comparison, Europe has lower prevalences [4], while Germany has high prevalences of bullying compared to other European countries [5]. The possible consequences of bullying have frightening developmental trajectories that must be countered at all costs [6]. Current research takes a variety of perspectives on the development of bullying dynamics. The most prominent model used is the socioeco-

logical model by Urie Bronfenbrenner [7–11]. According to his model, different systems can influence the behavior of a person [7–9]. These systems include individual characteristics (i.e., emotion regulation) as well as interpersonal relationships (i.e., attachment/friendship). It is shown that both the dynamics in the peer group and individual factors play a decisive role. In this regard, peer attachment can be an important part of individual development, acting as a safe space and protection when it comes to confiding in another person and experiencing support. Likewise, these relationships can also act as a risk when youth experiences alienation from their peers. Furthermore, studies indicate that the nature of friendship relationships also has an influence on the individual's emotion regulation [12, 13]. Therefore, these unfavorable relationship experiences are not viewed as a typical aspect of growing up, but rather as a precarious starting point. The body of research explaining bullying

processes continues to grow. At the same time, the findings are far from exhausted. The link between interpersonal and intrapersonal factors has not yet been sufficiently investigated. Recent research points to negative associations between trust, communication, emotion regulation, and bullying (e.g., [1, 13]) and positive associations between alienation and bullying (e.g., [14]). The aim of the present study is to link peer relationships with adolescents' functional and dysfunctional emotion regulation strategies and the bullying roles (perpetrator and victim). Due to the dire consequences associated with the involvement in the bullying dynamic [6, 15–17], understanding the bullying dynamic and identifying protective factors that can be fostered in school are important to positively influence the development of adolescents.

## 2. Theoretical Background

**2.1. Peer Attachment.** Attachment does not only play an important role during infancy but accompanies human beings throughout their lives [18]. While the family system provides the first attachment relationships, during adolescence, young people start forming close bonds to people outside their family [19]. Studies on attachment show that the relevance of parent-child relationships is shifting towards the peer relationships in adolescence [2]. Peers gain more influence in the lives of adolescents. Therefore, the attachment system is changing [2, 20, 21]. Furthermore, studies show that the attachment itself remains stable and that only the attachment figure changes [22, 23]. For this reason, it can be assumed that the bond that already exists with the parents is transferred to the peer group and thus functions as an independent variable that influences inter- and intraindividual development. This assumption is based on the mechanism of transmission, i.e., the transmission of the internal working model [2, 20, 21, 24, 25]. Studies suggest that peer relationships can be considered to be peer attachment (e.g., [1, 26]).

In research on peer attachment, the three dimensions, trust, communication, and alienation, are often analyzed [13, 14, 27–29]. Trust refers to the extent to which individuals feel a mutual understanding and respect for each other. The adolescent's perception of the emotional sensitivity and responsiveness of their peers, as well as the level and quality of their involvement and verbal communication, is summarized as communication. Meanwhile, alienation encompasses the individual's feelings of isolation, anger, and detachment in their attachment relationships [27]. Peer attachment has been shown to have a favorable impact on development [30–32]. In contrast, low levels of peer attachment can have an unfavorable impact on the development, i.e., involvement in the bullying dynamic [14, 33].

**2.2. Emotion Regulation.** The ability to regulate emotions is important for social interaction [34]. Emotion regulation has been defined as the extrinsic and intrinsic processes by which emotional reactions are monitored and evaluated [35]. Additionally, the intensity of emotions and the emotional expression can be modified using regulatory strategies

[35]. Although different approaches to operationalize emotion regulation [36] exist, this study follows the definition of Phillips and Power [37] and Power and Dalgleish [38]. They operationalize functional and dysfunctional emotion regulation. Functional emotion regulation includes strategies used to process and hold emotions, while dysfunctional emotion regulation strategies block or reject emotions [37]. Differences in the ability to regulate emotions are related to internal factors (e.g., [39]) or external factors (i.e., attachment; [24]). During adolescence, the development of adaptive emotion regulation strategies might be due to secure relationships with both parents and peers [40]. Emotion regulation is an important aspect of development during adolescence and is considered as a developmental task [35]. Adolescents are faced with a variety of challenges and emotions during this period of their lives, and they need to develop the skills to effectively manage and cope with these emotions [41].

**2.3. Bullying.** Bullying is a major social problem that is receiving increased attention in society and research. Current research shows that bullying positively influences internalizing and externalizing behavior problems, suicidal thoughts, and psychosomatic complaints and is negatively associated with peer attachment [6, 15–17]. Considering the severe effects that bullying can have on both bullies and victims, research focuses on the possible protective and risk factors for bullying [42–44]. There is no standardized definition of bullying, but it is generally considered a form of aggressive behavior aimed to intentionally harm a weaker person (physically or psychologically) over an extended period of time. The harmful act may be carried out by a single person or a group of persons [45]. In addition, different roles, such as bully (victimizing person), victim (victimized person), or bully-victim (a person who both victimizes others and is victimized), can be assigned to adolescents in the bullying process. Salmivalli et al. [46] further specified bullying roles such as assistant, reinforcer, defender, and outsider. However, in this study, the focus will be on the bullies and victims.

The limited research suggests that insecure relationships with parents and peers can influence bullying in adolescents. Students with secure attachments to their peers report less bullying and victimization than uninvolved students [2, 47, 48]. Additionally, they also reported more defending behaviors [2]. In their study, Nikiforou et al. [14] identified that trust in their peers has a negative effect on bullying and victimization whereas alienation has a positive effect on victimization. Furthermore, the need to fit in and belong to the peer group can influence bullying participation [17]. Students who want to belong with their peer group could either participate in the bullying dynamic as bullies or not be involved in the dynamic as they are well integrated within the group [49]. This highlights a gap in research, particularly with regard to the effects of peer attachment on bullying.

Although empirical research predominately focuses on the association between parent attachment and emotion regulation (e.g., [50, 51]), research has also shown links between peer attachment and emotion regulation [52, 53]. Significant

associations between trust, communication, alienation, and emotion regulation in adolescents could be identified [53].

Further studies examined the effects of emotion regulation on bullying [54, 55]. For example, they suggest that children and adolescents with lower emotion regulation skills are more likely to become victims because they are less competent in their interaction with peers. In addition, bullies may enjoy seeing the emotional distress of the victim. Unregulated emotions may enhance this effect [56, 57]. Further studies suggest that both bullies and victims have problems with emotion regulation [58].

### 3. Current Study

The overarching goal of the current study was to examine direct effects between peer relationship, emotion regulation, and bullying involvement. Based on the current research highlighted in the previous section, we propose the following hypothesis. We hypothesize that direct effects of peer relationships on bullying can be mapped. Furthermore, we hypothesize that adolescents' emotion regulation mediates these effects. Based on previous findings, we are suggesting that trust and communication show a positive effect on functional emotion regulation strategies and a negative effect on dysfunctional emotion regulation strategies. Further, we hypothesize that alienation from the peer group has a negative effect on functional emotion regulation strategies and, in contrast, a positive effect on dysfunctional emotion regulation strategies. In addition, we hypothesize that trust in the peer group, communication with the peer group, and individually functional emotion regulation strategies have a negative effect on perpetrators and victims, and alienation from the peer group and dysfunctional emotion regulation strategies have a positive effect on perpetrators and victims. The second aim of the study is to map emotion regulation strategies (functional and dysfunctional) as mediators of the relationship between peer relationships and bullying involvement. In this context, we hypothesize that the functional strategies will moderately mediate the association between peer relationships and bullying involvement, and the dysfunctional strategies will reinforcingly mediate the direct effects.

### 4. Methods

**4.1. Participants and Procedure.** A positive vote has been received from the Institutional Review Board for this study. The a priori power analysis indicates a required sample of  $N = 138$  subjects with an expected mean effect size  $f = .15$ , a 5%  $\alpha$  error probability, and 5 predictors [59]. For the survey, the school administrators were contacted and asked to participate in the study. Once approval was obtained from school administrators and teachers, students were given consent forms to be signed by their parents. Those students who handed in signed informed consent forms were asked to complete a self-report questionnaire. Students from one secondary school (class 5 to 10) in Bremen, Germany, participated in the study. Data collection took place in the spring of 2019 (March and April). The data was collected and

processed anonymously. The sample consisted of  $N = 201$  students (55.7% female) between the ages of 10 and 15 ( $M = 12.86$ ;  $SD = 1.29$ ).

**4.2. Instruments.** The Regulation of Emotions Questionnaire (REQ), developed by Phillips and Power in 2007, has 19 items. It allows for the calculation of four different emotion regulation strategies: internal functional (5 items, such as "I review (rethink) my thoughts or beliefs"), internal dysfunctional (5 items, such as "I hurt or punish myself in other ways"), external functional (4 items, such as "I talk to someone about how I feel"), and external dysfunctional (5 items, such as "I verbally vent my feelings to others"). Adolescents answering the questionnaire are asked to rate how frequently they use each strategy when experiencing strong emotions, with options ranging from "never" to "always." For the analysis, the study groups the functional (9 items) and the dysfunctional strategies (10 items) together.

The revised version of the Inventory of Parent and Peer Attachment (IPPA), which was developed by Armsden and Greenberg in 1987 and revised by Raja et al. in 1992, was used to assess adolescent peer attachment. It has three subscales, including communication (4 items, such as "I tell my friends about my problems and worries"), trust (4 items, such as "When I am upset about something, my friends try to be understanding"), and alienation (4 items, such as "When I talk to my friends about my problems, I feel embarrassed or stupid"). Participants indicate their level of agreement with each statement on a scale ranging from "strongly disagree" (0) to "strongly agree" (3).

The KFN (Kriminologisches Forschungsinstitut Niedersachsen (Criminological Research Institute of Lower Saxony)) questionnaire includes 6 items that make up a bullying scale. Adolescents were asked to respond to items related to bullying behavior, such as "I intentionally hit or kicked another student." They rated the frequency of these behaviors on a 6-point scale, ranging from "never" (0) to "several times a week" (5), based on their experiences during the most recent school semester [60].

**4.3. Data Analytic Procedures.** An exploratory factor analysis of the REQ revealed that two of the items (-.08 and .06) included in the dysfunctional scale (Bartlett's test:  $\chi^2(45) = 301.57$ ,  $p < .001$ ;  $KMO = .69$ ) and one item (.16) in the functional scale (Bartlett's test:  $\chi^2(36) = 253.92$ ,  $p < .001$ ;  $KMO = .74$ ) did not load on the factor. Therefore, they were excluded from the analysis. Only 8 items were included in each scale.

Analysis was conducted using SPSS Statistics and SPSS AMOS. Correlations were used to represent the bivariate analysis. The multivariate analysis was evaluated using path analysis analyzing direct and indirect effects. Indirect mediation effects were determined using a bootstrap (95% level CI, bootstrap of 1000 samples) method (see [61]). The term predictor is used in the statistical sense because the study design is a cross-sectional study. Analyses of missing data indicated that the missings are completely at random (MCAR;  $\chi^2 = 43.178$ ,  $df = 35$ ,  $p = .161$ ; see [62]). Therefore, the full information maximum likelihood estimation of the

regression coefficient was conducted. To evaluate the model fit, the comparative fit index (*CFI*), Tucker-Lewis index (*TLI*), normed fit index (*NFI*), root mean squared error of approximation (*RMSEA*),  $\chi^2$  and *p* values were calculated and interpreted [63, 64]. The three peer attachment dimensions, trust, communication, and alienation, were included as independent variables, dysfunctional and functional emotion regulations were included as mediator variables, and bullying perpetration and victimization were included as dependent variables in the model. Additionally, sex and age were included in the model as control variables.

## 5. Results

Descriptive analysis is shown in Table 1. The correlation analysis shows the strongest relationships between communication with peers and functional emotion regulation strategies ( $r = .45$ ;  $p < .001$ ), peer alienation and dysfunctional emotion regulation strategies ( $r = .34$ ;  $p < .001$ ), bullying perpetration and dysfunctional emotion regulation strategies ( $r = .37$ ;  $p < .001$ ), and bullying victimization and alienation from peers ( $r = .44$ ;  $p < .001$ ).

Our hypothesized model (Figure 1) provides an acceptable fit to the data ( $N = 201$ ;  $\chi^2/df = .416$ ,  $p = .519$ ,  $CFI = 1.000$ ,  $NFI = .999$ ,  $TLI = 1.042$ , and  $RMSEA = .000$ ) and explains 19% of the variance for dysfunction ER, 23% of functional ER, 19% of bullying perpetration, and 26% of bullying victimization. A direct significant path from trust to victimization ( $\beta = -.26$ ,  $p < .01$ ) is evident. Communication shows a direct effect on functional ER ( $\beta = .54$ ,  $p < .001$ ). Alienation shows significant direct effects on dysfunctional ER ( $\beta = .34$ ,  $p < .001$ ) and victimization ( $\beta = .28$ ,  $p < .001$ ). Dysfunctional ER has a direct effect on bullying perpetration ( $\beta = .28$ ,  $p < .001$ ) and bullying victimization ( $\beta = .15$ ,  $p < .05$ ). Functional ER does not have significant effects on perpetration or victimization.

Sex shows direct significant pathways on communication with peers ( $\beta = .41$ ,  $p < .001$ ), trust with peers ( $\beta = .17$ ,  $p < .01$ ), alienation from peers ( $\beta = -.15$ ,  $p < .05$ ), dysfunctional emotion regulation strategies ( $\beta = -.23$ ,  $p < .001$ ), and perpetrators ( $\beta = -.21$ ,  $p < .01$ ).

Dysfunctional emotion regulation strategies mediate the path from alienation to bullying perpetration ( $\beta = .10$ ,  $p < .001$ ) and alienation to victimization ( $\beta = .05$ ,  $p < .01$ ).

## 6. Discussion

In the current study, we examined a cross-sectional path model assessing relations between adolescent peer attachment, emotion regulation, perpetration, and victimization among a sample of German adolescents. The study results underline the importance of considering the bullying dynamic from a combined perspective of intra- and interindividual factors. The results partially confirmed the hypotheses and contribute to our knowledge about individual and contextual correlates of bullying in adolescents.

Adolescent sex shows a direct effect on all independent variables of peer relationships as well as on dysfunctional emotion regulation and perpetration of bullying. Females

indicating higher communication and trust with their peers and males rating higher in alienation and dysfunctional emotion regulation strategies. Meta-analytical results show that males are less attached to their peers than females [40]. Additionally, the meta-analytical results indicate significantly higher trust and communication in peer relationships for females and no significant differences concerning the alienation subscale [40]. The results regarding alienation therefore do not coincide with the meta-analytical results [40] which might be due to the age difference of our study and the meta-analysis. The results that males are significantly more frequent perpetrators of bullying are also in agreement with previous studies (e.g., [65, 66]).

Feeling confident in one's peer group shows a direct negative effect on victimization. This could mean that those adolescents who trust their peer group and feel that their friends care about them, listen to them, and make an effort to understand their feelings are less likely to become victims in bullying. Additionally, alienation from peers shows a direct effect on victimization. These findings are consistent with findings from Nikiforou et al. [14]. The study results provide the idea that the quality of attachment in peers is important in the development of bullying dynamics [14]. A child who experiences exclusion may show withdrawn behavior and become a victim of bullying more easily as a result of this behavior.

The results of the path analysis show that communication with peers has a positive effect on functional emotion regulation strategies. The path from communication to functional emotion regulation strategies has the highest effect in the model. Communication could therefore possibly be part of a functional emotion regulation strategies. This could mean that adolescents who confide in their friends and value the advice and exchange with their friends also use functional strategies to regulate their emotions, for example, by asking others for advice in problematic situations or by occupying themselves with things that are good for them. These results are in line with other studies arguing that the development and use of adaptive emotion regulation strategies might be due to secure relationships with peers and the development of maladaptive emotion regulation strategies might be due to low attachment to peers [12, 40].

The alienation of adolescents from their peer group, on the other hand, shows a direct effect on dysfunctional emotion regulation strategies. This indicates that those adolescents who feel uncomfortable talking about their problems with their peer group and are ashamed to disclose them also use emotion regulation strategies that are dysfunctional. These dysfunctional strategies include acting out problems with violence or other harmful actions, making others feel bad, or exposing themselves to thoughts that other youths are doing much better than themselves and thus feeling worse. These findings are in accordance with other studies which also found negative associations between peer attachment and dysfunctional emotion regulation strategies [67]. Similarly, Herd and Kim-Spoon [68] discuss that adverse peer experiences are negatively associated with emotion regulation. The use of dysfunctional emotion regulation strategies shows a direct effect on bullying perpetration as well as

TABLE 1: Descriptive statistics.

Variable	N	M	SD	1	2	3	4	5	6	7	8
(1) Trust	193	9.55	2.24	(.80)							
(2) Communication	198	7.01	3.23	.71***	(.84)						
(3) Alienation	197	2.92	2.26	-.60***	-.43***	(.56)					
(4) Dysfunctional emotion regulation	194	14.79	3.74	-.19*	-.24***	.34***	(.69)				
(5) Functional emotion regulation	200	24.61	4.74	.29***	.45***	-.14*	-.19**	(.69)			
(6) Bullying perpetration	201	2.00	2.79	-.09	-.11	.18*	.37***	-.16*	(.76)		
(7) Bullying victimization	201	2.97	3.87	-.39***	-.26***	.44***	.29***	-.12	.50***	(.76)	
(8) Age	201	12.86	1.29	-.06	-.07	.10	.17	-.10	.15*	-.06	
(9) Sex (1 = male, 2 = female)	201			.16*	.41***	-.15*	-.29***	.15*	-.26***	-.20**	-.05

Note: N = sample size; M = mean; SD = standard deviation; Md =median; \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ ; Cronbach’s alpha ( $\alpha$ ) in brackets.

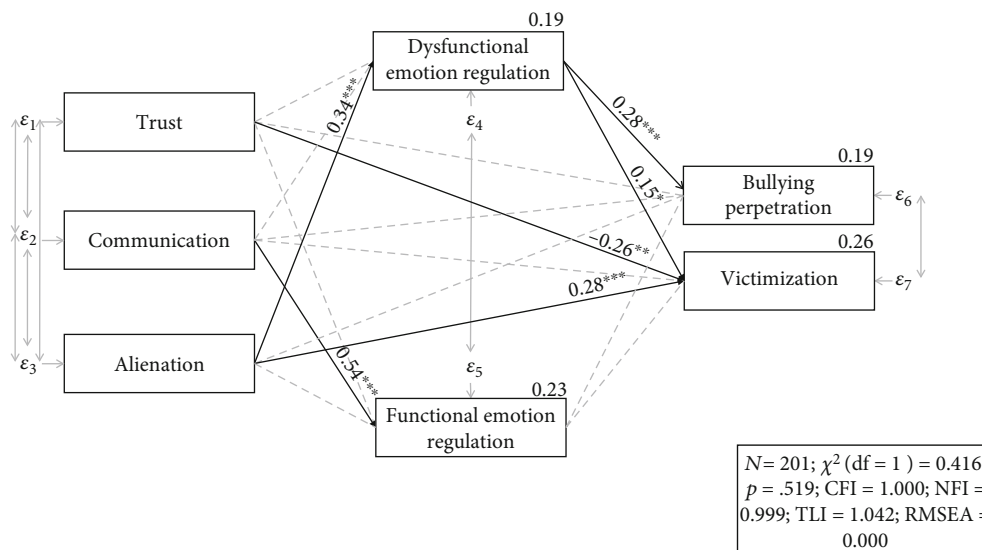


FIGURE 1: Path model. All significant paths are shown in black solid lines, and the nonsignificant paths are shown in grey solid lines; \* $p < .05$ , \*\* $p < .01$ , and \*\*\* $p < .001$ . Control variables are not included in the figure.

one’s own victimization. The goal of dysfunctional emotion regulation is the suppression or acting out of the emotion without the intention to harm others whereas bullying perpetration has the goal to harm others. This could mean that those strategies, such as letting out feelings about things or people, not only make adolescent a perpetrator of bullying by harming others but also make them a victim of bullying and thus expose them to harmful actions. The relationship between dysfunctional emotion regulation and bullying victimization has not been the focus of many other studies; however, those support the results found in our study that dysfunctional emotion regulation is positively related to victimization [69]. Additionally, the study by Garner and Hinton [70] found a significant and positive association between dysfunctional emotion regulation and bullying perpetration.

In addition to existing findings, our study identified that dysfunctional emotion regulation strategies mediate the path from alienation to bullying and to victimization. Thus, those strategies emerge as important mediators in the practice as well as the experience of bullying.

In summary, the relevance of linking peer relationships, one’s emotional regulation, and bullying roles is demonstrated by understanding that bullying is a group dynamic process with the goal of harming others, and therefore, it must be linked to peer relationships. One hypothesis that we propose based on our own research is that the perpetrator uses the low support and trust from peer relationship of the victims, which does not play a role in the perpetrator.

6.1. *Limitations and Implications.* Although the study offers new insights, limitations should also be noted. The first limitation that arises is that only one school was surveyed, so that comparisons with other schools cannot be made. Secondly, due to the cross-sectional nature of the study, no statements about the reciprocity of the constructs can be made.

Implications for further research as well as for practice can only be concluded from the results with caution. Regarding future research, the study results need to be reassessed with a larger sample and a longitudinal design. In terms of practice, the present findings suggest that group

facilitation with the entire class in team building could be a useful intervention to strengthen peer relationships. At best, this could establish a relationship of trust in the peer group that enables adolescents to use functional emotion regulation strategies. Studies indicate that learned strategies based on relationships with caregivers may be maintained, such as adolescents being uncomfortable talking about their feelings with their peer group because they do not do so at home with their caregivers. This should be addressed in schools, and they should be designed as a safe space that offers trust and protection in interactions. As recent studies have shown, the relationship between students and teachers influences (a) the attitude towards schools [71] and (b) the prosocial behavior of students [71, 72]. Therefore, strengthening the relationship between students and teachers can influence the bullying dynamic by giving children the opportunity and trust to talk to their teachers and strengthen prosocial behaviors. Future research should therefore also focus on student-teacher relationship and its association with bullying. This should also be focused on regarding students with problems in their emotional and social development [72]. On the basis of a secure attachment to peers and teachers in the context of school, new functional strategies for emotion regulation could be developed that work through internalization via the altered internal working model from external to internal regulation.

## 7. Conclusion

This study highlights the significance of examining the interplay between peer attachment, emotion regulation, bullying perpetration, and victimization in understanding the complex dynamics of bullying among adolescents. The findings emphasize the importance of considering both contextual (peers) and individual (emotion regulation) factors when exploring bullying. This indicates that the socio-ecological model can be used to explain bullying behavior. Research needs to focus on different systems to identify influencing factors and possibilities of intervention and the positive development of adolescents. The results indicate that feeling confident in one's peer group and experiencing a sense of belonging can serve as protective factors against victimization, while alienation and exclusion from peers increase the risk of becoming a victim. The utilization of dysfunctional strategies, in turn, is positively associated with both perpetration and victimization in bullying. This study highlighted that dysfunctional emotion regulation strategies mediate the relationship between alienation and both bullying roles, focusing their crucial role in the bullying process. These findings underscore the group dynamics involved in bullying and emphasize the significance of peer relationships in understanding and addressing bullying behaviors. Further research and interventions should focus on fostering positive peer attachments and promoting healthy emotion regulation strategies as a means to prevent and address bullying among adolescents.

## Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

## Ethical Approval

This study was approved by the responsible Institutional Review Board. The study was performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

## Consent

Informed consent was obtained from all individual participants included in the study.

## Conflicts of Interest

The authors declare no conflicts of interest.

## Authors' Contributions

N-B, J-W, J-E, and U-v-D contributed to conception of the study. J-E performed the data collection. N-B, J-W, and J-E performed statistical analysis and methodology. J-E had the project administration. N-B, J-W, and J-E wrote the final draft of the manuscript. All authors contributed to the article and approved the submitted version.

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