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Original Research

The Relationship Between Social Closeness, Moral Disengagement, and Bystander Behavior in Cyberbullying

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Abstract

Background: Cyberbullying behaviors on social media involve a wide range of potential bystanders, whose social roles and decision-making processes significantly influence bullying dynamics. Despite widespread social media use, the factors and mechanisms influencing college students' bystander behaviors in cyberbullying remain poorly understood. This study investigated the relationships among college students' experiences with bullying, moral disengagement, social closeness, and bystander behavior. **Methods**: The study analyzed data from 549 valid participants. Measures included experiences of cyberbullying perpetration, moral-disengagement tendencies, social relationship closeness (SRC), and bystander behavior responses. The study was based on the Bystander Intervention Model (BIM) and social ecological theories, using a structural equation model to analyze the relationships among variables. **Results**: The findings indicated that moral disengagement significantly mediated the relationship between experiences of cyberbullying perpetration and negative bystander behaviors (e.g., reinforcing or assisting the bully). Additionally, stronger social connections attenuated the association between cyberbullying experiences and these negative behavioral responses. **Conclusions**: The results were interpreted through the perspectives of the BIM and social ecological theories, emphasizing the crucial role of moral reasoning and interpersonal relationships in shaping bystander behavior. The study highlights the importance of educational interventions designed to reduce moral disengagement and reinforce social bonds to mitigate the negative impacts of cyberbullying.

Keywords: bystander behavior; college students; cyberbullying; moral disengagement; social ecology

1. Introduction

Cyberbullying refers to aggressive and intentional behavior inflicted by groups or individuals on others electronically, repeatedly, and over time (Giumetti and Kowalski, 2022). This behavior occurs in contexts where the victims have difficulty defending themselves. Unlike traditional bullying, cyberbullying can happen at any time and anywhere. These incidents have unique online-communication features, often involving high levels of anonymity, exposure, persistence, and accessibility (Bansal et al., 2024). A study has shown that cyberbullying can harm mental health and lead to issues like insomnia, depression, and other problems (Zou et al., 2023). The widespread use of digital technology and social media among youth has created conditions that facilitate cyberbullying. Previous research found that 7.82% to 64.32% of college students have experienced cyberbullying, with social media being the primary platform (Huang et al., 2021; Jin et al., 2023). These findings indicate that cyberbullying is a critical issue requiring attention in youth-development contexts.

Social media platforms speed the spread of cyberbullying, increasing its visibility through content sharing, tweeting, and reposting. According to social role theory (SRT), people learn and adopt social roles during socialization and take on different roles depending on the situation (Grgurić Čop et al., 2024). Each role is characterized by its responsibilities, which are shaped by social norms and expectations. Salmivalli (1999) identified four bystander roles in bullying contexts: (1) assistants who directly participate in harassment; (2) reinforcers who positively reinforce the bullies; (3) outsiders maintaining neutrality; and (4) defenders who intervene to protect victims. The diverse actions of bystanders fulfill different social roles and shape the progression of bullying (Chen, 2024). As a collective issue, the decision-making of college-student bystanders, along with their ethical views when faced with cyberbullying, is key to understanding the dynamics of cyberbullying and its wider effects. This study explored how personal moral values interact with group relationships to shape bystander behavior in cyberbullying situations.

1.1 Literature Review

Contemporary research on cyberbullying has shifted from a simple bully-victim model to a three-part bully-

victim-bystander framework by incorporating the role of bystanders (Rudnicki et al., 2023). Bystanders, as social participants, engage in interactions in cyberbullying and their actions are influenced by personal traits and the expectations of others involved. When cyberbullying occurs, bystanders often recognize the victim's situation (Rudnicki et al., 2023), and their responses can serve as prosocial actions that help reduce the impact of bullying and discourage the bully (Torgal et al., 2023). However, research shows that over 60% of college bystanders who witness cyberbullying tend to remain neutral or avoid taking action (Pronk et al., 2019; Shen et al., 2024). This hesitation comes from the significant social costs of confronting bullies, including fears of retaliation or ostracism. Furthermore, some bystanders feel unprepared to intervene in cyberbullying situations, leading them to refrain from taking action (Blackwell et al., 2017).

1.1.1 Theoretical Framework

Among the existing theoretical models, the Bystander Intervention Model (BIM) effectively explains the steps necessary for bystanders to intervene. It is a process model that identifies five stages leading to positive intervention: (1) recognizing the event; (2) interpreting the event as an emergency; (3) assuming responsibility for intervening and planning to do so; (4) choosing an appropriate action; and (5) carrying out the intervention (Pozzoli and Gini, 2013). Bystanders need to make choices at each stage, and these choices ultimately determine whether they intervene positively in a cyberbullying incident. The BIM model indicates that several potential factors may influence bystanders' final behavioral decisions at each stage, including experiential, psychological, and situational factors. These factors are considered significant in explaining why most bystanders do not intervene.

BIM is important for understanding how individuals make decisions internally. However, in real-world cyberbullying scenarios, complex social factors also substantially shape bystanders' internal cognitive processes (Hong et al., 2016). Nickerson et al. (2024) argued that incorporating a socioecological perspective into BIM (as a process model) helps reveal the interactive mechanisms between individual and contextual factors across different decision-making stages. This integration enhances the explanation of intervention-behavior selection and role assumption after bullying recognition (Cross et al., 2015). Guo et al. (2021) emphasized that research on cyberbullying must examine how youth interact with teachers, peers, or parents across both offline and online settings. As a complement to BIM, socioecological theory has been widely adopted to investigate attribution and intervention in cyberbullying within diverse social relationships and cultural contexts (Nickerson et al., 2024). Specifically, combining both frameworks highlights the social contexts during cyberbullying incidents, and explores how direct interactions with peers in institutional, school, or group environments, influence attitudes and behavioral choices toward cyberbullying (Fowler and Buckley, 2024; Hong et al., 2023). The socioecological view of cyberbullying includes not only physical offline/online distinctions but also deeper elements such as group norms, value systems, and social relationship dynamics, all of which critically influence bystanders' cognitive processes and intervention behaviors (Cross et al., 2015).

Intervention in a cyberbullying incident arises as a behavioral response stemming from complex interactions between individual cognition and social environments (Nickerson et al., 2024). Integrating BIM with socioecological theory strengthens the theoretical explanation of bystander behaviors. Whereas BIM examines internal cognitive response mechanisms, socioecological theory emphasizes the structural impact of external contextual factors and interpersonal relationships (Patel and Quan-Haase, 2024). The integration of these two perspectives provides several benefits. First, an ecological perspective helps identify social traits of active interveners, such as moral cognition, value beliefs, attitudinal tendencies, and peer networks (Fowler and Buckley, 2024). Second, it enables the development of evidence-based intervention strategies that are tailored to social backgrounds and group contexts, allowing customized bullying-prevention plans across different groups (e.g., age groups, school types, organizational environments) (Guo et al., 2021). Third, BIM focuses on individual cognition and judgment of bullying incidents. However, the ecological perspective emphasizes examining variations in cyberbullying and intervention behaviors across developmental stages, organizational relationships, and cultural environments. Patel and Quan-Haase (2024) advocated for an ecological approach to deepen dynamic understandings of cyberbullying behaviors and interventions.

This study followed operational guidance from existing research. It incorporated bystanders' personal experience and moral disengagement as cognitive factors within the BIM framework, and further examined how social relationship closeness (SRC) moderates positive/negative behaviors through a socioecological perspective. This approach was expected to yield research conclusions with greater theoretical depth and practical relevance.

1.1.2 Cyberbullying Perpetration Experience (CPE) and Bystander Behavior

In the BIM model, Stage 1 involves the bystander recognizing the bullying situation and gaining an initial understanding of the ongoing cyberbullying. Past experience as a perpetrator or victim may influence bystanders' later behavioral choices through operant conditioning and the formation of behavioral-response patterns (Campbell, 1975). This connection is consistent with social learning principles, in which observed reinforcement histories and established behavioral templates guide decision-making in similar situations. Specifically, having experience as a cyber-

bullying perpetrator is a key predictor of bystander behavior, especially in the anonymous online environment of cyberspace (Li and Du, 2024), where such experiences can increase the likelihood of bystanders engaging in negative actions (Jeyagobi et al., 2022). Empirical evidence has shown that 23.53% to 29.36% of bystanders with histories of cyberbullying perpetration exhibit negative bystander behaviors (Zhao et al., 2023).

Cyberbullies often fail to recognize their actions as harmful and are unaware of the damage they cause to their victims (Bandura, 2024). If involvement in cyberbullying has fostered feelings of superiority, these positive emotions may motivate individuals to repeat the behavior, indicating a link between past actions and future negative conduct (Zhao et al., 2023). When bystanders observe perpetrators receiving positive reinforcement for their bullying behavior, they may be inclined to imitate this behavior, potentially assisting or worsening the bullying. Individuals who have previously engaged in bullying are more likely to continue such behaviors online (Boer et al., 2021). As a result, the influence of past experiences on individual actions is heightened in cyberbullying situations, which may lead to negative reactions when witnessing cyberbullying. This study proposed that previous bullying behavior could be an important factor associated with bystander responses. To examine this relationship, the following research hypotheses were developed.

Hypothesis 1: Cyberbullying perpetration experiences demonstrate a significant positive association with bystanders assisting the bully.

Hypothesis 2: Cyberbullying perpetration experiences demonstrate a significant positive association with bystanders reinforcing the bully.

1.1.3 Situational Awareness: The Mediating Role of Moral Disengagement

Moral disengagement is a social-cognitive process that prevents individuals from regulating their behavior (Bussey et al., 2024). Moral disengagement has been confirmed as a cognitive mediator of certain risk factors and antisocial actions (Zhao et al., 2022). This process involves individuals rationalizing harmful behaviors, thus deviating from moral norms and justifying their participation in bullying (Bjärehed et al., 2021). Therefore, exploring the interaction between moral cognition and past experiences is essential for understanding how cyberbullying bystanders regulate their behavior. Specifically, it looks at how previous bullying-perpetration experiences relate to moral disengagement and how these experiences shape bystanders' behavioral choices.

Previous research has identified the online (technological) environment as the primary situational factor influencing bystanders' moral disengagement (Saulnier and Kretenauer, 2023). A related study has measured moral disengagement levels in online scenarios and examined their connection with various bystander behaviors (Shen et al., 2023). Since bystanders in online environments cannot observe the emotions, expressions, or behaviors of perpetrators and victims, their understanding and response to bullying incidents may depend on their personal experiences (Wang and Ngai, 2020). Additionally, the high degree of anonymity online also diminishes moral constraints, enabling bystanders to change their behavior patterns (Chan et al., 2023). Although the causal relationship between bystander moral disengagement and their behavioral decisions during cyberbullying has not been conclusively established, recent research has suggested that moral disengagement may stimulate subsequent bullying (Marín-López et al., 2020).

The above studies show how a unique environment, such as online communication, influences individual moral thinking; however, they overlook the role of offline social situational factors in cyberbullying activities. Social cognitive theory proposes that there are dynamic interactions among individuals, environments, and behaviors (Bandura, 2002). This framework indicates that the development of moral disengagement in college students is significantly influenced by situational aspects within their social environment ecosystems. Therefore, emphasizing these external social factors is essential for understanding the causes and mechanisms behind moral disengagement in bystanders' behaviors during cyberbullying activities.

Hypothesis 3: Moral disengagement plays a mediating role in the relationship between cyberbullying perpetration experience and assisting the bully.

Hypothesis 4: Moral disengagement plays a mediating role in the relationship between cyberbullying perpetration-experience and reinforcing the bully.

Hypothesis 5: Moral disengagement plays a mediating role in the relationship between cyberbullying perpetration-experience and remaining an outsider.

1.1.4 Group Scenarios: The Moderating Role of Social Relationship Closeness (SRC)

Social contextual factors in cyberbullying may enhance bystanders' cognitive recognition of incidents (Wang, 2022). Research has focused more on the immediate circumstances during cyberbullying incidents, considering the complex and evolving situations in the online environment, rather than exploring the influence of external social factors (Patel and Quan-Haase, 2024). Although some social situational factors have been identified as influential in behavioral development, these conclusions pose challenges when applied to measuring and assessing the behavior of university students (Herry et al., 2021).

Social-ecological theory highlights the crucial role of social situational factors, emphasizing the notion that the social environment constantly influences human behavior development. This suggests that institutions like schools, communities, and culture significantly shape in-

dividual cognition and behavior, thereby affecting the role and status of individuals within the social setting (Guo et al., 2021). College students' cyberbullying behaviors, as a typical cognitive and behavioral issue, can be affected by social situational factors. McLeroy's refined social-ecological model places individuals at the core of the ecological framework, forming the first level (intrapersonal) (McLeroy et al., 1988). At this level, individuals possess inherent personality traits and attitudinal predispositions. The second level includes interpersonal relationships, demonstrated through peer interactions among students. The third level involves institutional contexts, where higher education institutions serve as organizational settings for college students involved in cyberbullying incidents. Building on the social-ecological perspective to examine group-level factors (McLeroy et al., 1988) requires identifying assessment variables for social relationships. These variables should reflect interaction dynamics within societal frameworks (Barbalet, 2021a; Chen et al., 2013). Research in management and social psychology has indicated that social relationships serve as the foundational element in the relationship development process, with interpersonal interactions following thereafter (Hong et al., 2025; Peng, 1998). Due to group norms, scholars have increasingly focused on the meanings behind social relationships, incorporating concepts such as human relations and interpersonal ethics into their research. This has led to the development of the concept of social relationship closeness (Clarke and Saiket, 2023). Social relationship closeness reflects the norms and dynamics of interpersonal relationships, including cognitive-based trust and affective feelings (Hong et al., 2025). Greater social relationship closeness indicates stronger group ties.

It is important to clarify that in this study, "social relationship closeness" does not refer to specific interactions between individuals. Instead, it is understood as a broader social context, which should be interpreted differently from the concept used in a previous study (Clarke and Saiket, 2023). Social relationship closeness requires clear differentiation from interpersonal variables such as social proximity, social distance, and relational interdependence in its operational definition. Some scholarship focuses on individual-centered concepts of interpersonal relationships, emphasizing self-perceived or evaluated group social connections (Brewer, 1997). For example, social proximity refers to the psychological construction process of group identification, forming cognitive belonging to a social group through recognizing similarities between oneself and others (Bicchieri et al., 2022). Social distance is "the grades and degrees of understanding and intimacy which characterize pre-social and social relations generally" (Bogardus, 1992). Relational interdependence describes the tendency to conceptualize oneself through relationships with close others, highlighting evaluations of intimacy from an individual perspective (Rogoff, 1990). Although these concepts describe social dynamics within groups from varied angles, they focus on relational bond strength, power dynamics in social interactions, and identity alignment between individuals and groups (Brewer, 1997; Dixon, 2001).

By comparison, social relationship closeness refers to the interplay of individual interests, community values, and interpersonal connections (Chen et al., 2013). Social relationship closeness reflects levels of interpersonal interaction and emphasizes norms of fairness and reciprocity (Chen and Peng, 2008). This concept prioritizes collective relational interests, which help to shape social moral frameworks (Chen et al., 2013). Additionally, social relationship closeness encompasses non-utilitarian ways of relating to others, characterized by unconditional care and tolerance, even toward strangers (Hwang, 2009). In cyber incidents, social relationship closeness is strongly correlated with proactive intervention behaviors; college students demonstrate a greater willingness to protect victims and step in against bullying. Previous research has suggested that various social and cultural factors can influence bullying dynamics and bystander intervention (Wang, 2022). Therefore, examining how social relationship closeness affects bystander behaviors is of important theoretical value.

Research has mainly examined interactions among victims, bullies, and bystanders. Among youth populations, the difference between friendship interactions and social relationship closeness can be illustrated with the following scenario: When bystanders show low levels of dyadic friendship with cyberbullying victims (i.e., limited personal familiarity), higher social relationship closeness within peer groups still influences their emotional expectations to defend, support, or show concern for victims, rather than remaining outsiders, helping bullies, or reinforcing bullying behaviors (Clarke and Saiket, 2023; Wang, 2022). Even in completely unrelated relationships, bystanders adhere to principles of objectivity and fairness, which promote a more impartial way of thinking and expressing emotions, significantly influencing individuals' emotional perceptions (Barbalet, 2021b). When social closeness is high, individuals tend to feel positively toward others, and this emotional tendency encourages deeper consideration of the group (Chen and Peng, 2008). Therefore, this study included hypotheses that these emotional tendencies, stemming from high social closeness, affect the likelihood of negative bystander behavior and shape individuals' actions and responses in cyberbullying situations.

Hypothesis 6: Social relationship closeness negatively moderates the relationship between cyberbullying perpetration experience and reinforcing the bully.

Hypothesis 7: Social relationship closeness moderates the relationship between cyberbullying perpetration experience and assisting the bully.

Incorporating social relationship closeness into empirical research can provide a deeper understanding of how so-

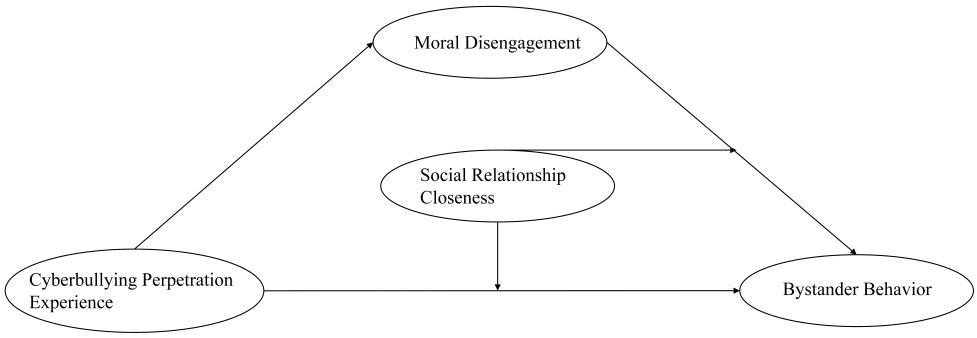

Fig. 1. Research hypothesis model.

cial relationships, as situational factors, influence bystander behavior in cyberbullying incidents. When bystanders confront cyberbullying involving strangers, they are likely to follow the behavioral guidelines and norms of social relationships, which may lead to more objective and fair decisions (Hamel et al., 2021). Individual actions are interpreted through the collective lens of group behavior. Empirical evidence has shown that adolescents who care more about group norms and collective interests tend to exhibit lower tendencies toward transgressive behavior (Chen et al., 2021). At high levels of social relationship closeness, prosocial behaviors driven by fairness and reciprocity are often more pronounced. In cyberbullying incidents, defending victims (i.e., acting as defenders in the BIM) and maintaining impartiality are prosocial choices, which are negatively associated with moral disengagement as a mediating factor (Bandura, 2024). Based on this, the current study suggests that social relationship closeness, as a form of public moral norms, can affect the relationship between online moral disengagement and bystanders engaging in prosocial behavior among university students. Therefore, the following research hypotheses were proposed (Fig. 1).

Hypothesis 8: Social relationship closeness moderates the mediating effect of moral disengagement between bystanders' cyberbullying perpetration experience and assisting the bully.

Hypothesis 9: Social relationship closeness moderates the mediating effect of moral disengagement between bystanders' cyberbullying perpetration experience and reinforcing the bully.

2. Materials and Methods

2.1 Data Collection

Thirty-two investigators were recruited to carry out the survey at 8 universities in Shanghai, China. All investigators conducted their investigations after receiving standardized training. The training systematically covered survey operation standards, academic ethics protocols, informed consent procedures, data confidentiality requirements, and ethical review guidelines. The first page of the questionnaire clearly explained this study's purpose and data-use policies. All participants voluntarily signed the informed consent form. The questionnaire was distributed and collected online via the Wenjuanxing platform. Data collection took place from November 2023 to January 2024, with 617 college students participating. To ensure data quality, each investigator assigned a unique number to every respondent and conducted logical checks on the data. After completing the sample collection phase, we implemented rigorous quality control and screening procedures. Specifically, we excluded invalid responses characterized by excessively short response times, duplicate submissions from the same IP address, and excessive missing items in the questionnaire. This process resulted in a final valid sample size of 549 for analysis.

2.2 Measuring Tools

2.2.1 Cyberbullying Perpetration Experience

The cyberbullying perpetration experience Scale was used to measure bystanders' past involvement in bullying behavior (Patchin and Hinduja, 2015). The scale is unidimensional, consisting of 8 items rated on a five-point Likert scale. Respondents reflect on their experiences with bullying behaviors over the past 6 months and self-report the frequency of engaging in such behaviors on a scale from 0 to 4 (0 = never, 4 = multiple times), with higher scores indicating more frequent involvement. In this study, the scale achieved a Cronbach's α of 0.966.

2.2.2 Cyberbullying Bystander Behavior

The Bystander Behavioral Intentions Questionnaire was used to examine the behavioral decisions of college student bystanders in cyberbullying situations (Chu, 2020; Chu et al., 2018). The scale includes 20 items across five dimensions (each with four items), rated on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree), with higher scores reflecting a greater tendency to engage in the behaviors. In contrast to the four categories proposed by Salmivalli (1999), the scale further distinguishes between two types of defender behaviors: "Protective Behavior" (e.g., "I would persuade the perpetrator to stop his/her behavior") and "Supportive Behavior" (e.g., "I would try to comfort the victim"). In this study, the scale achieved a Cronbach's α of 0.883.

Table 1. Means, standard deviations, and intercorrelations among variables.

		1	2	3	4	5	6	7	8
SRC	1	1							
CPE	2	0.10*	1						
MD	3	0.09*	0.42***	1					
PV	4	0.29***	0.05	0.04	1				
SV	5	0.28***	–0.08	0.11**	0.78***	1			
RO	6	0.05	0.19***	0.41***	–0.26***	–0.16**	1		
RB	7	0.15**	0.42***	0.59***	0.16***	0.16***	0.34***	1	
AB	8	0.11**	0.38***	0.51***	0.22***	0.24***	0.29***	0.71***	1
Mean		31.81	10.83	22.09	17.34	17.34	14.98	9.34	9.63
SD		4.25	6.5	10.88	6.14	6.14	6.18	5.99	6.06

Note. ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$; SRC, social relationship closeness; CPE, cyberbullying perpetration experience; MD, moral disengagement; PV, protect the victim; SV, support the victim; RO, remain an outsider; RB, reinforce the bully; AB, assist the bully.

2.2.3 Moral Disengagement

The study used a shortened version of Bandura's Moral Disengagement Scale to describe the different aspects of the moral-disengagement factor (Moore et al., 2012). This 8-item scale corresponds to the dimensions outlined in the theory of moral disengagement (Bandura, 2002). The scale employs a 5-point Likert scale, with scores ranging from 1 to 5 (1 = strongly disagree, 5 = completely agree). Higher scores reflect a greater level of moral disengagement among participants. In this study, the scale achieved a Cronbach's α of 0.906.

2.2.4 Social Relationship Closeness

In this study, we used the social relationship closeness Scale to assess college students' interpersonal relationship intimacy (Chen and Peng, 2008). This scale measures relationship closeness between individuals and groups, covering both work and non-work settings, with an emphasis on trust and emotional aspects. Its validity has been confirmed through testing with a group of part-time university students. The scale includes 9 items across 2 dimensions, rated on a 5-point Likert scale (1 = completely disagree, 5 = completely agree). Higher scores indicate closer relationships. Participants were asked to self-report their relationship with the victim. In this study, the scale achieved a Cronbach's α of 0.961.

2.3 Data Analysis

Data analysis was conducted using IBM SPSS Statistics (Version 26.0; IBM Corp., Armonk, NY, USA) and Mplus (Version 8.3; Muthén & Muthén, Los Angeles, CA, USA). First, descriptive statistics were calculated to examine sample means, standard deviations, and distribution characteristics. Bivariate correlation analysis and multicollinearity diagnostics were then conducted. Results indicated that all variance inflation factors (VIFs) were below 5 (Menard, 2001; Allison, 1999), suggesting no significant multicollinearity. Common method bias was assessed using Harman's single-factor test, which revealed six factors with eigenvalues over 1. The first factor accounted for 31.32% of the variance, below the 40% threshold, confirming no significant common method bias (Podsakoff et al., 2003). Confirmatory factor analysis (CFA) showed an excellent model fit: χ^2/df = 3.243 (<5), Root Mean Square Error of Approximation (RMSEA) = 0.064 (<0.08), Tucker-Lewis Index (TLI) = 0.922 (>0.9), and Comparative Fit Index (CFI) = 0.930 (>0.9), aligning with the fit criteria proposed by Hu and Bentler (1999). Model construction proceeded in two stages. First, a mediation model without moderators was established, with fit indices (χ^2/df, RMSEA, TLI, CFI) evaluated. After mediation testing, interaction terms were introduced to test moderation effects. To analyze moderation, three levels were defined: the mean (M), mean plus one standard deviation (M+1SD), and mean minus one standard deviation (M–1SD). Effect size variations were assessed using the bias-corrected bootstrap method (5000 iterations, 95% CI). To ensure robustness, demographic variables such as sex, age, and students' place of origin were controlled, as prior research indicates these factors may affect bystander decision-making processes (Zhao et al., 2023). This approach enhanced the reliability of the results.

3. Results

Of the participants, 199 (36.2%) were male, and 350 (63.8%) were female. Additionally, 37.3% of the participants had witnessed a cyberbullying incident in the past 6 mo. Table 1 presents descriptive statistics and correlation matrices for social relationship closeness, cyberbullying perpetration experience, moral disengagement, and behavioral decision-making across different bystander groups. The two-factor correlation analysis found that social relationship closeness was positively associated with protecting and supporting the victims ($p < 0.001$). In contrast, there was no significant correlation between cyberbullying perpetration experience and protecting/supporting the victims;

however, a positive correlation with moral disengagement was observed ($p < 0.001$). Additionally, moral disengagement was positively linked to remaining an outsider, assisting the bully, and reinforcing the bully ($p < 0.001$).

3.1 Results of the Mediating Effect Test for Moral Disengagement

The results of the mediation analysis revealed that χ^2/df = 3.378, RMSEA = 0.066, CFI = 0.924, and TLI = 0.917, indicating good model fit (Hu and Bentler, 1999). Table 2 indicates that cyberbullying perpetration experience was positively associated with moral disengagement (β = 0.46, 95% CI = [0.39, 0.54]). Furthermore, moral disengagement was positively associated with remaining an outsider (β = 0.46, 95% CI = [0.37, 0.54]), reinforcing the bully (β = 0.53, 95% CI = [0.47, 0.60]), and assisting the bully (β = 0.47, 95% CI = [0.40, 0.55]).

Table 2. Test of mediation effects.

	β	SE	LLCI	ULCI
Direct effect				
CPE → MD	0.46	0.04	0.39	0.54
MD → RO	0.46	0.04	0.37	0.54
CPE → RO	0.01	0.05	–0.09	0.09
MD → RB	0.53	0.03	0.47	0.60
CPE → RB	0.26	0.03	0.19	0.33
CPE → AB	0.27	0.04	0.20	0.34
MD → AB	0.47	0.04	0.40	0.55
Indirect effect				
CPE → MD → RO	0.21	0.03	0.15	0.27
CPE → MD → RB	0.25	0.03	0.19	0.31
CPE → MD → AB	0.22	0.03	0.16	0.27
Total effect				
CPE → RO	0.21	0.04	0.13	0.30
CPE → RB	0.51	0.04	0.44	0.58
CPE → AB	0.50	0.04	0.42	0.56

Note: β = standardized regression coefficient; SE, standard error; LLCI, lower limit of the confidence interval; ULCI, upper limit of the confidence interval.

The indirect effect of moral disengagement was significant, constituting a partial mediating effect in the relationship between cyberbullying perpetration experience and both reinforcing the bully (β = 0.25, 95% CI = [0.19, 0.31]) and assisting the bully (β = 0.22, 95% CI = [0.16, 0.27]). These indirect effects accounted for 49% and 44% of the mediating effect. The indirect effect of moral disengagement was significant in this relationship (β = –0.27, 95% CI = [0.22, 0.33]). These findings partially supported Hypotheses 3 and 4.

3.2 Moderating Effect Test Results

The results indicate that gender, age, and place of origin do not exert significant moderating effects. In Hypotheses 6 and 7, the study proposed that social relationship closeness moderates the relationship between cyberbullying perpetration experience and various bystander behaviors. The results (Table 3) showed a positive correlation ($p < 0.001$) between cyberbullying perpetration experience and remaining an outsider, assisting the bully, and reinforcing the bully. Social relationship closeness was positively related to the relationship between cyberbullying perpetration experience and assisting the bully (β = –0.06, 95% CI = [–0.10, –0.01]) and reinforcing the bully (β = –0.06, 95% CI = [–0.10, –0.02]). It had a significant moderating effect on the positive relationship between moral disengagement and assisting the bully (β = 0.10, 95% CI = [0.05, 0.16]) as well as reinforcing the bully (β = 0.09, 95% CI = [0.04, 0.14]) (Fig. 2).

3.3 Moderated Mediation-Modeling Results

To further explore the indirect role of social relationship closeness in cyberbullying perpetration experience, moral disengagements, and various bystander behaviors, the present study performed path analyses with different levels of moderation. The results (Table 4) indicated that at higher levels of social relationship closeness (M+1SD), the positive association between cyberbullying perpetration experience and reinforcing the bully (β = 0.22, 95% CI = [0.14, 0.29]) and assisting the bully (β = 0.23, 95% CI = [0.15, 0.31]) was weakened. Conversely, the positive relationships between cyberbullying perpetration experience and reinforcing the bully (β = 0.57, 95% CI = [0.50, 0.64]) and assisting the bully (β = 0.52, 95% CI = [0.44, 0.60]) were strengthened through the indirect effect of moral disengagement. The 95% confidence intervals do not include 0.

4. Discussion

Based on a survey of college students from eight universities in Shanghai, this study examined the relationship between cyberbullying perpetration experiences, moral disengagement, and bystander behaviors. It also investigated how social relationship closeness, as a situational factor, influenced bystanders' different behavioral choices. The data indicated that many bystanders made behavioral decisions without necessarily having a close relationship with the individuals involved. Therefore, it is important to include social intimacy as a factor in the BIM of cyberbullying, since the level of social intimacy remains unaffected by the bystander's connection to the bully or the victim. The present study explored how social situations influence bystander behavior in cyberbullying incidents.

4.1 Experiential Factors and Bystander Behavior

The study tested the hypothesis that cyberbullying perpetration experiences would be positively related to negative bystander behaviors. The results supported this hypothesis, consistent with the previous findings (Giumetti et al.,

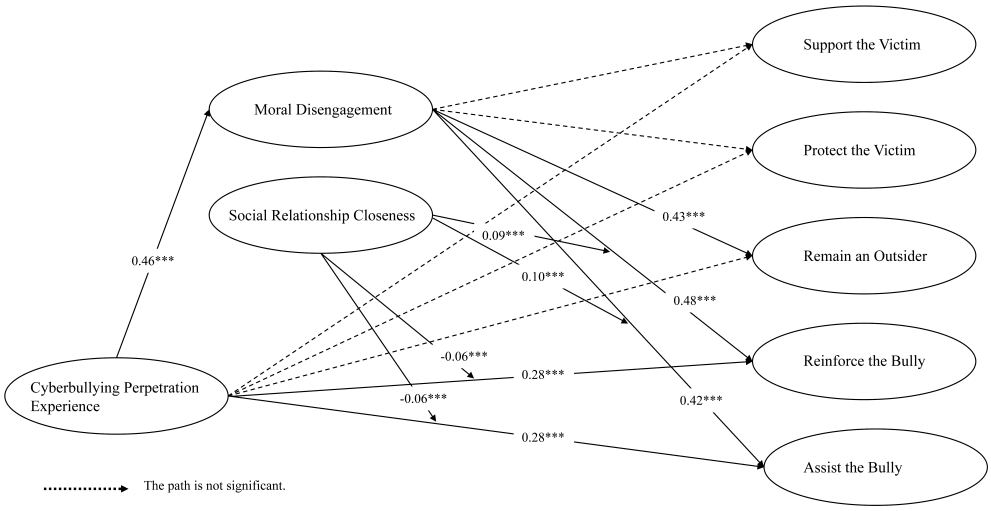

Fig. 2. Moderated mediation model. *** $p < 0.001$.

Table 3. Test of moderating effects.

Outcome variable	Predictor variable	Fit indices		Coefficient			
		R^2	F	β	SE	LLCI	ULCI
AB	Gender	0.50	66.29***	–0.04	0.07	–0.17	0.09
	Age			0.02	0.01	–0.01	0.05
	Place of origin			0.01	0.01	0.00	0.02
	CPE			0.28	0.04	0.21	0.36
	MD			0.42	0.04	0.34	0.49
	CPE × SRC			–0.06	0.02	–0.10	–0.01
	MD × SRC			0.10	0.03	0.05	0.16
RO	Gender	0.47	19.46***	0.04	0.08	–0.12	0.20
	Age			0.01	0.02	–0.02	0.04
	Place of origin			–0.01	0.01	–0.01	0.01
	CPE			–0.01	0.05	–0.10	0.08
	MD			0.43	0.05	0.34	0.52
	CPE × SRC			0.02	0.03	–0.05	0.08
	MD × SRC			0.06	0.03	–0.01	0.13
RB	Gender	0.57	90.81***	–0.01	0.06	–0.13	0.11
	Age			0.02	0.01	–0.01	0.04
	Place of origin			0.01	0.01	0.00	0.03
	CPE			0.28	0.03	0.21	0.34
	MD			0.48	0.03	0.41	0.55
	CPE × SRC			–0.06	0.02	–0.10	–0.02
	MD × SRC			0.09	0.02	0.04	0.14

Note. ***$p < 0.001$.

2022). Smith (2019) argued that cyberbullying arises from a power imbalance, with bullying behaviors among college students possibly serving as a way to boost their social status and gain peer recognition. A recurring pattern of bullying indicates stability in the bully's role. From the bully's perspective, successfully engaging in bullying boosts their self-esteem (e.g., emotional satisfaction, approval from others, social privilege), which then strengthens their belief in their ability to bully again in the future (Chu et al., 2018). When the bully becomes a bystander in subsequent incidents, this sense of agency might lead them to make negative behavioral choices, such as supporting the bully or becoming an accomplice. Compared to traditional bullying, the online environment's disinhibition and anonymity are more intense, which can decrease bystanders' awareness of the possible consequences of their actions and result in less social responsibility (Runions et al., 2018).

In the present study, many bystanders tended to remain outsiders, and their experiences with bullying perpetration were not significantly or directly linked to this ten-

Table 4. Mediation test models under different moderation levels.

	Level		Path Coefficient and Confidence Interval			
			β	SE	LLCI	ULCI
CPE → AB	–1	M–1SD	0.34	0.05	0.25	0.43
	0	M	0.28	0.04	0.21	0.36
	1	M+1SD	0.23	0.04	0.15	0.31
MD → AB	–1	M–1SD	0.32	0.05	0.21	0.42
	0	M	0.42	0.04	0.34	0.49
	1	M+1SD	0.52	0.04	0.44	0.60
CPE → RB	–1	M–1SD	0.34	0.04	0.25	0.42
	0	M	0.28	0.03	0.21	0.34
	1	M+1SD	0.22	0.04	0.14	0.29
MD → RB	–1	M–1SD	0.39	0.05	0.30	0.49
	0	M	0.48	0.03	0.41	0.55
	1	M+1SD	0.57	0.04	0.50	0.64

dency. The study also indicated that higher levels of social relationship closeness led individuals to prioritize maintaining group relationships. When witnessing a cyberbullying incident, college students consider how their actions affect group perceptions and follow group moral norms, often choosing to stay silent to avoid alienating others or damaging relationships (Rovira et al., 2021). These findings raise further questions about the mechanisms within BIM models. Specifically, the present study suggested exploring potential factors such as social relationship closeness, which might influence the role of bystander experience in behavioral decisions, prompting bystanders to prefer inaction.

4.2 Bystander's Sense of Morality and Moral Disengagement

In the present study, students with a history of bullying perpetration exhibited higher levels of moral disengagement, which partially plays a mediating role in the relationship between bullying perpetration and two kinds of negative bystander actions. The analysis further indicated that moral disengagement served as a mediator in the association between bullying behavior and the tendency to adopt an outsider role. According to social cognitive theory, moral disengagement refers to an individual's failure to self-regulate their moral conduct, leading them to engage in aggressive and antisocial behaviors (Shohoudi Mojdehi et al., 2019). Moral disengagement allows individuals to justify their negative actions and dismiss feelings of guilt. Consequently, cyberbullying situations are especially likely to trigger moral disengagement in bystanders, mainly because of the combination of bullying behavior and the anonymity the internet provides. Our findings supported previous research that identified moral disengagement as a key risk factor for cyberbullying (Gao et al., 2020).

Bandura et al. (2017) noted that moral disengagement is ultimately translated into behavior through self-regulatory mechanisms, a process that interacts closely with external environments. In bystander behavior in bullying, moral disengagement enables individuals to "rationalize their deviant behaviors", making this process inherently an internal cognitive regulation. The present study explored how moral disengagement, as a psychologically cognitive attribute, relates to external situational factors that may serve as antecedents to moral disengagement. Specifically, first, the internet environment significantly reduces perceptions of bullying severity and victim suffering, lowering perpetrators' guilt and empathy (Sun et al., 2025). Second, the online context weakens perceived group norms and reduces constraints on negative behaviors, facilitating aggressive and retaliatory actions (Colella et al., 2024). Therefore, as a unique situational cue, the online environment may more easily activate tendencies toward moral disengagement, justifying engagement in bullying and defending inappropriate actions.

Bystanders who have previously been involved in cyberbullying tend to have experiences that implicitly shape their thoughts about these events and help them rationalize their actions. When witnessing cyberbullying again, these experiences activate internal cognitive evaluations, leading them to perceive passive or reinforcing interventions (e.g., reinforce/assist the bully) as legitimate strategies. This history of participation strengthens social cognition and influences intervention decisions. Consequently, they may keep engaging in immoral behaviors, emphasizing the significant mediating role of moral disengagement between bullying perpetration and negative bystander actions.

4.3 Social Relationship Closeness as an External Factor

This study highlighted the importance of social situational factors in cyberbullying. The moderating roles of offline social relationships and contextual factors in cyberbullying and bystander behavior warrant further exploration, given the diversity of bystander responses in different environments. Luo and Bussey (2019) recommended that cyberbullying research should prioritize individual-group relationship factors. The present study extended their argument, emphasizing the moderating role of social relationship closeness in the relationship between cyberbullying and bystander behavior. Higher levels of social relationship closeness were associated with stronger group bonds and moral norms with prosocial traits. Although cyberbullying perpetration was associated with negative behaviors, social relationship closeness weakened the connection between the factor and negative behaviors, highlighting the important moderating role of social situational factors. Specifically, high levels of social relationship closeness reduced the chances of future bullying incidents.

The findings indicated that social relationship closeness significantly weakened the direct positive link between bullying perpetration and negative bystander behavior. However, the indirect connection, mediated by moral

disengagement, was strengthened. According to social-ecological theory, cyberbullying occurs within a multi-layered framework of social and ecological structures, including individuals, groups, and institutions, each influencing bystander behavior. High levels of social relationship closeness emphasize an individual's self-perception within social relationships, often leading to the view that their behavioral decisions focus on the well-being of others or the organization (Chen and Peng, 2008). This construct is also linked to the prioritization of collective interests over individual ones (Chen et al., 2013). In high social relationship-closeness contexts, individuals are more inclined to adhere to moral norms of fairness and reciprocity (Chen and Peng, 2008). Even when possessing cognitive factors related to bullying involvement, bystanders may still engage in positive behaviors due to group pressure or moral constraints. For example, when bystanders do not have direct close relationships with victims, a high level of social relationship closeness at the group level still guides them toward protective/supportive tendencies toward victims (Clarke and Saiket, 2023). This shows that social relationship closeness, as a social contextual factor, influenced bystanders' responsibility attribution. It prompts them to consider actions within collective interests. Ultimately, this weakens the direct relationship between bullying involvement and negative behaviors.

On the other hand, moral disengagement is a psychological process in which individuals justify negative behaviors through mental restructuring, offering cognitive reasons for actions that go against norms (Bandura, 2002). In situations with high social relationship closeness, although group norms reduce the direct influence of cyberbullying experience on negative behaviors, they may also activate the cognitive pathway for moral disengagement. For example, individuals may rationalize their own behaviors through "diffusion of responsibility" (blaming the group instead of the individual for bullying) or "moral justification" (interpreting their negative intervention behaviors as necessary to keep group harmony), thus reinforcing the mediating role of moral disengagement between bullying experiences and negative behaviors (Fissel et al., 2025). The research conclusion can further explore the aspect of "self-responsibility minimization" in moral disengagement (Fissel et al., 2025). Since engaging in negative intervention behaviors may cause individuals to violate group norms and face moral criticism, bystanders can rationalize their engagement in negative intervention behaviors. They do this by reducing their sense of responsibility and attributing it to others (Fissel et al., 2025). The present study enhanced understanding of situational influences and provided a detailed analysis of how concerns related to group affiliation can influence individuals' behavioral choices.

4.4 Implications

The findings indicated that situational factors in cyberbullying are more varied than previously believed. In situations where social relationships are closer, bystanders' decisions might be influenced by deeper considerations of social bonds and moral principles. Compared to Forsberg's conclusion that "bystanders judge each other as 'friends or non-friends' to make intervention decisions" (Forsberg et al., 2014), University students seem to prioritize maintaining relationships within the group rather than relying solely on judgments of individual connections. As the results showed, this focus on group cohesion appears to reduce the likelihood of negative bystander behavior. Therefore, this study broadens the understanding of how interpersonal relationships influence bystander behavior in the context of cyberbullying among university students.

The theoretical perspective of positive and negative risk-taking behaviors helps develop a more targeted and practical framework for this study (Zhang and Wang, 2025a). The present study confirms that bystander behavior in cyberbullying is essentially a form of situated risk decision-making. Individuals with prior bullying experiences are more likely to activate moral disengagement as a cognitive mechanism, leading them to choose negative risk-taking behaviors such as assisting the bully or reinforcing the bullying—a finding consistent with the traditional tendency to pathologize risk-taking. However, a key insight from this study is that social relationship closeness can effectively mitigate this negative pathway and potentially redirect behavioral tendencies toward more constructive directions. This suggests that future theoretical models of cyberbullying should move beyond a simplistic "risk–suppression" binary and instead adopt a developmental perspective. Such a perspective would recognize bystander intervention as a form of positive risk-taking behavior (e.g., defending the victim), driven not merely by risk avoidance but by rational considerations grounded in group ethics and collective interests. On a practical level, these findings provide a scientific basis for constructing multi-system intervention strategies. Greater emphasis should be placed on the constructive value of social relationship closeness as a cultural resource. Universities can foster a campus culture that emphasizes trust, reciprocity, and collective responsibility, thereby strengthening students' sense of group identity. In such an environment, individuals may be more inclined to channel inherent risk-taking impulses into positive interventions, such as protecting victims. Ultimately, interventions should be tailored to the individual and precise. For high-risk students with bullying experiences, efforts should focus on addressing moral disengagement. For the general student population, strengthening social bonds and group norms can encourage positive risk-taking behaviors, such as standing up for victims. This intervention paradigm, based on the concept of positive risk-taking, not only helps reduce the negative impact of cyberbullying but

also guides adolescents' natural risk-taking tendencies toward pathways that support personal growth and healthy social adaptation.

In higher education, effective strategies to strengthen students' moral norms and ethical oversight deserve further exploration. For example, proactive attitude education and encouraging students to intervene in bullying incidents to help victims can effectively reduce such behaviors. Research has shown that proactive, risk-taking behavioral interventions not only significantly decrease the likelihood of cyberbullying but also increase positive emotions and life satisfaction among youth (Zhang and Wang, 2025b). Advocating for "proactive bystander action to stop bullying after witnessing it" emerges as a key future educational practice. Such interventions reinforce group norms, foster prosocial tendencies in those who intervene, and decrease levels of moral disengagement (Yalçın and Aktaş, 2024). It is important to note that lower moral disengagement encourages proactive interventions, creating a positive cycle. Recent evidence has suggested that intervention-focused educational practices are effective and should be expanded. That approach helps reduce the risks of bullying and negative moral development by regulating individual cognitive processes.

As a situational factor, social relationship closeness requires collective maintenance by group members. School-led group activities, ideological education, and psychological counseling significantly decrease campus cyberbullying incidents. These efforts encourage bystanders to uphold positive environmental norms and reduce individual moral disengagement (Crooks et al., 2017).

Given the cultural specificity of variable measurement, cross-cultural comparative studies are recommended. Although cyberbullying among university students is prevalent worldwide, the behavioral and cognitive factors influencing such behavior in different contexts have yet to be fully elucidated. Expanding sample sources and investigating both social contextual and individual cognitive dimensions can deepen insights into cyberbullying intervention strategies. For instance, comparing how social relationship closeness (in collectivist cultures) differs from concepts like "social proximity" or "social distance" (used in Western contexts) can reveal cultural differences in norms. This comparison informs localized intervention practices by clarifying how these factors influence cyberbullying perceptions and intervention decisions. Specifically, the moderating role of social relationship closeness may be stronger in collectivist cultures, whereas individualist cultures may rely more on personal moral judgment than group norms — a hypothesis that requires large-scale validation.

4.5 Limitations

As a cross-sectional study, this research only assessed the correlations among variables at a single time point and therefore could not determine causality. First, because this study can not determine causality, conducting follow-up research and developing a longitudinal framework are practically important. Specifically, longitudinal modeling methods, such as cross-lagged and random-intercept cross-lagged models, can be used to systematically examine the lagged association effects of bystander intervention behaviors, moral disengagement, and social relationship closeness over time at both the between-person and within-person levels. We are dedicated to systematic longitudinal and experimental research and will subsequently explore the causal mechanisms among cyberbullying involvement experiences, social relationship intimacy, and different bystander behaviors.

Additionally, the sample in this study was mainly composed of college students in Shanghai, where regional and age factors might influence. Future research should include a more diverse sample by gathering data from multiple regions and various age groups to strengthen the research's conclusions, making them more applicable to a broader population. Moreover, given the cultural specificity of selected variables, cross-cultural validation is essential to confirm the universality of research conclusions, ensuring applicability beyond the current sample context.

From a methodological perspective, this study relies on validated scales to assess cognitive and behavioral dimensions. Specifically, we employed the "Behavioral Intentions Questionnaire" to evaluate distinct bystander intervention behaviors. While scale-based measurement is a widely adopted international approach, it is crucial to recognize its inherent limitations. Our assessments depend on participants' subjective perceptions and self-reported data. This reliance introduces challenges in excluding the possibility that individuals may withhold truthful responses due to concerns, fear, psychological distress, or ethical considerations. Additionally, the behavioral assessment in this study relies on intentional reports within hypothetical scenarios. However, in real-world cyberbullying incidents, factors such as time pressure and concerns about social consequences may lead to discrepancies between actual behaviors and intentions.

5. Conclusions

This study specifically examined bystander behavior, investigating how group dynamics and moral perceptions influence bullying intervention. The findings showed that social relationship closeness was associated with bystanders' likelihood of engaging in negative behaviors. This implies that, beyond the behavioral intervention process, certain variables may be connected to bystanders' moral cognition and psychological factors, which affect intervention outcomes. Therefore, this research enhances current understanding of bystander behavior by considering these additional influences. Future studies could explore how bystanders intervene in cyberbullying, focusing

on how related variables shape individual cognition and actions to help reduce the risks and harm associated with the spread of cyberbullying.

Availability of Data and Materials

The datasets, original tables and figures, along with all original measurement instruments supporting the findings of this study, are available from the first author, Yiwei Wu (wu_yiwei@foxmail.com), upon reasonable request. All data will be provided in an anonymized format to ensure participant confidentiality.

Author Contributions

Conceptualization: YW, YL, MJ; Methodology: YW, YL; Formal analysis and investigation: PH, QW; Writing - original draft preparation: YW, DZ; Validation: PH, DZ, MJ; Resources: YL. All authors contributed to critical revision of the manuscript for important intellectual content. All authors read and approved the final manuscript. All authors have participated sufficiently in the work and agreed to be accountable for all aspects of the work.

Ethics Approval and Consent to Participate

As this study used anonymous questionnaires, formal ethical approval was not required, in accordance with the relevant Chinese regulation: https://www.gov.cn/zhengce/zhengceku/2023-02/28/content_5743658.htm. All methods in our study followed the guidelines and regulations of the Declaration of Helsinki. All participants voluntarily signed the informed consent form.

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Conflicts of Interest

The authors declare no conflicts of interest.

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