

The impact of emotional neglect on bystander behavior in cyberbullying: The mediating role of loneliness

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Abstract: Bystanders play a crucial role in cyberbullying and are key to intervening in such events. However, previous research has rarely examined the impact of emotional neglect and loneliness on the behavior of bystanders in cyberbullying incidents. Therefore, this study aims to investigate the relationship between emotional neglect and the behavior of cyberbullying bystanders, as well as the mediating role of loneliness in this context. A total of 511 college students were recruited to take part in this study via online survey. The results indicated that emotional neglect was positively associated with loneliness. Loneliness mediates the relationship between emotional neglect and negative cyberbullying bystander behaviors, including promoting the bull and remaining an outsider. This research enhances our understanding of how parental emotional neglect affects bystander behavior in cyberbullying, offering a new perspective for effectively reducing the occurrence of cyberbullying incidents.

Keywords: Bystanders, Cyberbullying, Emotional neglect, Loneliness.

1. Introduction

With the widespread popularity of social media and the dramatic increase in the number of users, cyberbullying has become a new focus issue (Kowalski et al., 2014). Social media platforms offer a convenient way for people to communicate, but they also create a new vehicle for bullying (Ovejero et al., 2016). Cyberbullying refers to the intentional, repetitive and persistent harassment of others by individuals or groups via Internet (Smith et al., 2008). Prior research demonstrates that cyberbullying exerts numerous detrimental socio-emotional effect on individuals, manifesting as depression, profound loneliness, and, in the most severe instances, suicidal thoughts and self-destructive actions (Nikolaou, 2017; Sahin, 2012; Wachs et al., 2020; Ybarra & Mitchell, 2004; Zhang et al., 2020).

Cyberbullying is characterized by wide dissemination, rapid communication, and anonymity, which can result in a larger number of bystanders compared to traditional bullying (Fauman, 2008). Among college students, more than 80% had witnessed cyberbullying in the past three months (Lenhart et al., 2011; Leung, 2021). Bystanders' behavior significantly modifies the outcomes and progression of cyberbullying incidents (Allison & Bussey, 2016; Salmivalli, 2010). Positive bystander behaviors, such as supporting the victim and confronting the bully, can discourage bullying by mitigating the negative effects of bullying and threatening the bully's position (Bastiaensens et al., 2015; Lynn Hawkins et al., 2001). However, negative bystander behaviors, such as malicious retweets or comments, can exacerbate bullying and encourage bullies to become more aggressive (Bastiaensens et al., 2014; Slonje et al., 2013). This suggests a significant potential for reducing cyberbullying by intervening in bystander behavior.

Despite the pivotal role bystanders have in addressing cyberbullying incidents, their predominant response to such situations is often passive (Allison & Bussey, 2016; Gahagan et al., 2016; Dorit Olenik-Shemesh et al., 2015; Van Cleemput et al., 2014). For instance, Dorit Olenik-Shemesh et al. (2015) discovered that 55.4% of bystanders exhibited a passive behavior pattern, failing to offer any assistance to victims of cyberbullying. A survey by Van Cleemput et al. (2014) revealed that 58.6% of bystanders

take no action when confronted with cyberbullying. Studies indicate that the inaction of bystanders can be interpreted by victims as implicit endorsement of bullying (Bastiaensens et al., 2014). When the majority of bystanders acquiesce to such bullying behavior, it reduces the psychological burden on the bully and increases the likelihood of cyberbullying occurring (Moscato et al., 2014). Based on the above research, in order to reduce similar negative bystander behaviors like inaction, it is necessary to further explore what factors influence bystander behavior in cyberbullying. The role of emotional neglect in influencing cyberbullying bystander behavior is a crucial factor that cannot be overlooked.

1.1. The Relationship Between Emotional Neglect and Bystander Behavior in Cyberbullying

Emotional neglect refers to caregivers' inability to fulfill children's basic emotional needs, overlooking their distress, overlooking their social and emotional development, and burdening them with age-inappropriate challenges (Teicher & Samson, 2013). This experience has a profound effect on the mental health and social behavior of the individual (Kong, 2018). Bystander behavior is then susceptible to previous experiences of emotional neglect, as bystanders who have been emotionally neglected may recall similar past experiences when they see others being cyberbullied and display neglectful, apathetic bystander behavior (Kim, 2013). It has been shown that emotional neglect may lead to a lack of empathy or avoidance behaviors when individuals are confronted with the suffering of others (Zhang et al., 2022). According to the Family Socialization Model (FSM) (Eisenberg et al., 1998), in negative family emotional environments, parents usually show indifference, neglect, and a lack of support for their children. Individuals may mimic these negative emotional expressions, which in turn hinders the normal development of empathy, emotional expression, and a sense of security. Similarly, due to the lack of emotional support in the family, individuals may find it difficult to support others, disregard the emotional needs of others, and remain indifferent to others (Kim et al., 2020), and therefore may adopt passive bystander behavior in cyberbullying. On the contrary, in a positive family emotional environment, where parents are typically supportive, friendly, and caring, children learn to express their emotions effectively by imitating role model behavior. A positive family atmosphere fosters trust and support, making children feel safe and more willing to help others (Yang et al., 2023), and therefore may adopt positive bystander behavior in cyberbullying. While existing research has not directly investigated the link between emotional neglect and cyberbullying bystander behavior, two prior researches have demonstrated that individuals who have experienced emotional neglect in childhood are associated with an increased risk of engaging in cyberbullying (Hu & Xiao, 2023; Wang et al., 2019). Additionally, Zhou et al. (2024) noted that negative family emotional expression was positively associated with outsider behavior and reinforcing bullying behavior. Therefore, this study will examine how emotional neglect affects the bystander behavior in cyberbullying, particularly their behavioral choices during cyberbullying.

However, existing research on cyberbullying bystander behaviors tends to overlook the different dimensions of these behaviors. Bystander behavior encompasses more than simple support or opposition and can include various forms of intervention or avoidance. For instance, some bystanders may choose to watch silently without taking any action, while others may actively support the bully or attempt to support the victim through online comments and private messages. The diversity of these behaviors and the psychological motivations behind them have not been fully researched and understood.

Bystander behavior is usually divided into three categories: promoting the bully, protecting the victim, or remaining an outsider (Allison & Bussey, 2016; Van Cleemput et al., 2014). Protecting the victim as active bystander intervention involves supportive actions that indirectly intervene, such as comforting the victim, mobilizing others to halt cyberbullying, among other strategies. Remaining an outsider and promoting the bully, as passive bystander interventions, may be ineffective or even harmful in combating cyberbullying. Remaining an outsider involves refraining from involvement and not assisting either party. This non-intervention may be perceived by the bully as tacit approval of their actions (Bastiaensens et al., 2014). Promoting the bully entails supporting the actions of the bully or actively participating in a cyberbullying incident through actions such as liking and leaving comments.

These three cyberbullying bystander behaviors are to some extent differentially affected by emotional neglect. First, emotional neglect may be positively associated with promoting the bully. The

link between emotional neglect and promoting the bully can be elucidated through the General Aggression Model (GAM). Prolonged exposure to parental emotional neglect induces adverse emotional responses in individuals, and prior experiences of neglect may further catalyze aggressive tendencies and behaviors (Anderson & Bushman, 2002). These aggressive tendencies and behaviors may motivate individuals to promote the bully in cyberbullying. As these individuals are overwhelmed by their own negative emotions, they tend to take it out on others when they see others being bullied as a way of generating a form of vicarious satisfaction (Obermaier et al., 2016). Certain studies investigate the relationship between emotional neglect and cyberbullying bystander behavior (Cui & Li, 2023; Gan et al., 2023; Hu & Xiao, 2023). For instance, Hu and Xiao (2023) demonstrated that emotional neglect is positively associated with cyberbullying behavior. Similarly, finding from longitudinal study indicates that emotional neglect significantly contributes to the escalation of cyberbullying behaviors (Wang et al., 2020).

Second, emotional neglect may be positively associated with remaining an outsider. Due to their lack of appropriate emotional support experiences, these individuals may perceive cyberbullying as normal and not feel the need to intervene (Barlinska et al., 2013). Nelson and Bosquet (2000) noted that emotional neglect can lead individuals to develop self-protective mechanisms that manifest as indifference and disinterest in the suffering of others in order to avoid re-victimizing themselves emotionally. These self-protective mechanisms are particularly evident in cyberbullying situations, making the outsider behavior of bystanders more prominent.

Third, emotional neglect may be negatively associated with protecting the victim. The lack of emotional support and attention from significant others affects the development of empathy and social responsibility in emotionally neglected individuals, leading to a lack of motivation and ability to protect their victims when faced with bullying situations (Zhou et al., 2024). One study found a significant negative correlation between emotional neglect and bully-protective behavior, with the more severe the emotional neglect, the less likely the individual was to protect the bully (Stevens et al., 2001). Drawing on preceding theoretical and empirical analyses, this study posits that emotional neglect is positively correlated with negative cyberbullying bystanders' behaviors and negatively correlated with positive cyberbullying bystanders' behaviors (Hypothesis 1).

1.2. The Mediating Role of Loneliness

Loneliness may play a mediating role between emotional neglect and cyberbullying bystander behavior. Loneliness is defined as a negative, pervasive psychological state resulting from an individual's dissatisfaction with their relationships and social interactions (Asher et al., 1984). Such psychological state often occurs when individuals are dissatisfied with their intimate relationships or lack emotional support (Zhan et al., 2022). Emotional neglect, where parents or caregivers fail to meet an individual's emotional needs, is a primary trigger for loneliness, leading to feelings of neglect and a deep sense of loneliness (Rohner et al., 2005). Loneliness impairs social functioning and hinders effective coping strategies in complex situations (Twenge et al., 2007). According to the general aggression model, emotional neglect and cyberbullying situations serve as personal and situational factors within the input variables that influence an individual's internal state, namely loneliness. This internal state of loneliness can further impact cognitive, affective, and arousal processes, leading to varied behavioral responses (Anderson & Bushman, 2002). Specifically, emotional neglect and cyberbullying situations serve as input variables that affect an individual's internal state by increasing their loneliness, which may lead individuals to remain an outsider or promote the bully.

Some studies have shown that emotional neglect is a predictor of loneliness (Chen & Qin, 2020; Graham et al., 2010; Luo et al., 2020). Individuals who experience emotional neglect are more likely to develop feelings of loneliness due to the lack of emotional support and connection in their early relationships (Heinrich & Gullone, 2006). Existing research has shown that emotional neglect significantly impacts loneliness over the long term (Uruk & Demir, 2003; Wang & Zhao, 2023). Dvir et al. (2014) found that individuals who had been emotionally neglected showed more emotional dysregulation and poorer emotional understanding than those who had not been emotionally neglected,

which may impede the development and maintenance of supportive relationships in the future and put them at greater risk of loneliness.

Besides, loneliness, a critical personal factor in cyberbullying, may elucidate the link between emotional neglect and bystander behavior. Research demonstrates that bystanders with high levels of loneliness during cyberbullying incidents may avoid intervening due to fears of retaliation, often resulting in passive-negative behaviors such as remaining an outsider. Conversely, those with low levels of loneliness are more likely to perceive social support availability, prompting them to engage in proactive behaviors, including directly assisting the victim (Cardoos & Hinshaw, 2011; D. Olenik-Shemesh et al., 2017). Furthermore, while no research has clarified the relationship between loneliness and bystander behavior, existing research points to the fact that as loneliness increases, individuals are less inclined to help the victim (Al Qudah et al., 2020; Larrañaga et al., 2016; Sariçam et al., 2016). According to the general aggression model, personal and situational factors can influence an individual's internal state, which subsequently affects their aggressive behaviors (Anderson & Bushman, 2002). Loneliness, as a profound psychological state, can exacerbate the negative effects of emotional neglect, influencing how bystanders perceive and react to cyberbullying. For example, lonely individuals may seek online interactions as a means of coping with their loneliness, which can include passive bystander behavior in cyberbullying. Those who feel lonely might engage in negative bystander behaviors, such as promoting the bully or remaining an outsider, as a way to align themselves with a group and reduce their own feelings of isolation (Shaffer et al., 2009). Building on the preceding discussion, this study posits that loneliness serves as a mediator between emotional neglect and bystander behavior in cyberbullying (Hypothesis 2).

1.3. The Present Study

Although studies indirectly illustrate the relationship between emotional neglect and cyberbullying bystander behavior, bystander behavior encompasses three components that can be both beneficial and detrimental, so there is a need for further research on bystander behavior. This study aims to achieve this by leveraging relevant theories, including the Parental Acceptance-Rejection Theory and the General Aggression Model, to investigate the impact of emotional neglect on cyberbullying bystander behavior and to examine the mediating role of loneliness. The following hypotheses are proposed: (1) emotional neglect correlates positively with negative bystander behaviors, and negatively with positive bystander behaviors in cyberbullying; (2) loneliness serves as a mediator between emotional neglect and bystander behavior in cyberbullying.

2. Methods

2.1. Participants

Convenience sampling was employed to administer an online questionnaire to 514 college students. Ten participants were excluded due to either excessively brief response times of less than three minutes ($N=2$) or incomplete questionnaires ($N=1$), yielding a total of 511 valid responses (99.42% response rate). The sample comprised 260 male (50.88%) and 251 female (49.12%) respondents. Additionally, 55 participants (10.91%) came from single-parent families, while 456 hailed from two-parent families. Participant ages ranged from 18 to 24 years ($M=19.84$, $SD=1.24$). The survey received ethical approval from the first author's university ethics committee. Participation was voluntary, with participants informed of their right to withdraw at any time and assured of the confidentiality of their responses. Upon completing the survey, participants received a monetary incentive ranging from 3 to 6 yuan.

2.2. Instruments

2.2.1. Emotional Neglect

The Emotional Neglect Scale was translated and revised for China by Bu et al., (2016). This scale comprises 10 items that quantify the degree of emotional neglect by parents towards their children. A 5-point Likert scale is employed, ranging from 1 ("Always") to 5 ("Never"), where higher scores indicate a more severe degree of emotional neglect experienced during childhood. In this study, the scale exhibited a Cronbach's alpha of 0.92.

2.3. Loneliness

The UCLA Loneliness Scale, originally developed by Russell et al. (1980) and subsequently revised by Feng (1995), was employed to assess loneliness. This instrument comprises 18 items that evaluate the feeling of loneliness experienced by an individual. A 4-point Likert scale is utilized for scoring, ranging from 1 ('Never') to 4 ('Always'), with higher scores indicating a greater intensity of loneliness. In this study, the scale demonstrated a Cronbach's alpha of 0.91.

2.4. Cyberbullying Bystanders' Behaviors

The Cyberbullying Bystanders' Behaviors Scale (Teng, 2015), validated and showing good reliability among Chinese participants, was employed to assess cyberbullying bystander behaviors. The scale includes 20 items categorized into three dimensions: promoting the bully (7 items), protecting the victim (9 items), and remaining an outsider (4 items). It utilizes a 7-point Likert scale ranging from 1 (completely disagree) to 7 (completely agree). Higher scores in each dimension signify an increased likelihood of engaging in the respective behaviors. In this study, the overall Cronbach's alpha for the scale was 0.82, with subscale alphas of 0.92 for promoting the bully and 0.84 for both protecting the victim and remaining an outsider.

2.5. Data analysis

In this study, descriptive statistics and correlation analyses were conducted using SPSS version 25.0. Structural equation modeling, performed with Mplus version 7.0, was employed to examine the mediating role of loneliness in the relationship between emotional neglect and cyberbullying bystander behavior. The mediation effects were analyzed using the bootstrapping method, which included 95% bias-corrected confidence intervals based on 5,000 bootstrap samples.

3. Results

3.1. Preliminary Analysis

The Harman's single-factor test was employed to assess common method bias across all questionnaire items addressing emotional neglect, loneliness, and cyberbullying bystander behavior. The analysis identified 10 factors with eigenvalues exceeding 1, with the first factor accounting for 20.35% of the total variance—well below the critical threshold of 40%. Consequently, the data appeared to be minimally influenced by common method bias.

This study performed descriptive and correlation analyses of the variables, detailed in Table 1. Emotional neglect and loneliness were significantly negatively correlated with protecting the victim and significantly positively correlated with remaining an outsider. Furthermore, loneliness was significantly positively correlated with emotional neglect and promoting the bully.

3.2. Relationships Between Emotional Neglect, Loneliness and Bystander Behavior in Cyberbullying

Mplus was used to test for mediating effects. First, the direct association between emotional neglect, loneliness and bystander behavior in cyberbullying was tested. As shown in Figure 1, emotional neglect was significantly positively associated with loneliness ($\beta = 0.45, p < 0.001$) and remaining an outsider ($\beta = 0.11, p < 0.05$), while it was significantly negatively associated with protecting the victim ($\beta = -0.26, p < 0.001$). Loneliness was significantly positively associated with promoting the bully ($\beta = 0.18, p < 0.001$) and remaining an outsider ($\beta = 0.22, p < 0.001$). The direct relationship between emotional neglect and promoting the bully ($\beta = -0.03, p = 0.51$), as well as between loneliness and protecting the victim ($\beta = -0.05, p = 0.28$), was not significant. These results indicate that emotional neglect has significant positive impacts on remaining an outsider and negative effects on promoting bullying behavior, thereby supporting Hypothesis 1.

Second, the mediated effects of emotional neglect on the two cyberbullying bystanders' behaviors were analyzed individually (see Table 2). The indirect effect of emotional neglect on promoting the bully through loneliness was statistically significant ($\beta = 0.08, \text{BootCI} = [0.04, 0.17], p < 0.001$). However, the direct effect of emotional neglect on promoting the bully was not statistically significant

($\beta = -0.03$, BootCI = $[-0.13, 0.05]$, $p > 0.05$). The indirect effect of emotional neglect on remaining an outsider through loneliness was statistically significant ($\beta = 0.10$, BootCI = $[0.05, 0.14]$, $p < 0.001$), as was the direct effect of emotional neglect on remaining an outsider ($\beta = 0.11$, BootCI = $[0.01, 0.20]$, $p < 0.001$). The total size of the mediating effect of loneliness on remaining an outsider was 48.31% ($0.10/0.21$). In summary, emotional neglect influences both promoting bullying behavior and remaining an outsider through the mediator of loneliness, thereby supporting Hypothesis 2.

Table 1
Means, standard deviations and correlation coefficients among the research variables (n=511).

	M	SD	1	2	3	4
1. Emotional neglect	21.39	6.98				
2. Loneliness	36.44	8.984	0.45**			
3. Promoting the bully	14.19	9.198	-0.05	0.17**		
4. Protecting the victim	42.12	11.901	-0.29**	-0.17**	0.13**	
5. Remaining an outsider	14.72	5.585	0.21**	0.27**	0.27**	-0.54**

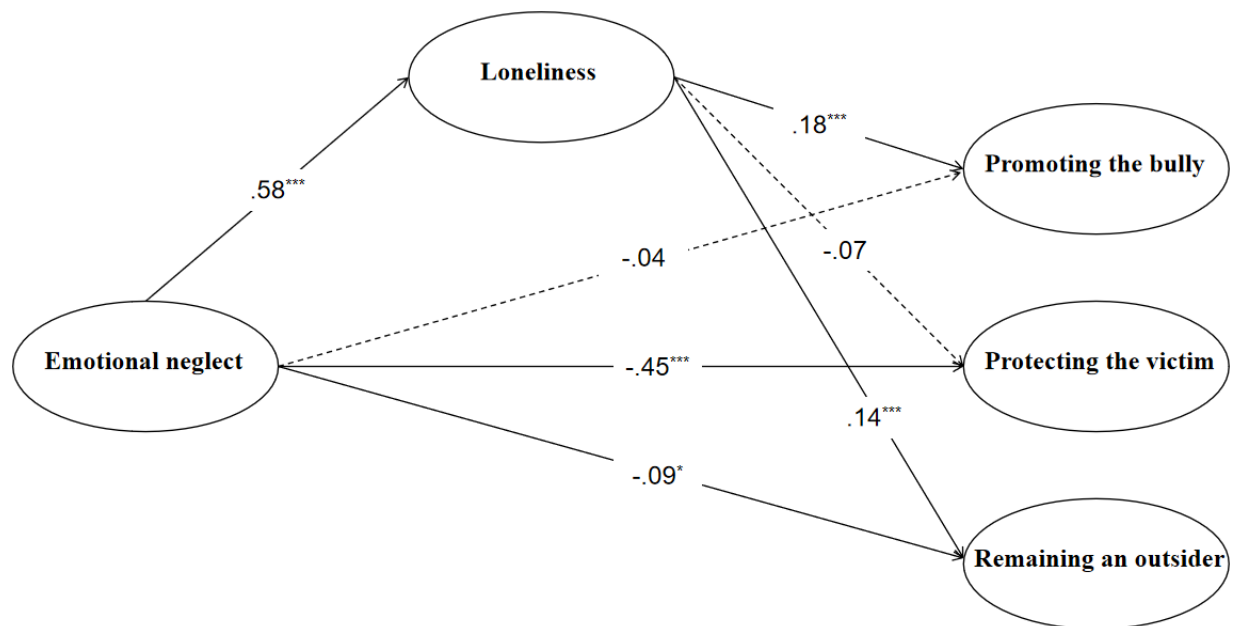


Figure 1.

The effect of emotional neglect on cyberbullying bystanders' behaviors.

Note: The numbers in the Figure represented the standardized path coefficients. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2.
Indirect, direct, and total effects of the total models.

	β	Boot SE	95%CI	<i>p</i>
Emotional neglect→Loneliness→Promoting the bully				
Indirect effect	0.08	0.02	[0.03, 0.12]	<0.001
Direct effect	-0.03	0.05	[-0.13, 0.05]	>0.05
Total effect	0.05	0.04	[-0.03, 0.17]	>0.05
Emotional Neglect→Loneliness→Remaining an outsider				
Indirect effect	0.10	0.02	[0.05, 0.14]	<0.001
Direct effect	0.11	0.05	[0.01, 0.20]	<0.001
Total effect	0.21	0.05	[0.18, 0.28]	<0.001

4. Discussion

Previous research has established emotional neglect as an important predictor of cyberbullying, and the different behaviors of bystanders play a crucial role in intervening in cyberbullying incidents (Hu & Xiao, 2023). However, there is a paucity of studies exploring the impact of emotional neglect on the cyberbullying bystanders' behaviors. This study aims to investigate the mediating role of loneliness in the relationship between emotional neglect and bystander behavior in cyberbullying, to deepen the understanding of how emotional neglect influences the behavior of cyberbullying bystanders, and to provide a new perspective for reducing the occurrence of cyberbullying. The results of this study indicate that emotional neglect is significantly positively associated with remaining an outsider and significantly negatively associated with protecting the victim (H1). In addition, loneliness mediates the relationship between emotional neglect and both promoting bully and outsider behavior (H2).

4.1. Emotional Neglect and Bystander Behavior in Cyberbullying

The results of this study indicate that emotional neglect significantly negatively associated with protecting the victim and positively associated with remaining an outsider, supporting Hypothesis 1. Specifically, higher levels of emotional neglect were associated with a greater likelihood of remaining an outsider and a lower likelihood of protecting the victim. This result is consistent with existing research (Hetzl-Riggin & Meads, 2011; Popescu et al., 2010), individuals who experience emotional neglect tend to adopt more passive coping strategies rather than more aggressive approaches when faced with adversity. It is noteworthy that early experiences of emotional neglect do not make individuals more sensitive to others' negative emotions; rather, they become more insensitive to them (de Heer et al., 2022). Emotional neglect can diminish an individual's empathy and sensitivity to others' suffering, reducing their intrinsic motivation to help those in need (Yu et al., 2020). This phenomenon can be explained by studies on brain development. Research shows that early emotional neglect can negatively impact brain development, particularly in areas related to emotional processing and empathy. This neglect may lead to underdevelopment in these regions, impairing empathy and sensitivity to others' pain (Martin H. Teicher et al., 2016). In addition, parental emotional neglect can lead individuals to develop a persistent state of indifference and neglect, which reflects their attitude toward others, known as their "internal working model" (Fang et al., 2023; Shaver & Mikulincer, 2002). This, in turn, influences their tendency to adopt bystander behaviors. According to the Family Socialization Model (FSM) (Eisenberg et al., 1998), individuals who experience emotional neglect may adopt indifferent behaviors learned from their parents' disregard for their feelings. As a result, when faced with situations that require emotional involvement, such as assisting victims of cyberbullying, they may be more likely to remain an outsider due to their long-term lack of emotional support and empathy skills.

Individuals who experience emotional neglect often seek emotional fulfillment online (Gu et al., 2023), increasing their likelihood of becoming bystanders to cyberbullying. This study found that when these individuals are bystanders to cyberbullying, they are more likely to remain passive observers rather than protect the victims. These findings highlight the profound and lasting impact of emotional

neglect on social behavior and responses to others' distress, extending from the real world to the online environment. Thus, addressing and mitigating the effects of emotional neglect is crucial for fostering empathy and proactive behavior, particularly in contexts that require intervening in cyberbullying and supporting victims.

4.2. *The Mediating Role of Loneliness*

This study found that loneliness mediates the relationship between emotional neglect and both promoting the bully and remaining an outsider, thereby partially supporting Hypothesis 2. Specifically, individuals who experience emotional neglect tend to feel a heightened sense of loneliness, which increases the likelihood of remaining an outsider and even promoting the bully in cyberbullying. First, this finding is consistent with previous research. Ho and Schermer (2024) found that emotional neglect positively predicts feelings of loneliness. Similarly, de Heer et al. (2024) noted that individuals who have experienced emotional neglect are more likely to feel lonely throughout their lives. Second, this finding also validates the strong link between loneliness and negative bystander behavior in cyberbullying incidents. Loneliness affects social behavior, making individuals more likely to remain an outsider. It erodes their confidence and ability to form positive social connections, leading them to withdraw and observe in situations where victims of cyberbullying need help, to avoid potential emotional risks and rejection (Stein & Patrick, 2009). Loneliness not only inclines individuals to remain an outsider but also may promote the bully in cyberbullying. It fosters negative emotions and hostile attitudes, which can manifest as aggressive actions towards others. Furthermore, loneliness diminishes empathy, making individuals more prone to engaging in and promoting bullying behavior (Hawley & Cacioppo, 2010). These findings highlight the critical role of loneliness as a mediator, elucidating how emotional neglect can lead to detrimental social behaviors such as remaining an outsider and promoting the bully.

Furthermore, the results broadly support the general aggression model (Anderson & Bushman, 2002). Loneliness, characterized as a negative emotional and cognitive state, significantly mediates the relationship between emotional neglect, at the input stage, and cyberbullying bystander behavior, within the framework of behavioral decision-making. More specifically, emotional neglect predisposes individuals to feelings of loneliness when their emotional needs remain unmet, leading to an increased propensity for anger and frustration. This, in turn, fosters more negative bystander behaviors during instances of cyberbullying. Additionally, this result aligns with previous findings that suggest loneliness serves as a mediator between childhood psychological abuse and aggressive behavior (Sun et al., 2017). Previous studies have demonstrated that individuals experiencing emotional neglect exhibit higher levels of loneliness (Coriena de Heer et al., 2022). Increased loneliness may lead to changes in the way individuals respond to the behavior of others. Individuals experiencing intense loneliness are often more passive or inactive, stemming from a lack of emotional bonds and social support, and feelings of being unwelcome or insignificant within their group. Consequently, when faced with cyberbullying, bystanders experiencing significant loneliness might remain silent or fail to intervene, and in some instances, might even acquiesce to or support the bully to gain approval or avoid becoming the next target (Yang & Salmivalli, 2013). In conclusion, emotional neglect leads to increased feelings of loneliness, which in turn causes individuals to be more likely to remain an outsider and even promote the bully. The results of this study reveal the complex interaction between emotional neglect, loneliness, and negative cyberbullying bystander behavior. This understanding aids in comprehending the impact of emotional neglect on negative online behaviors and provides new perspectives for interventions to improve the online environment.

5. Implications and Recommendations

This study reveals the mechanism by which emotional neglect influences cyberbullying bystander behavior through loneliness, enriching the theoretical framework of emotional neglect in the realm of social behavior. Specifically, it provides new perspectives and evidence by applying the General Aggression Model (GAM) to understand the impact of emotional neglect on loneliness, bystander behavior, and bullying behavior. Moreover, as a real-life experience, emotional neglect has long-term and profound effects on an individual's psychology and behavior. This study found that emotional

neglect not only affects social interactions in real life but also extends to cyberspace, influencing behavior patterns in virtual environments. This extends the explanatory power and applicability of the General Aggression Model across different contexts. Finally, there has been limited research specifically exploring the impact of emotional neglect on cyberbullying bystander behavior; this study provides valuable empirical evidence for this field.

In practical terms, this research confirms the impact of emotional neglect and loneliness on cyberbullying behaviors. Bystander behavior is crucial in mitigating cyberbullying. Interventions that target emotional neglect and loneliness can enhance positive bystander responses, effectively preventing and diminishing the incidence and adverse effects of cyberbullying. Moreover, identifying students at high risk of cyberbullying due to emotional neglect and loneliness enables interventions to prevent their involvement or victimization in such incidents. Counselors and mental health professionals can offer targeted support through specialized services, including loneliness alleviation programs and emotional support groups, helping students develop healthy social relationships and emotional bonds (Logan-Greene & Jones, 2015). Thirdly, through educational and promotional activities, anti-bullying training programs are implemented to create an atmosphere that actively opposes bullying. Existing empirical research has highlighted the significant role of group mechanisms in bystander behavior within the context of cyberbullying (Patterson et al., 2017). The group mechanisms of positive behavior among peers have been shown to have a marked intervention effect on cyberbullying behaviors (Machackova et al., 2015; Macháčková et al., 2013). Positive interventions through peer groups can exert stronger social influence, alleviate individuals' internal conflicts and pressures, and enable individuals to use peer power to demonstrate resistance to cyberbullying.

5.1. Limitations and Future Directions

The current study has several limitations. First, the results are based on self-reports, and the study population consists of college students, who have received higher education and socialization training. This group tends to have more implicit intentions regarding behaviors that promote bullying, showing reluctance to express obvious antisocial tendencies. This issue could be further explored in future research using implicit experimental paradigms. Second, in the mediation model, loneliness only partially mediates the relationship between emotional neglect and bystander behavior in cyberbullying, suggesting that other variables may also influence bystander behavior. For instance, self-esteem, self-efficacy, and social support. Emotional neglect may lead to low self-esteem, which in turn affects social behavior choices. It may also weaken self-efficacy, making individuals more likely to withdraw when facing difficulties. Future research can explore other potential mediating variables to gain a more comprehensive understanding of the relationship between emotional neglect and cyberbullying bystander behavior. Third, the study is cross-sectional, which makes it difficult to infer causal relationships between variables. Future studies should employ longitudinal designs to replicate and deepen the findings. Fourth, given the diversity and complexity of cyberbullying incidents, this study did not replicate a realistic cyberbullying scenario, resulting in subjects' responses that were largely based on recollections of past experiences, potentially introducing bias. Future research should consider experimentally designing specific cyberbullying scenarios to more accurately assess the impacts of emotional neglect and loneliness on bystander behavior.

6. Conclusion

This study further confirms the impact of emotional neglect on the behavior of bystanders in cyberbullying and the mediating role of loneliness. The results show that emotional neglect was significantly negatively associated with protecting the victim and positively associated with remaining an outsider. Loneliness mediates the relationship between emotional neglect and negative cyberbullying bystander behaviors, including promoting the bull and remaining an outsider. Therefore, families, schools, and society should pay attention to the emotional care of college students. By promoting knowledge about family education, helping to build a harmonious family atmosphere, and alleviating the impact of loneliness in college students, we can guide them to choose positive bystander behaviors and reduce the occurrence of cyberbullying incidents.

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