

Family Emotional Expressiveness and Adolescents' Cyberbullying Bystanders: The Mediating Role of Empathy

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Background: The significant influence of family emotional expressiveness (FEE) on adolescents' face-to-face social interactions is well-established. However, there has been limited investigation into potential links between FEE and adolescents' online social behaviors, especially cyberbullying bystander behaviors, which are pivotal in cyberbullying incidents. This study aimed to assess the relative importance of different aspects of FEE (positive FEE vs. negative FEE vs. the Positive-to-Negative ratio) in predicting adolescents' cyberbullying bystander behaviors, and the mediating roles of affective and cognitive empathy in these relationships.

Methods: A sample of 1,952 adolescents ($M_{\text{age}} = 14.18$, $SD = 1.33$) completed questionnaires, including the Family Emotional Expressiveness Questionnaire, Basic Empathy Scale, and Cyberbullying Bystander Behavior Scale. SPSS 26.0 and *Mplus* 8.3 were used for analysis.

Results: (1) Positive FEE exhibited a positive association with protective behavior and a negative association with indifferent behavior. Conversely, negative FEE showed positive associations with reinforcing and indifferent behaviors. However, the Positive-to-Negative ratio did not exhibit significant associations with any of the three bystander behaviors. (2) Negative FEE emerged as relatively more significant than both positive FEE and the Positive-to-Negative ratio in predicting reinforcing and indifferent behaviors. (3) Affective empathy mediated the relationship between positive FEE and reinforcing behavior, while cognitive empathy mediated the relationship between positive FEE and protective and indifferent behaviors. Moreover, cognitive empathy exerted a more influential role than affective empathy in this mediation process.

Conclusion: Various aspects of FEE demonstrated distinct relationships with three cyberbullying bystander behaviors, with affective and cognitive empathy playing an important mediating role in the association. This finding holds substantial implications for the development of cyberbullying prevention strategies. Such strategies could target the reduction of negative emotional expression within adolescent families and the cultivation of both cognitive and affective empathy.

Keywords: family emotional expressiveness, positive-to-negative ratio, empathy, cyberbullying bystander behaviors, adolescent

Introduction

According to the Family Socialization Model,¹ the family serves as the primary environment for individuals to learn social interactions, including appropriate responses when witnessing others facing challenges or experiencing emotional distress. Family emotional expressiveness (FEE), a significant element within family emotion-related socialization behaviors, plays a pivotal role in the psychological and behavioral development of children and adolescents.¹ Numerous research has confirmed the impact of FEE on adolescents' offline behaviors, including prosocial and aggressive behaviors.²⁻⁴ However, given the rapid increase in adolescent internet usage,⁵ researchers now expressed an interest in how FEE influences adolescents' online behaviors and its mechanism.^{6,7}

As of the beginning of 2024, the latest Global Digital Report revealed that over 66% of the global population uses the internet.⁵ This widespread use of social networks has brought forth a significant concern—cyberbullying.⁶ Cyberbullying peaks in adolescence.⁷ Adolescence, spanning from 10 to 24 years old,^{8,9} is a challenging period marked by numerous emotional and physical changes.¹⁰ The characteristics of the online environment offer them the opportunity and convenience to engage in bullying behavior.¹¹ Meanwhile, cyberbullying is notably prevalent in developing countries.¹² China ranked fourth (44.5%) concerning the prevalence of cyberbullying victimization. Moreover, cyberbullying is related to negative outcomes for both victims and perpetrators, including anxiety, depression, self-harm, and even suicide.^{6,13} Therefore, there is an urgent need to explore factors that could contribute to the reduction of cyberbullying.

Bystanders, those who witness or participate in bullying incidents, play a significant role in the context of cyberbullying.¹⁴ This significance stems from two key factors: Firstly, the online world hosts many bystanders due to the ease of sharing digital content.¹⁵ Secondly, diverse bystander behaviors, including protective actions (such as reporting incidents, comforting victims, and condemning aggressors), reinforcing actions (such as supporting and sharing hurtful content), and indifferent behaviors (such as staying passive or neutral), significantly affect cyberbullying dynamics.¹⁴ Different responses by bystanders can either alleviate or worsen bullying situations.⁶ Despite extensive research on factors influencing these behaviors, such as perceived severity,¹⁶ the number of bystanders,¹⁷ empathy,¹⁸ and self-efficacy,¹³ the links between FEE and cyberbullying bystander behaviors were not well explored.

First, Baumeister pointed out that “negative” parental affect may have a stronger influence on predicting adolescent aggression compared to “positive” parental affect.¹⁹ However, there is little research comparing the effects of positive FEE vs. negative FEE on predicting adolescents’ prosocial or indifferent behaviors. Moreover, both positive and negative FEE contribute to the overall family emotional atmosphere. Balance theory suggests that the ratio of positive to negative interactions within a family also plays a significant role in predicting social behaviors.²⁰ It is necessary to analyze the significance of positive FEE, negative FEE, and the positive-to-negative ratio in a unified model for understanding various cyberbullying bystander behaviors. However, previous studies have typically examined either positive or negative aspects of FEE in isolation when investigating children’s social behaviors.^{21,22}

Second, there is limited research on the specific roles of different emphases in mediating the relationship between FEE and adolescents’ bystander behaviors in cyberbullying. The family Socialization Model highlights empathy’s role in how FEE influences adolescent behavior.¹ Empathy consists of affective empathy and cognitive empathy.²³ Affective empathy, which is sensitive to visual cues like facial expressions and physical proximity, may be challenging to apply online.^{23,24} In contrast, cognitive empathy relies more on logical thinking to understand other’s mental states and is not limited by visual cues.^{23,24} Consequently, affective and cognitive empathy may play different roles in the links between FEE and cyberbullying bystander behaviors.²⁵ However, previous investigations have not thoroughly explored how these two aspects of empathy relate to FEE and cyberbullying bystander behaviors.^{26,27}

Lastly, prior research on cyberbullying has mainly centered on developed Western countries. With the rising prevalence of cyberbullying in developing nations like China,² it becomes essential to investigate whether there are different associations between various aspects of FEE and adolescents’ cyberbullying bystander behavior, especially considering that Chinese families often exhibit lower levels of emotional expressiveness.²²

To address these gaps, this study, guided by the Family Socialization Model,¹ examined the relationships between positive FEE, negative FEE, the Positive-to-Negative ratio, and different cyberbullying bystander behaviors. It also investigated how affective and cognitive empathy mediate these associations, utilizing data from a sample of 1,952 adolescents.

Family Emotional Expressiveness and Cyberbullying Bystander Behaviors

Family emotional expressiveness, as defined by Halberstadt and Eaton,²⁸ refers to the primary mode of emotional communication within a family, including both verbal and nonverbal expressions. It encompasses both positive manifestations (e.g., praise, admiration, and gratitude) and negative expressions (e.g., anger, hostility, and sadness).^{29,30} Within the family context, members regularly express both positive and negative emotions. A comprehensive assessment of family emotional expressiveness surpasses a one-dimensional evaluation based solely on emotional valence.^{28,31} Thus, this study includes positive FEE, negative FEE, and the Positive-to-Negative ratio as a comprehensive metric for family emotional expressiveness.

According to the Family Socialization Model,¹ distinct family emotional environments are linked to different patterns of social behavior in children. A positive family emotional environment typically involves parents demonstrating friendliness, cooperation, and prosocial behaviors, which serve as influential examples for children to emulate.³² In such settings, children also learn constructive emotional expression, empathy, and prosocial behaviors.²⁶ A positive family atmosphere fosters trust and support, making children feel secure and more inclined to help others.

Conversely, a negative family environment may involve unhealthy emotional expressions, such as anger and violence, which children may imitate, leading to aggressive behavior.³² Negative emotional environments can hinder children's ability to regulate their emotions, potentially resulting in impulsivity and aggression.^{26,33} Additionally, the absence of familial support can hinder the development of prosocial behaviors, making it challenging for children to establish positive relationships with others.²⁶

Empirical studies have shown that different dimensions of FEE are distinctly related to children's prosocial or aggressive behaviors.² For instance, Yang et al found negative parenting quality (i.e., parental hostility) was relatively more important than positive parenting quality (i.e., parental warmth) in predicting adolescent aggression.³² Similarly, Benson and Buehler revealed that family hostility was a stronger predictor of higher adolescent aggressive behavior than family warmth.³⁴ An increased PN ratio was associated with a decrease in problem behavior in 83% of adolescent participants.³⁵ A high Positive-to-Negative emotion ratio is connected with improved mental health,^{3,4} enhanced self-efficacy, and reduced disruptive behaviors in the classroom.³⁶

Although the impact of FEE on children's social behavior has been widely explored in offline contexts, the connection between FEE and cyberbullying bystander behaviors has been less studied.^{28,29} Cyberbullying bystander behaviors differ notably from offline behaviors due to factors such as anonymity and disinhibition in the online environment.^{15,37} For instance, online reinforcing and indifferent behaviors may have fewer costs due to the absence of direct supervision.⁶ Therefore, it is essential to investigate the relationship between different aspects of FEE and the three cyberbullying bystander behaviors.

The Mediating Roles of Different Empathy

As outlined in the Family Socialization Model,¹ family's emotional expressiveness can indirectly affect children's social behaviors by improving children's empathy.¹ Empirical research has demonstrated the pivotal role of empathy in bridging family dynamics to children's responses to bullying situations and prosocial behaviors.³⁴ In social interactions, individuals tend to reciprocate kindness when treated kindly and selfishness when treated selfishly.³⁸ Existing studies emphasize the mediating function of empathy within this process, amplifying positive reciprocity and reducing negative reciprocity.^{24,27}

Empathy is a multifaceted concept, including both affective and cognitive components.³⁹ Affective empathy involves sharing emotional experiences with others, while cognitive empathy relates to understanding others' thoughts, feelings, and intentions.³⁹ Affective and cognitive empathy are distinct parts of empathy⁴⁰ and may play different roles in connecting FEE to cyberbullying bystander behaviors.

In theory, a positive family environment offers a secure space for children to learn about others' emotions and perspectives, fostering the development of both affective and cognitive empathy.^{26,41} Previous research has also suggested that families where positive emotions are frequently expressed activate adolescents' altruistic tendencies, potentially enhancing their ability to understand the emotions and needs of others.²⁸

However, when children frequently engage in negative patterns of emotional expression within the family, such as criticism and blame, they may prioritize self-protective mechanisms over altruistic ones.²⁸ This might lead them to believe they have limited interpersonal or intrapersonal resources at their disposal,⁴² potentially making them emotionally unavailable to others and impeding their ability to comprehend the emotions of others. In summary, positive FEE and a high Positive-to-Negative ratio contribute to the development of both cognitive and affective empathy, whereas negative FEE is not consistently linked to children's empathy skills and may even hinder empathy development.²⁶

At the same time, cognitive and affective empathy can have differing impacts on cyberbullying bystander behaviors. Although it is well-established that both forms of empathy are associated with prosocial behaviors and reduced aggressive or indifferent behaviors,⁴³ the relationship between empathy and prosocial behaviors varies between online and offline settings.^{43,44} Studies concerning traditional bullying (i.e., offline context) have suggested that affective

empathy is more pivotal in predicting protective actions and reducing behaviors that reinforce bullying or remain passive than cognitive empathy.⁴⁴ In contrast, research on cyberbullying (i.e., online context) suggests that cognitive empathy, as opposed to affective empathy, is more effective in reducing prosocial behaviors and encouraging bystanders to provide emotional support and guidance to cyberbullying victims.²⁵ It is possible that affective empathy relies more on cues like tone of voice, facial expressions, and physical gestures, which are less prominent in the online environment.²⁴ Therefore, cognitive empathy may play a more substantial mediating role than affective empathy in connecting family emotional expressiveness to cyberbullying bystander behaviors.

The Current Study

The objective of the current study was twofold: (a) to examine the connection between comprehensive FEE and various cyberbullying bystander behaviors, and (b) to investigate how affective and cognitive empathy mediate this relationship. To conduct this exploration, we included a cohort of 1,952 adolescents. Our hypotheses were as follows:

Hypothesis 1: We anticipated that positive FEE and the Positive-to-Negative ratio had positive associations with protective behaviors while showing negative associations with indifferent and reinforcing behaviors. Conversely, negative FEE was expected to positively correlate with indifferent and reinforcing behaviors while negatively associating with protective behaviors.

Hypothesis 2: We proposed that both affective and cognitive empathy mediated the relationship between the FEE and cyberbullying bystander behaviors in adolescents. Moreover, we hypothesized that cognitive empathy played a more substantial mediating role compared to affective empathy.

Methods

Participants and Procedure

A total of 2,000 middle school students participated in the study, with 48 students excluded due to incomplete or uniform responses to the questionnaire. Finally, the sample consisted of 1,952 adolescents who participated in the study ($M_{\text{age}} = 14.18$ years, $SD = 1.33$, age range = 10.33–17.92 years). For a comprehensive overview of the demographic characteristics of the study population, please refer to [Table 1](#).

Table 1 Sample Characteristics

Sample Characteristic	Adolescent Participants
N	1,952
Mean age (SD)	14.18 (1.33)
Grade	
7 th grade	443 (22.7%)
8 th grade	473 (24.2%)
9 th grade	443 (22.7%)
10 th grade	366 (18.8%)
11 th grade	227 (11.6%)
Region	
Urban	1,185 (60.7%)
Rural	767 (39.3%)
Sex	
Males	1,029 (52.7%)
Females	923 (47.3%)
The number of children in the family	
One-child	534 (27.4%)
Multiple children	1,418 (72.6%)

Notes: N represents the sample size. Age is measured in years.

The current study was approved by the Institutional Review Board of Hunan University of Science and Technology, under Study ID: CX2018B687. Informed consent was obtained from both participants and their parents/legal guardians. Participants were provided with comprehensive information regarding the study's purpose and were assured of the voluntary nature of their participation, in accordance with the principles outlined in the Declaration of Helsinki.

This study employed a convenience sampling method to select participants from Hunan Province, situated in central China. To ensure diversity and representativeness, participants were recruited from 6 public schools and 1 private school. Two classes were randomly selected from each grade in selected schools. These schools were distributed across four municipalities in Hunan Province, namely Changsha, Xiangtan, Shaoyang, and Xiangxiang. In October 2018, adolescents were invited to participate in a 25-minute survey at school during class time.

Measures

Cyberbullying Bystander Behaviors

Cyberbullying bystander behaviors were assessed with the 20 items from the DAPHNE project (see [Appendix 1](#)).⁴⁵ This measurement tool enumerates various behaviors associated with bystanders in the context of cyberbullying incidents. Adolescents were required to indicate their responses by choosing the actions they undertook when witnessing instances of cyberbullying. The items were categorized into three subtypes: protecting, indifferent, and reinforcing behaviors. Protecting behaviors included nine items, such as "I comforted the victim". Indifferent behaviors consisted of four items, including "I did not do anything because I didn't think it was my business". Reinforcing behaviors comprised seven items, for example, "I joined others in laughing at the text/video clip and making fun of the victims". Adolescents used binary response options to denote their engagement in each behavior, with 0 indicating "not at all" and 1 indicating "yes, I did". Mean scores were computed and employed in the subsequent analyses, where higher scores denoted a greater frequency of behaviors of the respective type. In the current study, Cronbach's alpha coefficients for the protecting, indifferent, and reinforcing subscales were $\alpha = 0.82$, $\alpha = 0.70$, and $\alpha = 0.66$, respectively.

Family Emotional Expressiveness

The Family Expressiveness Questionnaire (FEQ) was used to assess family emotional expressiveness (see [Appendix 2](#)).⁴⁶ The scale includes two dimensions (positive family emotional expressiveness and negative family emotional expressiveness) and 40 items with a 9-point scale from 1 = "not at all frequently in my family" to 9 = "very frequently in my family". The negative family emotional expressiveness subscale assesses the expression of negative emotions in the family (e.g., "Expressing anger at someone else's carelessness"). The positive family emotional expressiveness subscale assesses the expression of positive emotions in the family (e.g., "Thanking family members for something they have done"). The Positive-to-Negative ratio was computed for each participant by dividing the total number of positive family emotional expressiveness by the total number of negative family emotional expressiveness. The Cronbach's alpha was ($\alpha=0.90$) and ($\alpha=0.77$) for the positive and negative subscales, respectively.

Affective Empathy and Cognitive Empathy

Empathy was assessed using 20 items concerning two dimensions (i.e., affective empathy, cognitive empathy) from the Basic Empathy Scale (BES) on a 5-point scale from 1 = "totally disagree" to 5 = "totally agree" (see [Appendix 3](#)).³⁹ The affective empathy subscale assesses the sharing and feeling of another person's emotion (eg, "Other people's feelings affect me easily"). The cognitive empathy subscale assesses the understanding of another person's emotions (eg, "I can usually figure out when people are happy"). Mean scores were computed and used in the analyses, with higher scores indicating higher empathy. The Cronbach's alpha was ($\alpha = 0.77$) and ($\alpha = 0.81$) for the affective and cognitive empathy subscales, respectively.

Statistical Analysis

Descriptive analyses were conducted using SPSS 20.0 to provide an overview of the sample. To address missing data, full information maximum likelihood estimation methods (FIML) were employed. Structural equation modeling was

constructed while considering covariates, including sex (0 = male, 1 = female), age, and region (0 = rural, 1 = urban). The Structural equation modeling analysis was conducted using *Mplus* 8.3. To estimate indirect effects in the study, bias-corrected bootstrapped standard errors (SEs) and confidence intervals (CIs) were computed based on 5000 bootstrap resamples. The model fit was evaluated using several indices, including Chi-square statistics (χ^2), the comparative fit index (CFI; acceptable > 0.90), the root mean square error of approximation (RMSEA; acceptable < 0.08), and the standardized root mean square residual (SRMR; acceptable < 0.08).⁴⁷

Results

The Common Method Biases Test

All data for this study were obtained through self-reports from adolescents, potentially introducing common method biases. To address this concern during research design and data collection, various measures were implemented. Different questionnaires were administered separately, some items were reverse-scored, and data confidentiality was underscored. Additionally, Harman's single-factor test was employed to examine common method biases.⁴⁸

Initially, unrotated principal component factor analysis was conducted on all items, revealing nineteen factors with eigenvalues exceeding 1. The first common factor accounted for only 10.92% of the total variance, falling below the critical 40% threshold.⁴⁸ Subsequently, a single-factor latent variable model was constructed using the dimensions of the three variables. Results indicated poor model fit ($\chi^2/df = 11.58$, RMSEA = 0.073, TLI = 0.242, CFI = 0.259), suggesting the absence of significant common method biases among variables.

Preliminary Analyses

Descriptive statistics and Pearson correlations for key study variables are displayed in Table 2. As shown in the table, all the correlations are in the expected direction. Across the sample, the mean the Positive-to-Negative ratio was 1.54 ($SD = 0.50$; range = 0.28–7.80). This result showed that families expressed more positive emotions than negative emotions ($M_{\text{positive}} = 5.92$, $M_{\text{negative}} = 4.02$, $t = 56.91$, $p < 0.001$).

The Associations Between Family Emotional Expressiveness and Cyberbullying Bystander Behaviors

After including the covariates (sex, region, and age), the positive FEE was positively associated with defending behaviors ($\beta = 0.16$, $p = 0.002$), and negatively associated with indifferent behaviors ($\beta = -0.12$, $p = 0.014$), respectively. The

Table 2 Correlations Between Key Variables ($N = 1,952$)

	1	2	3	4	5	6	7	8	9	10	11
1. Positive FEE	1.0										
2. Negative FEE	0.15***	1.0									
3. PN Ratio	0.59***	-0.64***	1.0								
4. Affective empathy	0.23***	0.24***	-0.03	1.0							
5. Cognitive empathy	0.37***	0.05*	0.22***	0.36***	1.0						
6. Protecting	0.21***	0.06*	0.11***	0.09***	0.15***	1.0					
7. Indifference	-0.13***	0.09***	-0.15***	-0.04*	-0.11***	-0.14***	1.0				
8. Reinforcing	-0.01	0.05*	-0.03	-0.07**	-0.05*	0.17***	0.13***	1.0			
9. age	-0.003	0.08***	-0.07**	-0.01	0.07**	-0.15***	0.05*	-0.03	1.0		
10. sex	0.11***	0.12***	-0.02	0.25***	0.14***	0.03	-0.05*	-0.05*	-0.05*	1.0	
11. region	-0.19***	-0.06**	0.09***	-0.06**	-0.16***	0.01	0.01	0.07**	-0.12***	0.003	1.0
<i>M</i>	5.92	4.02	1.54	3.48	3.58	0.22	0.15	0.03	14.18	0.47	0.39
<i>SD</i>	1.30	0.91	0.50	0.65	0.61	0.26	0.23	0.10	1.33	0.50	0.49

Notes: The demographic variables, gender, and region were encoded using binary values, where "0" corresponds to males and "1" to females. Similarly, "0" was used for the urban area, and "1" for the rural city when categorizing the adolescents' residential settings. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed).

Abbreviations: Positive FEE, positive family emotional expressiveness; Negative FEE, negative family emotional expressiveness; PN ratio, the ratio of positive to negative family emotional expressiveness.

negative FEE was positively associated with indifferent behaviors ($\beta = 0.12, p = 0.017$) and reinforcing behaviors ($\beta = 0.15, p = 0.04$), respectively.

Moreover, the association between the negative FEE and indifferent behaviors was stronger than that between the positive FEE and indifferent behaviors (Wald test $\chi^2(1) = 6.20, p = 0.013$). Similarly, the association between the negative FEE and reinforcing behaviors was stronger than that between the positive FEE and reinforcing behaviors (Wald test $\chi^2(1) = 4.46, p = 0.035$). However, the link between positive FEE and defending behavior showed no significant difference compared to the connection between negative FEE and defending behavior (Wald test $\chi^2(1) = 0.37, p = 0.54$).

The Mediating Effect of Different Empathy

Figure 1 shown the results of the mediation models. The mediation models demonstrated good fit (CFI = 0.990; TLI = 0.973; RMSEA = 0.030, SRMR = 0.021). The indirect effects of two facets of empathy are shown in Table 3. Cognitive empathy mediated the relationship between the positive FEE and protecting behaviors (indirect effect = 0.033, 95% CI [0.016, 0.056]). Cognitive empathy also mediated the relationship between the positive FEE and indifferent behaviors (indirect effect = -0.023, 95% CI [-0.046, -0.007]). Additionally, affective empathy mediated the relationship between the positive FEE and reinforcing behaviors (indirect effect = -0.019, 95% CI [-0.039, -0.011]). Furthermore, it is worth noting that the mediating effect of cognitive empathy in the relationship between positive FEE and protecting behavior exhibited greater strength compared to the mediating effect of affective empathy ($\beta = 0.006, p = 0.019$).

Discussion

This study examined the relationships between various aspects of FEE and three cyberbullying bystander behaviors, as well as the mediating roles of affective and cognitive empathy in these associations. Results revealed distinct associations between positive FEE, negative FEE, and the positive-to-negative ratio with indifferent, protecting, and reinforcing behaviors. Moreover, the study highlighted the mediating roles of affective and cognitive empathy in the link between FEE and cyberbullying bystander behaviors. Particularly noteworthy was the stronger association between negative FEE and reinforcing and indifferent behaviors compared to positive FEE. Additionally, cognitive empathy demonstrated a more robust mediating influence than affective empathy within the models.

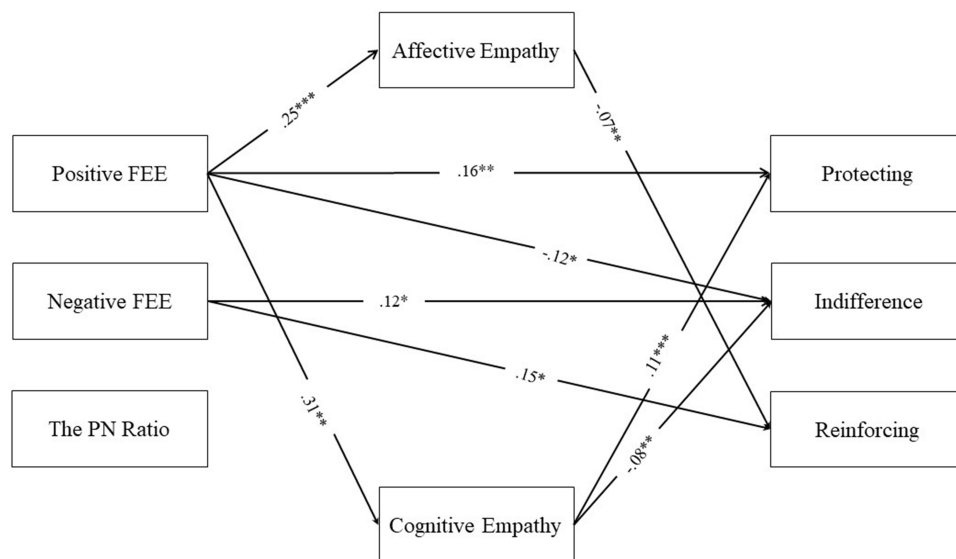


Figure 1 The Mediation Model.

Note: All estimated parameters were standardized. Adolescent sex (0 = males, 1 = females), age, and region (0 = urban area, 1 = rural area) were controlled for but are not depicted here due to space constraints. Only significant paths were shown in the figure * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed).

Abbreviations: Positive FEE, positive family emotional expressiveness; Negative FEE, negative family emotional expressiveness; The PN ratio, the ratio of positive to negative family emotional expressiveness.

Table 3 The Specific Indirect Effect for Each Indirect Pathway in the Model Based on Bias-Corrected Bootstrapped Estimates

Prediction variables	Outcomes variables	Specific Indirect Pathways Tested in the Model			
			Standardized	SE	95% CI
Positive FEE	Protecting behavior	Affective empathy	0.001	0.006	[-.012, 0.014]
		Cognitive empathy	0.033	0.011	[0.016, 0.056]
	Indifferent behavior	Affective empathy	-0.003	0.007	[-.017, 0.010]
		Cognitive empathy	-0.023	0.010	[-.046, -0.007]
	Reinforcing behavior	Affective empathy	-0.019	0.008	[-.039, -0.011]
		Cognitive empathy	-0.006	0.009	[-.025, 0.011]
Negative FEE	Protecting behavior	Affective empathy	0.000	0.003	[-.005, 0.008]
		Cognitive empathy	0.001	0.007	[-.014, 0.014]
	Indifferent behavior	Affective empathy	-0.001	0.003	[-.009, 0.003]
		Cognitive empathy	-0.001	0.005	[-.012, 0.010]
	Reinforcing behavior	Affective empathy	-0.008	0.005	[-.021, 0.000]
		Cognitive empathy	0.000	0.002	[-.006, 0.003]
PN ratio	Protecting behavior	Affective empathy	0.000	0.003	[-.009, 0.006]
		Cognitive empathy	0.005	0.009	[-.015, 0.020]
	Indifferent behavior	Affective empathy	0.001	0.004	[-.004, 0.013]
		Cognitive empathy	-0.004	0.007	[-.018, 0.010]
	Reinforcing behavior	Affective empathy	0.008	0.007	[0.000, 0.028]
		Cognitive empathy	-0.001	0.003	[-.011, 0.003]

Note: Bold fonts indicate statistically significant mediation paths.

Abbreviations: Positive FEE, positive family emotional expressiveness; Negative FEE, negative family emotional expressiveness; PN ratio, the ratio of positive to negative family emotional expressiveness.

The Effects of Various Aspects of Family Emotional Expressiveness on Cyberbullying Bystander Behaviors

As anticipated, positive FEE exhibited positive associations with protective behaviors, while displaying negative associations with indifferent behaviors. In contrast, negative FEE demonstrated positive relationships with indifferent and reinforcing behaviors. These findings corroborated Hypothesis 1.

According to the Family Socialization Model,¹ within a positive family emotional environment, parents are more likely to manifest friendly, cooperative, and prosocial behaviors, which in turn significantly influence a child's prosocial behaviors. Previous research has similarly established that feelings of love and support are instrumental in promoting prosocial behaviors towards distant individuals, such as online strangers.⁴⁹ When families express a greater abundance of positive emotions, adolescents tend to experience increased feelings of support and love, a critical underpinning for engaging in prosocial behaviors.⁵⁰

Conversely, a negative family environment often coincides with unhealthy expressions of emotions, including anger and violence. In such an environment, children may emulate these negative behaviors and display aggression during their interactions with others. Previous research has also identified positive links between negative family emotional expressiveness and aggressive behaviors.^{2,51}

Furthermore, Wald-test analyses unveiled that negative Family Emotional Expressiveness (FEE) displayed more robust associations with indifferent and reinforcing behaviors when compared to positive FEE. This observation accords with the premise articulated by Baumeister et al posits the supremacy of negativity over positivity, commonly referred to as the "bad is stronger than good" principle.¹⁹ Previous research also suggested that negative parental emotional quality tends to have a stronger impact on adolescent aggressive behavior than positive emotional quality.³²⁻³⁴ It suggests that negative parental emotional quality may possess relatively greater predictive power about adolescent psychological and social behavior than positive affective quality.

Unexpectedly, when negative family emotional expressiveness, positive family emotional expressiveness, and the positive-to-negative ratio were integrated into a model to predict cyberbullying bystander behaviors among adolescents, the positive-to-negative ratio did not exhibit a significant correlation with adolescents' cyberbullying bystander behaviors. This outcome could be attributed to two possible reasons: First, potential interaction effects between the positive-to-negative ratio and positive FEE and negative FEE might have made it difficult to capture their independent effects in the regression model. Second, the positive-to-negative ratio, being a composite of both negative and positive FEE, shares a strong correlation with them. Consequently, once the effects of the other two variables are considered, the impact of this ratio becomes less evident.

The Mediating Role of Cognitive Empathy and Affective Empathy

Cognitive empathy played a mediating role in the association between positive FEE and protective and indifferent behaviors. In contrast, affective empathy emerged as a mediator in the relationship between positive FEE and reinforcing behaviors. Furthermore, the mediating effects of cognitive empathy were more pronounced than those of affective empathy, thus affirming Hypothesis 2.

Previous research in the online context has also indicated the prominence of cognitive factors over emotional factors in cyberbullying interventions.^{25,52} This emphasis on cognitive factors may be attributed to the fact that the online environment lacks critical visual cues such as facial expressions, eye contact, and the perception of physical distance.⁵³ The unique aspect of visual anonymity within the cyber realm could potentially magnify the mediating effect of cognitive empathy.^{18,25}

Moreover, our study focused on adolescents, and a meta-analysis has demonstrated that cognitive empathy tends to be more dominant than affective empathy during adolescence and early adulthood.⁵⁴ In essence, these findings suggest that cognitive empathy, as opposed to affective empathy, plays a more substantial mediating role in the relationship between family emotional expressiveness and cyberbullying bystander behaviors.

Limitations and Further Research

The present study bears several limitations that necessitate consideration. Firstly, our study is based on cross-sectional data, which restricts our ability to discern the dynamic relationship between FEE and cyberbullying bystander behaviors. While prior research has indicated that negative family affective quality tends to be more influential in predicting problematic behaviors in adolescents when compared to positive affective quality,^{19,34} it is worth noting that Fredrickson and Losada have underscored that the influence of negative emotions is direct and immediate, whereas the benefits of a positive emotional climate emerge over time.³¹ Therefore, future investigations should aim to explore the longitudinal connections between FEE and adolescent cyberbullying bystander behaviors.

Secondly, our study solely relied on self-reports from adolescents. While it is theoretically grounded that adolescents' own psychological experiences wield a more substantial impact on their development compared to parental reports,³³ the substantiation of our findings through multiple sources of information, including parental reports and observational data, could enhance the accuracy and reliability of adolescent self-reports.

Thirdly, although we selected participants from diverse geographic areas and schools, the sample was exclusively drawn from one province. This limitation underscores the need for caution in interpreting the generalizability of our results due to potential issues related to sample representation.

Despite these limitations, our study carried significant theoretical and clinical implications. Firstly, this research extended the Family Socialization Model into the domain of online social behavior and illuminates potential mediating mechanisms underlying the relationships between various aspects of FEE and three cyberbullying bystander behaviors. Secondly, we have disentangled the mediating roles of cognitive empathy and affective empathy, with the latter being particularly influenced by visual cues, which are notably absent in online interactions.²⁴ Thirdly, our study utilized three indices—negative FEE, positive FEE, and the Positive-to-Negative ratio—to capture the nuanced aspects of overall family emotional expressiveness. Additionally, we compared the impacts of FEE on three distinct cyberbullying bystander behaviors.

Clinical Implications

Our study revealed that negative FEE exerted a stronger impact on adolescents' reinforcing and indifferent behaviors compared to positive FEE and the Positive-to-Negative ratio. Accordingly, practitioners may consider integrating interventions that emphasize the detrimental effects of negative parenting such as negative FEE on negative bystander behaviors in cyberbullying. Therapeutic approaches such as family therapy sessions focusing on constructive expression of emotions could be beneficial. Additionally, practitioners may encourage caregivers to enhance the expression of positive emotions and reduce negative emotions during family interactions.

Furthermore, it is noteworthy that cognitive empathy had stronger mediating effects in the relationship between FEE and protective behaviors compared to affective empathy. This suggests the importance of prioritizing the improvement of bystanders' cognitive empathy levels when developing interventions against cyberbullying from the bystander's perspective.

Conclusion

This study revealed distinct associations between positive and negative FEE and different cyberbullying bystander behaviors, with negative FEE showing stronger associations with both reinforcing and indifferent behaviors compared to positive FEE. Moreover, cognitive empathy exhibited a more mediating effect than affective empathy in these associations. This suggests that affective and cognitive empathy may play different roles in adolescents' online and offline social behaviors.

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Disclosure

The authors report no conflicts of interest in this work.

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