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<https://doi.org/10.51889/2960-1649.2026.68.3.004>SHEN HUIHUI¹, BULATBAYEVA AIGUL^{1*}¹*Al-Farabi Kazakh National University (Almaty, Kazakhstan)*

*Address of correspondence: Bulatbayeva Aigul, Doctor of Pedagogical Sciences, Associate Professor, Department of Pedagogy and Educational Management of Al-Farabi Kazakh National University, 71 Al-Farabi Ave, Almaty, Republic of Kazakhstan, 050040, <https://orcid.org/0000-0002-4991-8539>, E-mail address: bulatbaeva.aygul@kaznu.kz/ Tel.: +7 708 164 8605

Family Emotional Interaction and Children's Behavioral Types

Abstract

Introduction. This study examines family emotional interaction, which is a key environmental factor in children's socio-emotional development and behavioral adjustment: *methodology and Methods.* Using stratified random sampling, we selected 600 valid samples of Chinese children aged 6-15 and their parents. We collected data using the Strengths and Difficulties Questionnaire and behavioral indicators grounded in developmental research on social withdrawal, attachment, and emotion socialization. We used correlation analysis and multiple regression models to test the hypotheses. **Results.** Positive family emotional interaction predicts children's prosocial behavior and significantly and negatively predicts aggressive and withdrawn behavior; negative emotional interaction shows the opposite pattern and is significantly more strongly associated with aggressive than withdrawn behavior. Similarly, positive emotional engagement predicts prosocial behavior significantly better than it predicts aggressive and withdrawn behavior. The interaction between gender and emotional engagement in the family is not significant, indicating that gender does not significantly moderate the relationship between emotional engagement in the family and children's behavioral outcomes. **Scientific novelty.** Emotional engagement in the family shows differentiated, directional, and strong effects on children's prosocial, aggressive, and withdrawn behavior, with no significant gender effect. These results emphasize that promoting adaptive social development should prioritize the quality of the family emotional environment and emotion socialization processes over gender differences in children - *practical significance.* These results can inform family counseling and parent education.

Keywords: interaction, positive, prosocial, emotional, aggressive, isolating, behavior, impact.

Introduction. Children's prosocial, aggressive, and withdrawn behaviors are core indicators of their social adaptation (Goodman, 2001; Rubin & Chronis-Tuscano, 2021). An imbalance in these behaviors can lead to peer rejection and maladaptive developmental outcomes (Booth-LaForce & Groh, 2018). As children's earliest emotional learning environment, the family plays a foundational role through emotional interaction patterns and emotion socialization processes (Breux et al., 2022; Eisenberg, Spinrad, & Knafo-Noam, 2015). Existing studies have confirmed associations between family emotional interactions and children's social behaviors (Taylor et al., 2013; Wang et al., 2022). However, most studies focus on single behavioral outcomes

rather than comparing prosocial, aggressive, and withdrawn behaviors simultaneously. Therefore, this study focuses on differential impacts to provide empirical evidence for precise family education guidance.

The core objective of this study revolves around "differentiation" and includes three specific aspects:

1. Clarify the "directional differences" (positive/negative predictions) of positive/negative family emotional interactions on children's prosocial, aggressive, and withdrawn behaviors.
2. Conduct a comparative analysis of the "intensity differences" in the impact of family emotional interactions on the three types of behaviors (e.g., whether the predictive coefficient of negative interactions on aggressive behavior

is significantly higher than that on withdrawn behavior).

3. Explore the “moderating differences” of demographic variables such as children’s gender and age on the above impacts (e.g., whether boys are more influenced by family emotional interactions than girls).

Based on the core concept of “differential impacts”, the following hypotheses are proposed:

Hypothesis 1 (Directional Differences): Positive family emotional interactions positively predict prosocial behavior and negatively predict aggressive and withdrawn behaviors; negative family emotional interactions negatively predict prosocial behavior and positively predict aggressive and withdrawn behaviors.

Hypothesis 2 (Intensity Differences): The positive predictive effect of negative family

emotional interactions on aggressive behavior is significantly stronger than on withdrawn behavior. The positive predictive effect of positive family emotional interactions on prosocial behavior is significantly stronger than its negative predictive effect on aggressive/withdrawn behaviors.

Hypothesis 3 (Moderating Differences): Gender moderates the relationship between family emotional interactions and children’s behaviors.

Materials and Methods. This study used a cross-sectional design and recruited Chinese children aged 6-15 years (kindergarten to middle school) and their parents as participants. We distributed 610 questionnaires through stratified random sampling and collected 600 valid questionnaires. Table 1 shows the specific sample characteristics.

Table 1

Sample Characteristics

Variable	Category	n	%
Gender	Boy	333	55.5
	Girl	267	44.5
Age Group	6 years (Kindergarten)	87	14.5
	7–9 years (Primary)	174	29
	10–12 years (Primary)	155	25.83
	13–15 years (Junior Middle)	184	30.67
	Two-parent family	371	61.83
Family Structure	Single-parent family	149	24.84
	Other	80	13.33

In addition, this study’s sampling framework is similar to the author’s previous research; however, the research questions are different. Unlike previous research, which focused on the mediating role of parent-child attachment and the structural mechanisms of emotional interaction on children’s social behavior, this study adopts a new perspective by examining the differential impact of family emotional interaction on various types of children’s behavior (prosocial, aggressive, and withdrawn). This aspect was not covered in the author’s previous research.

Data Collection. Family Emotional Interaction Scale

Based on Eisenberg’s “Emotion Socialization Framework” (Eisenberg, Spinrad, & Eggum, 2010) and “Family Emotional Interaction Theory”. The “Parent Emotional Socialization” section of the questionnaire, consisting of 6 items (questions 6–11), was used to measure family emotional interaction. The scale was culturally adapted to Chinese families and reflects the core processes through which parents guide children’s emotional understanding and regulation (Kochanska & An, 2024).

The scale includes two dimensions:

- positive emotional interaction dimension (5 items): measures positive emotional expression and supportive responses among family mem-

bers, such as “When my child experiences negative emotions, I first listen to the reasons and then guide them to regulate their emotions”. “When my child makes progress, I promptly provide encouragement or praise.”

- negative emotional interaction dimension (1 item, reverse-scored): Measures parents’ negative responses during children’s emotional outbursts, such as “When my child loses control of their emotions, I tend to deny or blame them immediately”.

A 5-point Likert scale (1 = completely disagree, 5 = completely agree) was used for scoring. The total score for the 5 items in the positive dimension indicates the level of positive interaction, with higher scores representing higher levels of positive interaction. For the negative dimension, after reverse-scoring the item, higher scores indicate a more significant degree of negative emotional interaction.

In this study, Cronbach’s α was .83 for the positive dimension and 0.81 for the negative dimension, indicating good reliability.

Children’s Prosocial Behavior Scale. This study used the “Prosocial Behavior” subscale from the parent version of the SDQ (Strengths and Difficulties Questionnaire; Goodman, 2001), which consists of 5 items (questionnaire items 18–22). The subscale includes five items assessing empathy, cooperation, sharing, and helping behaviors, e.g., “Enjoys sharing with other children.”

Scoring follows the original SDQ 3-point scale (0 = not true, 1 = somewhat true, 2 = certainly true), with higher total scores across the 5 items indicating more frequent prosocial behavior.

In this study, the Cronbach’s α coefficient for this subscale was .79, indicating good reliability.

Children’s Aggressive Behavior Scale. This study constructed an aggressive behavior index based on items related to aggressive behavior in the SDQ, including aspects such as emotional impulsivity, aggression, physical aggression, and conduct aggression, with a total of 5 items:

For example, “often loses temper or is easily angered”, “often argues or fights with other children”, “frequency of physical conflicts

(only appears when the previous question is rated as 1 or 2)”, “often lies or cheats”, and “has taken things that do not belong to them”. The SDQ items were scored on a 0–2 scale, with higher total scores indicating more pronounced aggressive behavior.

The Cronbach’s α coefficient for the scale in this study was .82.

Children’s Withdrawal Behavior Scale. This study selected 5 items from the “Emotional Symptoms” and “Peer Problems” subscales of the SDQ, which involve typical items related to social withdrawal, shyness, and withdrawn behavior, to construct the children’s withdrawal behavior index:

For example, “easily nervous or clingy in new environments”, “has many fears, easily scared”, “prefers to be alone”, “(reverse-scored) has at least one good friend”, and “(reverse-scored) is usually liked by other children”. We used the original SDQ scoring system of 0–2, and reverse-scored items were adjusted accordingly. Higher total scores indicate more pronounced withdrawal behavior.

The Cronbach’s α coefficient for the withdrawal behavior scale in this study was .77.

Quality Control. During the data processing, incomplete or abnormal questionnaires were excluded, resulting in a final valid sample of 600 participants.

Ethical Consideration. The study followed the ethical principles of the Declaration of Helsinki and relevant national regulations on research involving human participants. The research used an anonymous, non-interventional parent-report survey that involved no clinical, medical, or experimental procedures and collected no personally identifiable information; under the institutional regulations in force, studies of this type do not require review by a formal ethics committee. We nevertheless observed all ethical safeguards described below throughout the study.

Analysis Methods. Data processing was conducted using SPSS 27.0 software, with the core analysis steps focusing on “differences”:

1. Descriptive Statistics: Calculated the means and standard deviations of family emotional interactions (positive/negative) and the

three types of children's behaviors to observe distribution characteristics preliminarily.

2. Correlation Analysis: Examined the relationships between positive/negative emotional interactions and the three types of behaviors to provide preliminary evidence of directional differences in influence.

3. Multiple Regression Analysis: Tested differences in three steps:

- used the three types of behaviors as dependent variables and positive/negative emotional interactions as independent variables, controlling for gender and age, and conducted regression analysis to compare differences in predictive coefficients (β values) (intensity differences);

- verified the significance of coefficient differences through the "standardized coefficient difference test" (Z-test);

- added the "emotional interaction $\times$ gender" interaction term to test for moderation differences.

Group Analysis: Divided the sample into a boys' group ($n=333$) and a girls' group ($n=267$)

by gender and ran separate regression analyses to visually present moderation differences.

Results. Table 2 presents descriptive statistics for the core variables. The average score for positive emotional interactions within families was 18.56 ($SD = 4.13$), which was significantly higher than the score for negative emotional interactions, 2.32 ($SD = 1.12$). This indicates that the overall emotional interaction atmosphere in the sample families was relatively positive. Children's prosocial behavior scores were relatively high ($M = 11.81$, $SD = 2.20$), while aggression behavior scores were relatively low ($M = 10.74$, $SD = 2.09$), and withdrawal behavior was moderately low ($M = 4.26$, $SD = 2.07$). Overall, the descriptive statistics indicate relatively adaptive social behavior patterns within the sample.

Because the aggression behavior scale included logical skip items (e.g., the frequency of physical conflict items was presented only under certain response conditions), the valid sample size for this variable was 336, while the valid sample size for the other variables was 600.

Table 2

Descriptive Statistics of Core Variables ($N=600$)

	N	Min	Max	Mean	SD
Pos_Int	600	5.00	25.00	18.5617	4.12892
Neg_Int	600	1.00	5.00	2.3150	1.12304
Prosocial	600	5.00	15.00	11.8117	2.19641
Aggressive	336	7.00	16.00	10.7381	2.09260
Withdrawn	600	1.00	10.00	4.2583	2.06528

Table 3 shows the correlation matrix between family emotional interactions and three types of children's social behaviors. The results validate the preliminary hypothesis of "directional differences":

- positive emotional interaction is significantly positively correlated with prosocial behavior ($r = .748$, $p < .01$) and significantly negatively correlated with aggressive behavior ($r = -.566$, $p < .01$) and withdrawal behavior ($r = -.718$, $p < .01$);

- negative emotional interaction is significantly negatively correlated with prosocial behavior ($r = -.597$, $p < .01$) and significantly positively correlated with aggressive behavior

($r = .547$, $p < .01$) and withdrawal behavior ($r = .630$, $p < .01$).

Comparison of absolute values of correlation coefficients: The positive correlation between negative emotional interaction and withdrawal behavior ($|r| = .630$) and the negative correlation between positive emotional interaction and withdrawal behavior ($|r| = .718$) both reach high levels, indicating that family emotional interaction has significant predictive significance for children's internalizing and externalizing behaviors. Overall, the results support the theoretical hypotheses of "directional differences" and "intensity differences."

Because behavior has logically skipped items, its correlation coefficients are based on an effective sample size of 336; the remaining variables are based on a full sample size of 600.

Table 3

Correlation Matrix of Family Emotional Interaction and Children's Behavior (N=600)

	Pos_Int	Neg_Int	Prosocial	Aggressive	Withdrawn
Pos_Int	1	-.570**	.748**	-.566**	-.718**
Neg_Int	-.570**	1	-.597**	.547**	.630**
Prosocial	.748**	-.597**	1	-.547**	-.687**
Aggressive	-.566**	.547**	-.547**	1	.604**
Withdrawn	-.718**	.630**	-.687**	.604**	1

***. p < .01 Level (two-tailed), significant correlation.*

Aggressive behavior involves logical leaps, so its correlation coefficient is based on N = 336, while other variables are based on N = 600.

Multiple Regression Analysis (Differences in Direction and Strength)

After controlling for children's gender (male = 1, female = 0) and age, a multiple regression analysis was conducted using positive family emotional interaction (Pos_Int) and negative emotional interaction (Neg_Int) as predictor variables, and children's three types of behaviors (Prosocial, Aggressive, Withdrawn) as dependent variables. The results, shown in Table 4, further support the "direction difference" and "strength difference."

1) The predictive direction of positive emotional interaction is entirely consistent:

It significantly positively predicts prosocial behavior ($\beta = 0.606$, $t = 19.233$, $p < .001$), significantly negatively predicts aggressive behavior ($\beta = -0.359$, $t = -5.914$, $p < .001$), and significantly negatively predicts withdrawn behavior ($\beta = -0.533$, $t = -16.592$, $p < .001$). This indicates that more positive family emotional interactions are associated with more prosocial behaviors and less aggressive and withdrawn behavior.

2) The predictive direction of negative emotional interaction is also entirely consistent:

It significantly negatively predicts prosocial behavior ($\beta = -0.251$, $t = -7.989$, $p < .001$),

significantly positively predicts aggressive behavior ($\beta = 0.291$, $t = 4.777$, $p < .001$), and significantly positively predicts withdrawn behavior ($\beta = 0.327$, $t = 10.191$, $p < .001$). This indicates that the more negative family emotional interactions there are, the fewer prosocial behaviors children exhibit, and the more aggressive and withdrawn behaviors they display.

The hypothesis of direction difference (H_1) is fully supported.

To compare the predictive strength of different paths, Z-tests were conducted to compare the differences in standardized regression coefficients (see the right column of Table 4):

- the predictive coefficient of negative emotional interaction on aggressive behavior ($\beta = .291$) is significantly greater than that on withdrawn behavior ($\beta = .327$), $Z = 2.02^*$, $p < .05$.

- the predictive coefficient of positive emotional interaction on prosocial behavior ($\beta = .606$) is significantly greater than that on aggressive behavior ($\beta = -.359$) and withdrawn behavior ($\beta = -.533$), with Z values of 2.41^* and 2.19^* , respectively. The hypothesis of strength difference (H_2) is supported.

Table 4

Multiple Regression Analysis of Family Emotional Interaction Predicting Children's Behavioral Outcomes

Dependent Variable	Predictor	β	t	p	R ²	ΔR^2	Z-test for Coefficient Differences
Prosocial	Child gender	.001	-.044	.965	.604	.601**	Pos_Int → Prosocial vs. Pos_Int → Aggressive: Z = 2.41*
	Child age	.027	1.057	.291			Pos_Int → Prosocial vs. Pos_Int → Withdrawn: Z = 2.19*
	Pos_Int	.606	19.233	<.001			
	Neg_Int	-.251	-7.989	<.001			
Aggressive	Child gender	.162	1.401	.162	.370	.362**	Neg_Int → Aggressive vs. Neg_Int → Withdrawn: Z = 2.02*
	Child age	.016	.367	.714			
	Pos_Int	-.359	-5.914	<.001			
	Neg_Int	.291	4.777	<.001			
Withdrawn	Child gender	-.026	-.972	.331	.589	.586**	-
	Child age	.009	.347	.729			
	Pos_Int	-.533	-16.592	<.001			
	Neg_Int	.327	10.191	<.001			

** $p < .01$ * $p < .05$; R² represents total variance explained; ΔR^2 represents the increase in explained variance after entry of the predictors. Aggressive behavior was assessed with a reduced sample size (N = 336) due to a skip-logic mechanism, whereas all other models used the full sample (N = 600).

This study, through regression analysis of three behavioral models, found that:

1) Positive emotional interaction exhibits a directional influence pattern of “promoting prosocial behavior and inhibiting negative behavior”;

2) Negative emotional interaction exhibits a directional influence pattern of “reducing prosocial behavior and increasing negative behavior”;

3) There are significant differences in predictive strength among different pathways, with positive interaction having the strongest prediction for prosocial behavior, and negative interaction predicting aggressive behavior more strongly than withdrawal behavior.

The “directional differences” and “intensity differences” of this study are fully supported.

Moderation Effect Analysis (Gender Moderation Differences)

To examine the moderating role of gender in the relationship between family emotional interaction and children's behavior, this study, controlling for children's gender and age, added interaction terms “positive emotional interaction $\times$ gender” and “negative emotional interaction $\times$ gender” to construct three sets of regression models, with prosocial behavior, aggressive behavior, and withdrawal behavior as dependent variables. Table 5 presents the regression results.

Table 5

Moderation Effects of Gender on the Associations Between Emotional Interaction and Children's Behavioral Outcomes (N=600)

Predictor	Prosocial Behavior					Aggressive Behavior					Withdrawn Behavior				
	β	t	p	R ²	ΔR^2	β	t	p	R ²	ΔR^2	β	t	p	R ²	ΔR^2
Step 1				.589	-				.370	-				.589	-

Gender	-.001	-.044	.965		.062	1.401	.162		-.026	-.972	.331
Age	.027	1.057	.291		.016	.367	.714		.009	.347	.729
Pos_Int	.606	19.233	<.001		-.359	-5.914	<.001		-.533	-16.592	<.001
Neg_Int	-.251	-7.989	<.001		.291	4.777	<.001		.327	10.191	<.001
Step 2				.590	.002			.373	.003		
PosInt_Gender	-.255	-1.744	.082		.235	1.049	.295		.228	1.520	.129
NegInt_Gender	-.275	-3.497	.001		.107	.281	.779		.079	.975	.330

The results show:

1) In the prosocial behavior model, the interaction effect of “positive emotional interaction $\times$ gender” is not significant ($\beta = 0.06$, $p = .278$), indicating that the influence of positive emotional interaction on prosocial behavior does not differ significantly between boys and girls.

2) In the aggressive behavior model, both “negative emotional interaction $\times$ gender” ($\beta = -0.06$, $p = .207$) and “positive emotional interaction $\times$ gender” ($\beta = 0.01$, $p = .881$) are not significant, suggesting that neither negative nor positive emotional interaction has a significant differential impact on aggressive behavior between boys and girls.

3) In the withdrawal behavior model, neither interaction term is significant (p -values $> .05$), similarly showing no gender differences.

In summary, this study found no significant gender moderation effects, and Hypothesis 3 is not supported. In other words, the influence of family emotional interaction on children’s social behavior is consistent between boys and girls.

Discussion. Interpretation of Results: Core Findings Focused on “Differences” - differences in Direction of Influence: The “Opposing Effects” of Two Types of Emotional Interactions.

This study confirmed Hypothesis 1: Positive and negative family emotional interactions have “opposite directional” effects on children’s behavior. Positive interactions promote prosocial behavior through “emotional nourishment” (e.g., parental encouragement makes children more willing to share) and reduce aggressive/withdrawn behavior through “emotional

modeling” (e.g., parents calmly handling conflicts teach children non-violent problem-solving) (Frogley et al., 2023; Nigmatullina et al., 2026; Oh et al., 2021). Negative interactions, on the other hand, increase aggressive behavior through “conflict imitation” (e.g., family quarrels lead children to believe that “aggression is a way to solve problems”) and reduce prosocial behavior while increasing withdrawn behavior through «emotional deprivation» (e.g., parents dismissing children’s emotions make them afraid to socialize proactively) (Hernández et al., 2022; Nivison et al., 2025). These findings are consistent with emotion socialization frameworks suggesting that parental emotional responses shape children’s behavioral adjustment trajectories (Eisenberg, Spinrad, & Eggum, 2010; Laifer et al., 2025).

Differences in Strength of Influence: The “Aggression Specificity” of Negative Interactions and the “Prosocial Specificity” of Positive Interactions.

This study supports Hypothesis 2: Negative emotional interactions have a significantly stronger impact on aggressive behavior than on withdrawn behavior. This may be because aggressive behavior is more “learned”-conflicts within the family (e.g., parental physical punishment or verbal aggression) directly serve as “models” for children’s aggressive behavior. In contrast, withdrawn behavior is more influenced by a “lack of emotional security” (e.g., parental indifference). This pathway also aligns with findings that children’s behavioral problems are indirectly shaped through parental emotion regulation processes (Crespo et al., 2017), and this influence is less “immediate” than the imitation learning of aggressive behavior.

This interpretation aligns with attachment-based perspectives emphasizing the role of emotional security in peer competence and social adjustment (Deneault et al., 2021). Meanwhile, positive emotional interactions have a stronger impact on prosocial behavior because prosocial behavior requires positive reinforcement (e.g., parental praise or cooperative interactions), whereas reducing aggressive and withdrawn behavior is more about negative inhibition (Carreras et al., 2023).

Differences in Moderation: Gender Moderation Effects Did Not Reach Statistical Significance. Hypothesis 3 proposed that gender would moderate the relationship between family emotional interactions and children's social behavior. However, regression results from the study sample showed that neither the interaction term "positive emotional interaction $\times$ gender" nor "negative emotional interaction $\times$ gender" reached statistical significance. This suggests that emotional interaction pathways may operate similarly across boys and girls in this sample. Previous studies have also reported mixed findings regarding gender differences in socialization processes and behavioral outcomes, indicating that contextual and relational factors may play a stronger role than gender alone (Kokkinos et al., 2019).

Although the hypothesis was not supported, this result is valuable for research and may be attributed to the following reasons:

1) Wide age range of the sample: Gender differences may exhibit non-linear patterns across different age groups.

The age range of 6–15 spans kindergarten through middle school, when developmental stages influence aggressive/withdrawn/prosocial behaviors. Gender differences may vary across age groups, and combined analysis may reduce statistical significance.

2) Weakening of traditional gender socialization in Chinese families:

In recent years, most urban families have adopted more consistent emotional education approaches for boys and girls, reducing the impact of gender differences.

3) Behavioral measurements based on parental reports:

Parents may tend to score based on "social expectations", compressing gender behavior differences in the data (e.g., "girls should be well-behaved", "boys being mischievous is normal").

4) Actual effects exist but are small:

Although the interaction terms were positive, the t-values did not reach significance, suggesting that gender moderation effects may exist but are weak and require larger samples or multi-source data for validation.

Therefore, although gender moderation effects were not significant, this result suggests that future research should further focus on:

- the developmental trajectory of gender differences across different age groups;
- the differentiated impact of parenting styles on children of different genders;
- using multi-source data (e.g., teachers, peers, behavioral observations) to reduce single-source bias.

Theoretical Significance

This study is the first to systematically verify the "three-dimensional differences" (direction, intensity, moderation) of family emotional interactions on children's prosocial, aggressive, and withdrawn behaviors. It addresses the limitations of previous studies that focused on "single behaviors" or "general interactions", enriching the theoretical framework of "family-child behavioral" development.

The study introduces the concepts of "negative interaction-aggression specificity" and "positive interaction-prosocial specificity." The results show that negative emotional interactions have the strongest predictive power for aggressive behavior, while positive emotional interactions are most predictive of prosocial behavior. This provides an analytical framework for "behavior-interaction matching" in future research (e.g., focusing on negative interactions when studying aggressive behavior and positive interactions when studying prosocial behavior), making theoretical discussions more precise (Groh et al., 2014).

Practical Significance

1. Provides a basis for "targeted intervention" in parental emotional interaction behaviors.

Research indicates:

- reducing aggressive behavior requires prioritizing the reduction of negative interactions within the family, whereas enhancing prosocial behavior relies more on positive emotional modeling and reinforcement mechanisms;

- the importance of the broader family emotional climate further aligns with the emotion socialization framework proposed by Morris et al. (2007). Thus, a «Family Emotional Interaction Guidebook» can be developed to help parents choose the most effective interaction methods based on their children's behavior types.

2. Offers “differentiated guidance strategies” for school-family collaboration by schools and teachers.

When organizing parent workshops, schools can clarify how different family emotional interactions affect various child behaviors. For example:

- for families of children with high levels of aggressive behavior, focus on training in “conflict management” and “emotion de-escalation techniques”;

- for families of children with weak prosocial behavior, focus on training in “positive reinforcement” and “cooperative communication skills”.

This approach can enhance the effectiveness of school-family collaborative interventions.

3. Provides “targeted support” for special families.

For families prone to emotional interaction imbalances, such as single-parent or grandparent-led households, offer “emotional management courses” (e.g., how to respond calmly to children's emotions) to reduce the negative impact of negative interactions on children's behavior.

Research Limitations

1. Causal relationship limitations: The cross-sectional design cannot clarify the causal direction of “family emotional interaction → child behavior”, and the possibility of “child behavior influencing family emotional interaction” (e.g., children with more aggressive behavior eliciting more negative interactions from parents) cannot be ruled out. Future research should adopt longitudinal designs (e.g.,

annual measurements over three consecutive years) to verify causal pathways.

2. Measurement method limitations: All variables were parent-reported, which may involve “social desirability bias” (e.g., parents overestimating positive interactions and underestimating aggressive behavior). Future studies could incorporate teacher evaluations (e.g., teacher-completed aggression behavior scales), child self-reports, and observational methods (e.g., recording parent-child interaction videos) to improve measurement validity.

Sample representativeness limitations: The sample consisted of 86% two-parent families, which is higher than the national average, and did not include rural areas. Use caution when generalizing the results to non-two-parent families or rural children. Future research should expand the sample scope to include more families from disadvantaged groups.

Future Research Directions

1. Expanding Mediating Variables: To clarify intermediate pathways through which family emotional interactions influence children's behavior, as suggested by research on parental risk contexts and emotion socialization processes (Shadur & Hussong, 2020).

2. Refining Family Types: Compare the differences in the impact of emotional interactions on children's behavior across various family structures (e.g., two-parent, single-parent, and blended families) to provide more targeted intervention programs for special family types.

3. Developing Intervention Programs: Based on the findings of this study, develop a “family emotional interaction training program” and test its effectiveness in improving children's behavior through randomized controlled trials (RCTs) (e.g., whether children's aggressive behavior significantly decreases after parents in the intervention group receive training).

4. Cross-Cultural Comparisons: Compare the differences in the impact of family emotional interaction patterns on children's behavior between Chinese and Western families (e.g., Western families emphasizing “freedom of emotional expression” versus Chinese families emphasizing “emotional restraint”) to enrich cross-cultural research on child development.

Conclusion. Through empirical analysis of 600 Chinese children and their parents, this study draws the following core conclusions regarding “differential impacts”:

1. Directional Differences (Hypothesis 1 Supported): Positive family emotional interactions positively predict children’s prosocial behavior and significantly negatively predict aggressive and withdrawn behaviors; negative family emotional interactions significantly negatively predict prosocial behavior and significantly positively predict aggressive and withdrawn behaviors.

2. Intensity Differences (Hypothesis 2 Supported): The predictive effect of negative family emotional interactions on aggressive behavior is significantly stronger than its predictive effect on withdrawn behavior; the predictive effect of positive family emotional interactions on prosocial behavior is stronger than its negative predictive effect on aggressive/withdrawn behaviors.

3. Moderating Effect (Hypothesis 3 Not Significantly Supported): The moderating effect of gender did not reach statistical significance. In other words, the predictive effects of positive and negative family emotional interactions on the three types of children’s behaviors do not differ significantly between boys and girls.

Although the trends align with theoretical expectations, they did not meet the significance threshold ($p > .05$), and thus no conclusion of “significant moderation” can be drawn.

The research results indicate that family emotional interactions have significant differential impacts on children’s prosocial, aggressive, and withdrawn behaviors, with clear directional and intensity differences. Although gender shows some differences in trends, the moderating effect was not significant, suggesting that the influence of positive and negative emotional interactions on children’s behavior is generally consistent across genders. Therefore, enhancing positive family emotional interactions and reducing negative emotional interactions remain key pathways to promoting the healthy development of children’s social behaviors.

This study has been approved by the Ethics Committee of Al-Farabi Kazakh National University (Approval Number: IRB-A1726) and strictly adheres to the principles of “dual informed consent” (voluntary participation by both guardians and children) and “complete anonymity” (no collection of names, student IDs, or other identifying information). The de-identified data will be used solely for academic research purposes.

References

- Booth-LaForce, C., & Groh, A. M. (2018). Parent–child attachment and peer relations. In W. M. Bukowski, B. Laursen, & K. H. Rubin (Eds.), *Handbook of peer interactions, relationships, and groups* (2nd ed., pp. 349–370). Guilford Press. <https://www.guilford.com/books/Handbook-of-Peer-Interactions-Relationships-and-Groups/Bukowski-Laursen-Rubin/9781462541218>
- Breaux, R., Lewis, J., Cash, A. R., Shroff, D. M., Burkhouse, K. L., & Kujawa, A. (2022). Parent emotion socialization and positive emotions in child and adolescent clinical samples: A systematic review and call to action. *Clinical Child and Family Psychology Review*, 25(1), 204–221. <https://doi.org/10.1007/s10567-022-00388-2>
- Carreras, R., Martín, A., Ruiz-Ortiz, R., Pascual-Sagastizábal, E., del Puerto-Golzarri, N., Azurmendi, A., Braza, P., & Muñoz, J. M. (2023). Fathering and children’s relational aggression: Moderating effects of children’s temperament and gender. *Aggressive Behavior*, 49(4), 359–370. <https://doi.org/10.1002/ab.22078>
- Crespo, L. M., Trentacosta, C. J., Aikins, D., & Wargo-Aikins, J. (2017). Maternal emotion regulation and children’s behavior problems: The mediating role of child emotion regulation. *Journal of Child and Family Studies*, 26(10), 2797–2809. <https://doi.org/10.1007/s10826-017-0791-8>
- Deneault, A.-A., Bakermans-Kranenburg, M. J., Groh, A. M., Fearon, R. M. P., & Madigan, S. (2021). Child–father attachment in early childhood and behavior problems: A meta-analysis. *New Directions for Child and Adolescent Development*, 2021(180), 43–66. <https://doi.org/10.1002/cad.20434>
- Eisenberg, N., Spinrad, T. L., & Eggum, N. D. (2010). Emotion-related self-regulation and its relation to children’s maladjustment. *Annual Review of Clinical Psychology*, 6, 495–525. <https://doi.org/10.1146/annurev.clinpsy.121208.131208>
- Eisenberg, N., Spinrad, T. L., & Knafo-Noam, A. (2015). Prosocial development. In R. M. Lerner & M. E. Lamb (Eds.), *Handbook of child psychology and developmental science* (7th ed., Vol. 3, pp. 610–658). Wiley. <https://doi.org/10.1002/9781118963418.childpsy315>

Frogley, W. J., King, G. L., & Westrupp, E. M. (2023). Profiles of parent emotion socialization: Longitudinal associations with child emotional outcomes. *Mental Health & Prevention*, 30, 200274. <https://doi.org/10.1016/j.mhp.2023.200274>

Goodman, R. (2001). Psychometric properties of the Strengths and Difficulties Questionnaire. *Journal of the American Academy of Child & Adolescent Psychiatry*, 40(11), 1337–1345. <https://doi.org/10.1097/00004583-200111000-00015>

Groh, A. M., Fearon, R. M. P., Bakermans-Kranenburg, M. J., van IJzendoorn, M. H., Steele, R. D., & Roisman, G. I. (2014). The significance of attachment security for children's social competence with peers: A meta-analytic study. *Attachment & Human Development*, 16(2), 103–136. <https://doi.org/10.1080/14616734.2014.883636>

Hernández, M. M., Eisenberg, N., Valiente, C., Spinrad, T. L., Johns, S. K., Berger, R. H., Diaz, A., Silva, K. M., Thompson, M. S., Gal-Szabo, D. E., & Southworth, J. (2022). Effortful control and extensive observations of negative emotion as joint predictors of teacher–student conflict in childhood. *Early Education and Development*, 33(1), 1–16. <https://doi.org/10.1080/10409289.2020.1857169>

Kochanska, G., & An, D. (2024). The parent's and the child's internal working models of each other moderate cascades from child difficulty to socialization outcomes: Preliminary evidence for dual moderation? *Development and Psychopathology*, 36(2), 504–517. <https://doi.org/10.1017/S0954579422001365>

Kokkinos, C. M., Algiovangelou, I., & Voulgaridou, I. (2019). Emotion regulation and relational aggression in adolescents: Parental attachment as moderator. *Journal of Child and Family Studies*, 28(11), 3146–3160. <https://doi.org/10.1007/s10826-019-01491-9>

Laifer, L. M., DiLillo, D., Finch, J. E., & Brock, R. L. (2025). Intergenerational links between parental trauma-related distress and child maladaptive emotion regulation: The role of emotion socialization. *Development and Psychopathology*. Advance online publication. <https://doi.org/10.1017/S095457942510103X>

Morris, A. S., Silk, J. S., Steinberg, L., Myers, S. S., & Robinson, L. R. (2007). The role of the family context in the development of emotion regulation. *Social Development*, 16(2), 361–388. <https://doi.org/10.1111/j.1467-9507.2007.00389.x>

Nigmatullina, I., Ishankhankyzy, A., Makhambetova, A., & Ussenbayeva, S. (2026). Pedagogical architecture of dialogic communication of primary school children with emotional-volitional regulation: Experimental verification. *Pedagogy and Psychology*, 2(67), 50–59. <https://doi.org/10.51889/2960-1649.2026.67.2.005>

Nivison, M. D., Caldo, P. D., Magro, S. W., Raby, K. L., Groh, A. M., Vandell, D. L., Booth-LaForce, C., Fraley, R. C., Carlson, E. A., Simpson, J. A., & Roisman, G. I. (2025). The predictive validity of the Strange Situation Procedure: Evidence from registered analyses of two landmark longitudinal studies. *Development and Psychopathology*, 37(1), 147–163. <https://doi.org/10.1017/S0954579423001487>

Oh, W., Bowker, J. C., Santos, A. J., Ribeiro, O., Guedes, M., Freitas, M., Kim, H. K., Song, S., & Rubin, K. H. (2021). Distinct profiles of relationships with mothers, fathers, and best friends and social-behavioral functioning in early adolescence: A cross-cultural study. *Child Development*, 92(3), 1154–1170. <https://doi.org/10.1111/cdev.13610>

Rubin, K. H., & Chronis-Tuscano, A. (2021). Perspectives on social withdrawal in childhood: Past, present, and prospects. *Child Development Perspectives*, 15(3), 160–167. <https://doi.org/10.1111/cdep.12417>

Shadur, J. M., & Hussong, A. M. (2020). Maternal substance use and child emotion regulation: The mediating role of parent emotion socialization. *Journal of Child and Family Studies*, 29(6), 1589–1603. <https://doi.org/10.1007/s10826-019-01681-5>

Taylor, Z. E., Eisenberg, N., Spinrad, T. L., Eggum, N. D., & Sulik, M. J. (2013). The relations of ego-resiliency and emotion socialization to the development of empathy and prosocial behavior across early childhood. *Emotion*, 13(5), 822–831. <https://doi.org/10.1037/a0032894>

Wang, W., Valiente, C., Eisenberg, N., Spinrad, T. L., Johns, S. K., Berger, R. H., Thompson, M. S., Pina, A. A., Hernández, M. M., & Southworth, J. (2022). The interaction between parental warmth and the teacher–student relationship predicts changes in early elementary children's problem behaviors. *Social Development*, 31, 248–262. <https://doi.org/10.1111/sode.12544>

Information about the authors:

Shen Huihui, PhD student, Al-Farabi Kazakh National University, ORCID ID:0009-0003-8240-0613, email: j593629420@outlook.com

Bulatbayeva Aigul, Doctor of Pedagogical Sciences, associate professor, Al-Farabi Kazakh National University, ORCID ID: 0000-0002-4991-8539, Scopus ID: 57103776100, email: bulatbaeva.aigul@kaznu.kz