

Emotion Regulation and Behavioral Problems Among Fourth- to Sixth-Grade Students: The Mediating Role of the Parent–Child Relationship

Zahra. Asadi Mobarakeh¹, Maryam. Mardani Valandani^{2*}

1 Department of Clinical Family Psychology, Kho.C., Islamic Azad University, Khomeinishahr, Iran.

2 Department of Psychology, Kho.C., Islamic Azad University, Khomeinishahr, Iran.

*Correspondence: m.mardani.va@gmail.com

Article type:
Original Research

Article history:

Received 20 May 2026

Revised 26 May 2026

Accepted 20 August 2026

Initial Publish 30 August 2026

Published online 01 May 2027

ABSTRACT

This study examined the relationship between emotion regulation and behavioral problems among fourth- to sixth-grade elementary school students, with particular emphasis on the mediating role of the parent–child relationship. A descriptive-correlational design using structural equation modeling was employed. The sample consisted of 212 students aged 10–12 years and their parents, selected through multistage cluster random sampling. Data were collected using the Emotion Regulation Checklist, the Quay–Peterson Revised Behavior Problem Checklist, and the Child–Parent Relationship Scale. Behavioral problems included conduct disorder, attention problems–immaturity, socialized aggression, and anxiety–withdrawal. Data were analyzed using SPSS 28 and AMOS 28. Pearson correlations, confirmatory factor analysis, structural equation modeling, and bootstrapping with 2,000 resamples were applied. Results showed that adaptive emotion regulation was negatively associated with overall behavioral problems ($\beta = -.468, p < .001$), whereas lability/negativity was positively associated with behavioral problems ($\beta = .353, p < .05$). A more positive parent–child relationship was associated with fewer behavioral problems ($\beta = -.364, p < .05$). Bootstrap analyses indicated significant indirect effects of adaptive emotion regulation and lability/negativity on overall behavioral problems through the parent–child relationship ($\beta = -.148$ and $\beta = .140$, respectively). Significant indirect effects were also observed for conduct disorder, attention problems–immaturity, socialized aggression, and anxiety–withdrawal. Because the direct effects remained significant after including the mediator, the findings were consistent with partial statistical mediation. Overall, the results highlight the importance of emotion regulation and positive parent–child relationships in understanding behavioral difficulties during middle childhood.

Keywords: emotion regulation, behavioral problems, parent–child relationship, conduct disorder, socialized aggression, anxiety–withdrawal.

How to cite this article:

Asadi Mobarakeh, Z., & Mardani Valandani, M. (2027). Emotion Regulation and Behavioral Problems Among Fourth- to Sixth-Grade Students: The Mediating Role of the Parent–Child Relationship. *Mental Health and Lifestyle Journal*, 5(3), 1–20. <https://doi.org/10.61838/mhlj.297>

Introduction

Behavioral and emotional problems in childhood represent a major concern because they can affect children's functioning across school, family, and interpersonal contexts and may interfere with subsequent psychological and social development. Middle childhood is particularly important in this regard because children are expected to demonstrate increasing independence, comply with more complex social and academic expectations, establish stable peer relationships, and manage emotional reactions in increasingly

demanding situations. Difficulties during this developmental period may emerge through heterogeneous patterns, including disruptive conduct, aggression, attentional difficulties, emotional immaturity, anxiety, and withdrawal. Although externalizing and internalizing problems are often distinguished conceptually, they may coexist and may share underlying regulatory and interpersonal processes. Recent research has emphasized the close interconnection between children's emotional functioning, peer acceptance or rejection, and emotional-behavioral difficulties, suggesting that behavioral problems should be understood within the broader context of children's emotional and relational adjustment (1). Similarly, research with children experiencing significant health-related stress has demonstrated that emotional and behavioral problems are closely connected with limitations in self-regulatory functioning, further underscoring the developmental importance of regulatory processes (2).

Among the psychological mechanisms relevant to behavioral adjustment, emotion regulation has received considerable attention. Emotion regulation encompasses the processes through which individuals monitor, evaluate, modify, and express emotional experiences in ways that are responsive to personal goals and situational demands. Effective regulation does not imply the suppression or elimination of negative emotions; rather, it involves the flexible management of emotional intensity, duration, expression, and behavioral consequences. Children who possess stronger regulatory abilities are generally better able to tolerate frustration, inhibit impulsive reactions, redirect attention, communicate emotional needs, and choose responses appropriate to social circumstances. Conversely, emotion dysregulation may be reflected in emotional lability, persistent negative affect, heightened reactivity, inability to recover efficiently from distress, or reliance on maladaptive strategies. Contemporary work distinguishes cognitive forms of emotion regulation from behavioral strategies used to manage emotional experiences, demonstrating that behavioral and cognitive regulatory repertoires are related but distinguishable components of psychological functioning (3). Emotion regulation is also closely associated with the capacity to identify and understand emotional states; difficulties in identifying and describing emotions, such as those associated with alexithymia, may therefore compromise the selection and implementation of appropriate regulatory strategies (4).

The relevance of emotion regulation becomes particularly apparent when behavioral problems are considered as manifestations of failures in broader self-regulatory systems. Children exposed to frustration, interpersonal disagreement, academic difficulty, criticism, or social rejection must manage emotional arousal before selecting an appropriate behavioral response. When such regulation is insufficient, emotional activation can more readily translate into impulsivity, oppositional behavior, aggression, avoidance, or withdrawal. Evidence from children with specific learning disorders has demonstrated meaningful relationships between cognitive emotion-regulation processes and behavioral problems, including among children experiencing reading, writing, and mathematics difficulties (5, 6). Such findings are important because academic difficulties themselves may create repeated experiences of failure, frustration, comparison, and negative feedback, increasing demands on children's emotional-regulation capacities. Similarly, research involving children with attention-deficit/hyperactivity disorder has examined behavioral-emotional problems and cognitive-emotional regulation together, showing the relevance of regulatory processes to behavioral functioning in children characterized by attentional and self-control difficulties (7). Collectively, this evidence supports considering emotion regulation not merely as an emotional characteristic but as an important correlate of children's broader behavioral adaptation.

Intervention research provides additional support for this relationship. Emotion-regulation training has been applied across developmental periods and among children with different forms of emotional and behavioral vulnerability. In preschool populations, emotion-regulation interventions have been associated with improvements in emotional knowledge, regulation, and social problem-solving capacities (8). An emotion regulation-based training program has similarly been evaluated for reducing behavioral-emotional problems among preschool children, indicating the practical relevance of addressing emotional regulation at early developmental stages (9). Among students characterized by high-risk behavior, emotion-regulation training has also been investigated in relation to disciplinary and behavioral problems as well as academic functioning (10). Moreover, emotional self-regulation training has been examined among elementary school students with emotional-behavioral problems, with attention to outcomes such as empathy and school engagement (11). Taken together, these studies indicate that emotion regulation is relevant not only to clinical symptoms but also to children's academic, social, and school-related functioning.

The significance of regulatory capacity is also evident in populations exhibiting more pronounced externalizing and psychological difficulties. Cognitive and behavioral approaches to emotion-regulation training have been directly considered as intervention pathways for adolescents with externalizing behavior problems (12). In students with disruptive mood dysregulation disorder, group dialectical behavior therapy has been investigated for improving emotion regulation and reducing irritability, demonstrating the relevance of regulation-oriented approaches to difficulties involving intense and poorly controlled affect (13). Likewise, a family-centered emotion-regulation program has been developed and evaluated among adolescents with oppositional defiant disorder, with particular attention to impulsivity and family quality of life (14). Emotion-regulation difficulties are not restricted to childhood externalizing disorders; cognitive-behavioral therapy has also been studied for reducing difficulties in emotion regulation and improving cognitive flexibility among individuals with obsessive-compulsive disorder (15, 16). These findings collectively reinforce a transdiagnostic perspective in which inefficient emotion regulation may contribute to diverse forms of maladjustment rather than belonging exclusively to any single diagnostic category.

However, children's capacity to regulate emotion develops within interpersonal systems rather than in isolation. Parents constitute one of the earliest and most influential contexts in which children encounter, interpret, communicate, and manage emotions. Through parental modeling, reactions to children's emotions, discipline practices, communication patterns, emotional responsiveness, and everyday conflict management, the family can provide either supportive scaffolding or additional challenges for emotional self-regulation. Parenting style and children's emotion regulation have been examined jointly in relation to behavioral problems, with evidence suggesting that relationships among these variables may also vary according to cultural values (17). Such findings are particularly important because parenting behaviors do not carry identical meanings in every sociocultural context; warmth, authority, behavioral control, emotional expression, dependence, and autonomy can be interpreted differently across families and cultures.

Parental emotion socialization further illustrates how family relationships can connect children's emotional functioning with psychological adjustment. Parents communicate beliefs and expectations concerning emotions both explicitly, through discussion and coaching, and implicitly, through their responses to distress, anger, fear, disappointment, or excitement. Recent evidence indicates that parental emotion-socialization processes are associated with adolescents' internalizing problems through emotion-

regulation strategies, while these pathways may also differ by gender (18). In addition, research on adolescent behavioral problems has proposed emotion-regulation difficulties as an important mechanism connecting family processes with maladjustment. Specifically, behavioral problems among adolescent girls have been modeled in relation to parent–child conflict and broader family-process problems, with emotion-regulation difficulties examined as a mediating mechanism (19). This body of evidence indicates that the connection between emotional regulation and behavioral problems is embedded within reciprocal family interactions and that the parent–child relationship may constitute an important explanatory link between individual emotional characteristics and observable behavioral adjustment.

The parent–child relationship is multidimensional. Closeness may provide emotional security, trust, opportunities for communication, and access to parental support during distress, whereas persistent conflict can create repeated emotional activation and coercive exchanges. Excessive dependency may also indicate difficulty achieving age-appropriate autonomy and independent regulation. Thus, the quality of the parent–child relationship may both facilitate and reflect children's regulatory capacities. A child capable of communicating distress and controlling impulsive emotional reactions may contribute to more constructive interactions with parents, while a warm and responsive relationship may in turn provide the child with resources for managing difficult emotions. Conversely, emotional lability may increase conflict, and recurrent parent–child conflict may intensify emotional reactivity. The relationship is therefore potentially transactional rather than strictly unidirectional.

Evidence from family-oriented interventions reinforces the importance of considering parental and relational mechanisms alongside children's individual characteristics. Parent-management interventions based on the Oregon model have been investigated in mothers of children with externalizing behavioral problems, with emphasis on parental adaptability and emotion regulation (20, 21). Likewise, mother–adolescent efficient-interaction training and emotion-regulation training have been compared among girls with externalizing behavioral problems, illustrating the potential relevance of both relational and emotional-regulation pathways to positive psychological functioning (22). The importance of regulatory interventions in stressful family circumstances is further suggested by research showing that cognitive-behavioral component training can influence cognitive emotion regulation, resilience, and self-control strategies among divorced women (23). Although this latter work concerns adults rather than children, it further illustrates the broader principle that regulatory processes remain responsive to psychological intervention within family-related contexts.

More broadly, contemporary therapeutic perspectives increasingly emphasize mechanisms of change rather than treating psychological problems solely at the level of observable symptoms. Approaches designed to modify maladaptive emotional, cognitive, and behavioral cycles may influence psychological difficulties by altering how individuals respond to internal experiences and recurring problem patterns. Recent conceptual work concerning paradoxical timetable therapy, for example, has emphasized mechanisms through which structured therapeutic procedures may alter psychological problems and maladaptive response cycles (24). Although such interventions differ from direct emotion-regulation training, this broader mechanism-focused perspective is relevant to the present investigation because it highlights the importance of identifying processes through which psychological characteristics become associated with

behavioral outcomes. In childhood, the parent–child relationship represents one particularly plausible interpersonal process through which emotional regulation may become linked to behavior.

Despite increasing research on emotion regulation and behavioral difficulties, several issues remain insufficiently integrated. First, much of the existing intervention literature has focused on selected clinical or high-risk populations, including children with specific learning disorders (6), ADHD (7), disruptive mood dysregulation disorder (13), oppositional defiant disorder (14), or students already identified as displaying emotional-behavioral or high-risk difficulties (10, 11). Although these studies establish the clinical and educational importance of emotion regulation, they provide less information concerning how variation in regulation operates across multiple dimensions of behavioral problems in ordinary school-age populations. Second, research frequently considers either individual emotional regulation or parenting and family processes, whereas fewer studies integrate these domains within a single explanatory model. Third, behavioral adjustment is heterogeneous, and mechanisms associated with overt conduct and aggression may not operate identically for attention problems, emotional immaturity, anxiety, or withdrawal.

These gaps are especially important during the later elementary-school years. Children in fourth through sixth grade face progressively greater requirements for sustained attention, independent task completion, conformity to classroom expectations, peer cooperation, conflict negotiation, and behavioral self-management. At the same time, parents remain central sources of emotional security, guidance, discipline, and behavioral feedback. Consequently, this developmental period provides a particularly relevant context in which to investigate the interplay between individual emotion regulation and the quality of the parent–child relationship. A model focusing exclusively on the direct association between emotion regulation and behavioral problems may overlook the interpersonal environment in which emotional responses are expressed and managed. Conversely, a model examining parent–child relationships without considering children's regulatory characteristics may underestimate the contribution of individual emotional functioning to family interactions and behavioral outcomes.

The existing evidence therefore supports a model in which adaptive emotion regulation may be associated with fewer behavioral difficulties and emotional lability or negativity with greater behavioral difficulties, while the quality of the parent–child relationship may account for part of these associations. Such a model is compatible with evidence linking emotion-regulation processes with children's behavioral problems (5), family processes with emotion regulation and behavioral adjustment (17, 19), and family- or regulation-focused interventions with improvements in relevant psychological outcomes (20, 22). Examining both direct and indirect associations may therefore provide a more comprehensive account of why some children experiencing regulatory difficulties exhibit greater conduct problems, attention problems–immaturity, socialized aggression, or anxiety–withdrawal. It may also provide a stronger empirical foundation for interventions that combine development of children's emotional-regulation skills with efforts to strengthen supportive, low-conflict, and developmentally appropriate parent–child relationships.

Accordingly, the present study aimed to examine the relationship between emotion regulation and behavioral problems—including conduct disorder, attention problems–immaturity, socialized aggression, and anxiety–withdrawal—among fourth- to sixth-grade elementary school students and to determine the mediating role of the parent–child relationship in these associations.

Methods and Materials

Study Design and Participants

The present study employed a descriptive-correlational design using structural equation modeling (SEM). The primary objective was to examine the association between emotion regulation and behavioral problems—specifically conduct disorder, attention problems/immaturity, socialized aggression, and anxiety/withdrawal—and to test the mediating role of the parent–child relationship among fourth-, fifth-, and sixth-grade elementary school students. Structural equation modeling was used to evaluate the direct and indirect associations among the study variables. In addition, stepwise multiple regression was used for supplementary analyses examining the predictive role of different dimensions of the parent–child relationship.

The study population consisted of fourth-, fifth-, and sixth-grade elementary school students and their parents. According to the Method chapter of the thesis, the target population comprised students enrolled in elementary schools in Mobarakeh, Iran, during the study academic year. Eligible students were boys and girls between 10 and 12 years of age.

The final sample consisted of 212 students and their participating parents. Participants were selected using multistage cluster random sampling. In the first stage, several elementary schools were randomly selected as primary clusters. In the second stage, classes from Grades 4, 5, and 6 were randomly selected within the participating schools. In the third stage, students were randomly selected from the chosen classes, and the selected students and their parents were invited to participate in the study.

The final sample included 113 girls (53.3%) and 99 boys (46.7%). With respect to grade level, 75 students (35.4%) were in Grade 4, 70 (33.0%) were in Grade 5, and 67 (31.6%) were in Grade 6. Participants ranged in age from 10 to 12 years; 76 students (35.8%) were 10 years old, 70 (33.0%) were 11 years old, and 66 (31.1%) were 12 years old. The mean age of the participants was 10.95 years ($SD = 0.82$).

Students were eligible for inclusion if they (a) were enrolled in Grades 4, 5, or 6 of elementary school, (b) were between 10 and 12 years of age, (c) had parental permission to participate in the study, and (d) were considered capable of completing the required study assessments. Students were excluded if cognitive or physical difficulties prevented completion of the study assessments. Participants were also excluded if their parents declined participation or if the questionnaires contained substantial missing or incomplete responses.

Data Collection Tools

Children's emotion regulation was assessed using the Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997). The ERC is a 24-item other-report measure designed to assess children's emotional regulation and emotional reactivity. In the present study, the measure was completed by parents. Items were rated on a 4-point Likert-type scale, ranging from 1 (*never*) to 4 (*almost always*). The version administered in the present study comprised two dimensions: Adaptive Emotion Regulation and Lability/Negativity. Adaptive Emotion Regulation represented children's capacity to appropriately manage, modulate, and express emotional arousal, whereas Lability/Negativity reflected emotional instability, intense emotional reactivity, frequent mood changes, and negative affectivity. The two dimensions were treated as separate

indicators of children's emotional functioning. Higher scores on Adaptive Emotion Regulation indicated greater regulatory capacity, whereas higher scores on Lability/Negativity indicated greater emotional instability and negative emotional reactivity. According to the scoring procedure reported in the thesis, Adaptive Emotion Regulation consisted of eight items, whereas Lability/Negativity was scored using the remaining items assigned to that dimension in the Persian version employed in the study. The subscale scores were analyzed independently. Internal consistency in the present sample was satisfactory. Cronbach's alpha was .85 for the overall questionnaire, .83 for Adaptive Emotion Regulation, and .80 for Lability/Negativity.

Behavioral problems were assessed using the Quay–Peterson Revised Behavior Problem Checklist (RBPC; Quay & Peterson, 1987), using the Iranian four-factor version supported by Shahim et al. (2008). The version employed in the present study contained 88 items assessing four domains of behavioral problems: Conduct Disorder, Attention Problems–Immaturity, Socialized Aggression and Anxiety–Withdrawal. Items were rated using a three-point scoring system. A score of 0 indicated the absence of the behavioral problem, 1 indicated that the behavior was present but not severe, and 2 indicated that the behavioral problem was clearly or severely present. Higher scores therefore reflected greater severity of behavioral problems.

In the version reported in the thesis, Conduct Disorder was represented by Items 1–38, Attention Problems–Immaturity by Items 39–71, Socialized Aggression by Items 72–80, and Anxiety–Withdrawal by Items 81–88. Accordingly, possible scores ranged from 0 to 76 for Conduct Disorder, 0 to 66 for Attention Problems–Immaturity, 0 to 18 for Socialized Aggression, and 0 to 16 for Anxiety–Withdrawal. The possible total behavioral-problems score ranged from 0 to 176, with higher scores indicating more severe behavioral difficulties. The Iranian psychometric study of the Quay–Peterson checklist identified the same four-factor structure—conduct disorder, attention problems–immaturity, socialized aggression, and anxiety–withdrawal—and provided evidence of satisfactory reliability and validity. Internal consistency was also satisfactory in the present sample. Cronbach's alpha was .90 for the total behavioral-problems score, .89 for Conduct Disorder, .87 for Attention Problems–Immaturity, .82 for Socialized Aggression, and .79 for Anxiety–Withdrawal.

The quality of the parent–child relationship was assessed using the Child–Parent Relationship Scale (CPRS; Pianta, 1992). The Persian version used in the present study consisted of 33 items and assessed parents' perceptions of their relationship with their child. The measure was completed by parents using a 5-point Likert-type response format, with higher ratings indicating that a particular statement more strongly characterized the parent–child relationship. The version used in the study assessed three principal dimensions: Conflict, Closeness, and Dependency, in addition to an overall Positive Relationship score. Conflict represented negative and strained aspects of the relationship, including disagreement, anger, resistance, and difficulties in parent–child interactions. Closeness reflected the extent to which the parent perceived the relationship as warm, affectionate, comfortable, and emotionally connected. Dependency represented excessive or developmentally inappropriate dependency within the parent–child relationship. For computation of the overall Positive Relationship score, scores on the Conflict and Dependency dimensions were reverse-coded and combined with scores on Closeness. Thus, higher overall scores represented a more positive parent–child relationship characterized by greater closeness and relatively lower conflict and dependency. In the present study, Cronbach's alpha was .88 for the overall parent–child

relationship measure, .86 for Conflict, .82 for Closeness, .79 for Dependency, and .89 for the overall Positive Relationship score, indicating satisfactory internal consistency.

Data Analysis

Data were analyzed using IBM SPSS Statistics version 28 and AMOS version 28. Descriptive statistics were initially calculated to characterize the sample and the study variables. Frequencies and percentages were used to describe categorical demographic variables, including sex, grade level, and parental occupation. Means and standard deviations were calculated for age and the principal study variables, including emotion regulation, parent–child relationship dimensions, and behavioral problems.

Before conducting the main analyses, the distributions of the study variables were examined using skewness and kurtosis indices. Values within the range of approximately -2 to $+2$ were considered indicative of acceptable univariate normality. Pearson correlation coefficients were subsequently calculated to examine bivariate associations among the study variables. The primary hypotheses were tested using structural equation modeling. Confirmatory factor analysis (CFA) was used to examine the adequacy of the measurement model, and path analysis within the SEM framework was used to estimate direct and indirect associations among emotion regulation, the parent–child relationship, and behavioral problems.

Model fit was evaluated using multiple fit indices, including the chi-square statistic (χ^2), Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA). The mediating effect of the parent–child relationship was evaluated by estimating indirect pathways between emotion regulation and behavioral problems. The statistical significance of indirect effects was examined using a bootstrap procedure with 2,000 resamples. Bootstrap confidence intervals were used to determine whether the indirect effects differed significantly from zero. In addition to the primary SEM analyses, stepwise multiple regression analysis was conducted as a supplementary analysis to examine the extent to which the parent–child relationship dimensions—Closeness, Dependency, and Conflict—predicted behavioral problems.

Findings and Results

A total of 212 fourth- to sixth-grade elementary school students were included in the analyses. Of these, 113 (53.3%) were girls and 99 (46.7%) were boys. Seventy-five students (35.4%) were in Grade 4, 70 (33.0%) were in Grade 5, and 67 (31.6%) were in Grade 6. Participants ranged in age from 10 to 12 years, with a mean age of 10.95 years ($SD = 0.82$).

Table 1. Demographic Characteristics of the Participants (N = 212)

Characteristic	Category	n	%
Sex	Girls	113	53.3
	Boys	99	46.7
Grade	Fourth	75	35.4
	Fifth	70	33.0
	Sixth	67	31.6
Age	10 years	76	35.8
	11 years	70	33.0
	12 years	66	31.1
Father's occupation	Self-employed	70	33.0
	Retired	15	7.1
	Employee	49	23.1

Mother's occupation	Worker	42	19.8
	Other	36	17.0
	Self-employed	51	24.0
	Retired	4	1.9
	Employee	57	26.9
	Homemaker	61	28.8
	Other	39	18.4

Descriptive statistics for the principal study variables are presented in Table 2. The mean score for the overall positive parent–child relationship was 104.66 (SD = 13.14). The mean total behavioral-problems score was 60.81 (SD = 17.93). Regarding emotion regulation, the mean Adaptive Emotion Regulation score was 19.87 (SD = 2.26), whereas the mean Liability/Negativity score was 40.25 (SD = 3.11). Before conducting the structural equation analyses, univariate normality was evaluated using skewness and kurtosis. All skewness and kurtosis values fell within the prespecified range of -2 to $+2$. Skewness ranged from -0.972 to 1.156 , and kurtosis ranged from -0.593 to 1.577 . Therefore, the distributions were considered sufficiently normal for the parametric analyses and structural equation modeling used in the study.

Table 2. Descriptive Statistics and Distributional Characteristics of the Study Variables

Variable	M	SD	Min	Max	Skewness	Kurtosis
Parent–child closeness	36.30	5.02	9	45	-0.359	-0.593
Parent–child dependency	14.31	2.59	6	30	-0.746	0.928
Parent–child conflict	54.04	11.59	18	90	-0.972	-0.351
Overall positive parent–child relationship	104.66	13.14	33	165	-0.926	-0.159
Conduct disorder	21.93	10.36	0	76	0.334	0.709
Attention problems–immaturity	28.96	10.31	0	66	0.260	-0.560
Socialized aggression	4.83	3.13	0	18	0.563	0.541
Anxiety–withdrawal	5.09	3.11	0	16	0.705	0.594
Total behavioral problems	60.81	17.93	0	176	1.156	1.577
Adaptive emotion regulation	19.87	2.26	8	32	0.650	-0.089
Liability/negativity	40.25	3.11	16	64	-0.554	-0.196

Pearson correlation coefficients among the study variables are presented in Table 3. The overall parent–child relationship was negatively correlated with conduct disorder ($r = -.421$), attention problems–immaturity ($r = -.448$), socialized aggression ($r = -.296$), anxiety–withdrawal ($r = -.259$), and total behavioral problems ($r = -.364$). Thus, a more positive parent–child relationship was associated with fewer behavioral problems. Adaptive emotion regulation was positively associated with the parent–child relationship ($r = .412$) and negatively associated with conduct disorder ($r = -.514$), attention problems–immaturity ($r = -.560$), socialized aggression ($r = -.518$), anxiety–withdrawal ($r = -.342$), and total behavioral problems ($r = -.476$). In contrast, liability/negativity was negatively associated with the parent–child relationship ($r = -.392$) and positively associated with conduct disorder ($r = .458$), attention problems–immaturity ($r = .518$), socialized aggression ($r = .441$), anxiety–withdrawal ($r = .296$), and overall behavioral problems ($r = .357$). Adaptive emotion regulation and liability/negativity were themselves negatively correlated ($r = -.466$).

Table 3. Pearson Correlations Among the Main Study Variables

Variable	1	2	3	4	5	6	7	8
1. Parent–child relationship	—							
2. Conduct disorder	$-.421$	—						
3. Attention problems–immaturity	$-.448$	$.460$	—					

4. Socialized aggression	-.296	.659	.569	—			
5. Anxiety-withdrawal	-.259	.773	.576	.659	—		
6. Adaptive emotion regulation	.412	-.514	-.560	-.518	-.342	—	
7. Lability/negativity	-.392	.458	.518	.441	.296	-.466	—
8. Total behavioral problems	-.364	.781	.538	.691	.683	-.476	.357

Fit statistics for the five structural models are presented in Table 4. For the main model, the reported fit indices were GFI = .915, AGFI = .903, TLI = .904, CFI = .901, RMSEA = .074, and CMIN/DF = 2.876. According to the criteria adopted in the thesis, the overall pattern of indices was interpreted as supporting an acceptable fit of the proposed model. The four outcome-specific models also yielded RMSEA values between .059 and .081 and CMIN/DF values between 1.978 and 2.668. Thus, the thesis concluded that the proposed structural models provided an overall acceptable representation of the observed data.

Table 4. Fit Indices for the Main and Outcome-Specific Structural Models

Fit index	Main model	Model 1: Conduct	Model 2: Attention–Immaturity	Model 3: Socialized Aggression	Model 4: Anxiety–Withdrawal
GFI	.915	.920	.923	.911	.903
AGFI	.903	.912	.916	.897	.875
RMR [†]	1.865	1.221	.874	.965	.899
TLI	.904	.916	.899	.906	.901
NFI	.886	.876	.896	.901	.906
CFI	.901	.913	.904	.894	.896
RFI	.784	.801	.866	.901	.910
IFI	.901	.845	.903	.884	.866
RMSEA	.074	.081	.066	.075	.059
CMIN/DF	2.876	2.516	1.978	2.032	2.668
PRATIO	.863	.845	.853	.867	.846
PGFI	.655	.681	.663	.647	.644
PCFI	.701	.712	.703	.796	.763
PNFI	.645	.695	.661	.606	.649

Table 5 summarizes the direct structural paths. In the main model, Adaptive Emotion Regulation was positively associated with the parent–child relationship ($\beta = .412, p = .001$), whereas Lability/Negativity was negatively associated with the parent–child relationship ($\beta = -.387, p = .005$). The parent–child relationship, in turn, was negatively associated with total behavioral problems ($\beta = -.364, p = .023$). Adaptive Emotion Regulation also showed a significant negative direct association with total behavioral problems ($\beta = -.468, p < .001$), whereas Lability/Negativity showed a significant positive direct association ($\beta = .353, p = .035$).

The same general pattern was observed in the four outcome-specific models. A more positive parent–child relationship was negatively associated with conduct disorder ($\beta = -.406$), attention problems–immaturity ($\beta = -.442$), socialized aggression ($\beta = -.484$), and anxiety–withdrawal ($\beta = -.263$). Adaptive emotion regulation was negatively associated with all four behavioral-problem dimensions, whereas lability/negativity was positively associated with each dimension.

Table 5. Direct Effects in the Structural Equation Models

Model/outcome	Structural path	B	β	SE	CR	p
Main model	Adaptive ER → Parent–child relationship	1.489	.412	.366	4.068	.001
	Lability/negativity → Parent–child relationship	-1.344	-.387	.374	-3.594	.005
	Parent–child relationship → Behavioral problems	-1.265	-.364	.401	-2.703	.023

Conduct disorder	Adaptive ER → Behavioral problems	-2.203	-.468	.287	-7.676	< .001
	Lability/negativity → Behavioral problems	1.098	.353	.462	2.377	.035
	Adaptive ER → Parent-child relationship	1.521	.431	.272	5.592	< .001
	Lability/negativity → Parent-child relationship	-1.401	-.379	.382	-3.668	.002
	Parent-child relationship → Conduct disorder	-1.498	-.406	.415	-3.610	.009
	Adaptive ER → Conduct disorder	-2.232	-.512	.274	-8.146	< .001
Attention problems – immaturity	Lability/negativity → Conduct disorder	1.116	.463	.467	2.390	.017
	Adaptive ER → Parent-child relationship	1.632	.421	.251	6.501	< .001
	Lability/negativity → Parent-child relationship	-1.413	-.399	.355	-3.980	< .001
	Parent-child relationship → Attention-immaturity	-1.503	-.442	.407	-3.693	< .001
	Adaptive ER → Attention-immaturity	-2.426	-.553	.289	-8.394	< .001
	Lability/negativity → Attention-immaturity	1.347	.517	.452	2.981	.024
Socialized aggression	Adaptive ER → Parent-child relationship	1.801	.410	.234	7.735	< .001
	Lability/negativity → Parent-child relationship	-1.413	-.382	.379	-3.728	< .001
	Parent-child relationship → Socialized aggression	-1.503	-.484	.422	-3.562	.006
	Adaptive ER → Socialized aggression	-2.426	-.519	.302	-8.033	< .001
	Lability/negativity → Socialized aggression	1.347	.427	.432	3.118	.011
	Adaptive ER → Parent-child relationship	1.782	.421	.244	7.303	< .001
Anxiety-withdrawal	Lability/negativity → Parent-child relationship	-1.379	-.376	.366	-3.768	< .001
	Parent-child relationship → Anxiety-withdrawal	-1.024	-.263	.410	-2.497	.029
	Adaptive ER → Anxiety-withdrawal	-2.136	-.352	.294	-7.265	< .001
	Lability/negativity → Anxiety-withdrawal	1.296	.302	.416	3.115	.009

The indirect effects of emotion regulation on behavioral problems through the parent-child relationship were examined using 2,000 bootstrap samples. In the main model, the indirect association between Adaptive Emotion Regulation and total behavioral problems through the parent-child relationship was significant ($\beta = -.148$, $p = .001$, 95% bootstrap CI $[-.203, -.019]$). The corresponding indirect association for Lability/Negativity was also significant ($\beta = .140$, $p = .005$, 95% bootstrap CI $[.014, .173]$).

Significant indirect effects were also found for all four specific behavioral-problem dimensions. For conduct disorder, the indirect effects were $\beta = -.176$ for Adaptive Emotion Regulation and $\beta = .156$ for Lability/Negativity. For attention problems-immaturity, the corresponding coefficients were $\beta = -.185$ and $\beta = .176$. The largest standardized indirect effect of Adaptive Emotion Regulation was observed for socialized aggression ($\beta = -.197$), whereas the corresponding indirect effect of Lability/Negativity was $\beta = .182$. Finally, significant indirect effects were also observed for anxiety-withdrawal ($\beta = -.109$ and $\beta = .098$, respectively). Because the direct effects of the emotion-regulation dimensions remained statistically significant after inclusion of the parent-child relationship and the indirect effects were also significant, the observed pattern is consistent with partial statistical mediation rather than complete mediation.

Table 6. Bootstrap Tests of the Indirect Effects Through the Parent-Child Relationship

Outcome	Predictor	Standardized indirect effect (β)	p	95% bootstrap CI
Total behavioral problems	Adaptive emotion regulation	-.148	.001	$[-.203, -.019]$

	Lability/negativity	.140	.005	[.014, .173]
Conduct disorder	Adaptive emotion regulation	-.176	.001	[-.312, -.008]
	Lability/negativity	.156	.003	[.011, .186]
Attention problems–immaturity	Adaptive emotion regulation	-.185	< .001	[-.342, -.005]
	Lability/negativity	.176	.001	[.002, .203]
Socialized aggression	Adaptive emotion regulation	-.197	< .001	[-.355, -.002]
	Lability/negativity	.182	< .001	[.101, .246]
Anxiety–withdrawal	Adaptive emotion regulation	-.109	.021	[-.267, -.055]
	Lability/negativity	.098	.034	[.041, .238]

Adaptive Emotion Regulation was negatively associated with conduct disorder ($\beta = -.512, p < .001$), whereas Lability/Negativity was positively associated with conduct disorder ($\beta = .463, p = .017$). The parent–child relationship was negatively associated with conduct disorder ($\beta = -.406, p = .009$). Moreover, both emotion-regulation dimensions showed significant indirect effects through the parent–child relationship. Therefore, the hypothesis concerning the mediating role of the parent–child relationship in the association between emotion regulation and conduct disorder was supported.

Adaptive Emotion Regulation showed a negative association with attention problems–immaturity ($\beta = -.553, p < .001$), whereas Lability/Negativity showed a positive association ($\beta = .517, p = .024$). The parent–child relationship was negatively associated with attention problems–immaturity ($\beta = -.442, p < .001$). Significant bootstrap indirect effects were obtained for both Adaptive Emotion Regulation ($\beta = -.185$) and Lability/Negativity ($\beta = .176$), supporting the hypothesized mediational relationship.

Adaptive Emotion Regulation was negatively related to socialized aggression ($\beta = -.519, p < .001$), whereas Lability/Negativity was positively related to socialized aggression ($\beta = .427, p = .011$). The parent–child relationship showed a negative association with socialized aggression ($\beta = -.484, p = .006$). The indirect effects through the parent–child relationship were significant for Adaptive Emotion Regulation ($\beta = -.197, p < .001$) and Lability/Negativity ($\beta = .182, p < .001$). Thus, the corresponding hypothesis was supported.

Adaptive Emotion Regulation was negatively associated with anxiety–withdrawal ($\beta = -.352, p < .001$), whereas Lability/Negativity was positively associated with anxiety–withdrawal ($\beta = .302, p = .009$). A more positive parent–child relationship was associated with lower anxiety–withdrawal scores ($\beta = -.263, p = .029$). Bootstrap analysis further indicated significant indirect effects for Adaptive Emotion Regulation ($\beta = -.109, p = .021$) and Lability/Negativity ($\beta = .098, p = .034$). The hypothesis concerning anxiety–withdrawal was therefore supported.

Across the main and outcome-specific models, Adaptive Emotion Regulation was consistently positively related to the parent–child relationship, with standardized coefficients ranging from $\beta = .410$ to $.431$. Conversely, Lability/Negativity was consistently negatively related to the parent–child relationship, with coefficients ranging from $\beta = -.376$ to $-.399$. These findings supported the hypothesis that emotion regulation was significantly related to the quality of the parent–child relationship.

The parent–child relationship was negatively associated with total behavioral problems ($\beta = -.364$), conduct disorder ($\beta = -.406$), attention problems–immaturity ($\beta = -.442$), socialized aggression ($\beta = -.484$), and anxiety–withdrawal ($\beta = -.263$). All of these associations were statistically significant. Thus, the hypothesis proposing an association between the parent–child relationship and behavioral problems was supported.

A supplementary stepwise multiple regression analysis was conducted to determine whether the dimensions of the parent–child relationship—Closeness, Dependency, and Conflict—predicted overall behavioral problems. The final three-predictor model was statistically significant, $F(3, 208) = 139.64$, $p < .001$, with $R = .772$ and $R^2 = .668$. Thus, according to the values reported in the thesis, approximately 66.8% of the variance in behavioral problems was accounted for by the three parent–child relationship dimensions. The Durbin–Watson statistic was 1.96.

Table 7. Stepwise Regression Models Predicting Behavioral Problems From Parent–Child Relationship Dimensions

Step	Predictors entered	R	R ²	F	p
1	Closeness	.752	.566	261.829	< .001
2	Closeness, Dependency	.763	.629	177.456	< .001
3	Closeness, Dependency, Conflict	.772	.668	139.637	< .001

In the final model, Closeness was a significant negative predictor of behavioral problems ($B = -.055$, $SE = .014$, $\beta = -.365$, $t = -3.903$, $p < .001$), indicating that greater parent–child closeness was associated with fewer behavioral problems. In contrast, Dependency was a positive predictor ($B = .041$, $SE = .010$, $\beta = .348$, $t = 3.909$, $p < .001$), indicating that greater dependency was associated with more behavioral problems. Conflict was also a positive predictor ($B = .081$, $SE = .024$, $\beta = .236$, $t = 3.368$, $p = .001$).

Table 8. Final Stepwise Regression Model Predicting Behavioral Problems

Predictor	B	SE	β	t	p
Constant	11.925	2.584	—	4.616	< .001
Closeness	-.055	.014	-.365	-3.903	< .001
Dependency	.041	.010	.348	3.909	< .001
Conflict	.081	.024	.236	3.368	.001

Overall, greater parent–child closeness was associated with fewer behavioral difficulties, whereas greater dependency and conflict were associated with higher levels of behavioral problems. Taken together, the findings indicated that better adaptive emotion regulation was associated with fewer behavioral problems, whereas greater emotional lability/negativity was associated with more behavioral problems. A more positive parent–child relationship was also associated with lower levels of conduct disorder, attention problems–immaturity, socialized aggression, anxiety–withdrawal, and overall behavioral problems.

Bootstrap analyses showed significant indirect effects of both dimensions of emotion regulation on all behavioral-problem outcomes through the parent–child relationship. Because significant direct effects remained after inclusion of the mediator, the overall pattern was consistent with partial statistical mediation. Supplementary regression analyses further indicated that greater parent–child closeness predicted fewer behavioral problems, whereas greater dependency and conflict predicted greater behavioral difficulties.

Discussion and Conclusion

The present study examined the relationship between emotion regulation and behavioral problems among fourth- to sixth-grade elementary school students and investigated the mediating role of the parent–child relationship. Overall, the findings supported the proposed conceptual model. Adaptive emotion regulation was negatively associated with total behavioral problems ($\beta = -.468$, $p < .001$), whereas lability/negativity

was positively associated with behavioral problems ($\beta = .353, p = .035$). Adaptive emotion regulation was also positively related to the quality of the parent–child relationship ($\beta = .412, p = .001$), while lability/negativity was negatively related to this relationship ($\beta = -.387, p = .005$). In turn, a more positive parent–child relationship was associated with fewer behavioral problems ($\beta = -.364, p = .023$). Importantly, the indirect effects of both adaptive emotion regulation ($\beta = -.148$) and lability/negativity ($\beta = .140$) on total behavioral problems through the parent–child relationship were significant. Because the corresponding direct effects remained significant after inclusion of the mediator, the pattern supported partial rather than complete statistical mediation.

The inverse association between adaptive emotion regulation and behavioral problems is consistent with previous studies indicating that children's ability to regulate emotional responses is closely related to their behavioral adjustment. Alipour et al. examined cognitive emotion regulation together with behavioral problems in children with specific learning disorders, emphasizing the close relationship between regulatory functioning and behavioral difficulties (5, 6). Similarly, emotion-regulation-based interventions have been investigated as means of reducing emotional and behavioral difficulties among preschool children and students displaying problematic or high-risk behaviors (9, 10). Emotional self-regulation training has also been applied among elementary students with emotional-behavioral problems, with attention to broader adaptive outcomes such as empathy and school engagement (11). These convergent findings suggest that emotion regulation functions as an important self-regulatory resource through which children manage frustration, emotional arousal, interpersonal challenges, and behavioral impulses.

The positive relationship between lability/negativity and behavioral problems further supports this interpretation. Children characterized by rapid emotional fluctuations, intense negative affect, or difficulty returning to emotional baseline may be more likely to respond to everyday stressors through impulsive, disruptive, aggressive, avoidant, or withdrawn behavior. Behavioral regulation becomes particularly difficult when emotional arousal exceeds the child's available regulatory capacity. The distinction between adaptive and maladaptive regulatory processes is also supported by research differentiating behavioral and cognitive forms of emotion regulation and linking them with emotional problems (3). Preece et al. likewise demonstrated the importance of emotional awareness and processing to emotion-regulation functioning, indicating that difficulties in understanding and managing emotions can be closely intertwined (4). The current results therefore support viewing children's behavioral difficulties partly as behavioral expressions of underlying problems in emotional self-regulation.

This interpretation is also compatible with intervention findings across different forms of psychopathology. Group dialectical behavior therapy has been studied for improving emotion regulation and irritability among students with disruptive mood dysregulation disorder (13), while cognitive-behavioral therapy has demonstrated relevance to difficulties in emotion regulation and cognitive flexibility among individuals with obsessive-compulsive disorder (15, 16). Cognitive and behavioral approaches to emotion-regulation training have similarly been proposed for externalizing behavior problems during adolescence (12). Although these populations and interventions differ from the present nonclinical elementary-school sample, they converge on the principle that difficulties in regulating affective responses are relevant across diverse forms of behavioral and psychological maladjustment. More broadly, mechanism-oriented approaches to psychological intervention emphasize altering maladaptive cycles that maintain emotional

and behavioral problems (24). The current findings extend this perspective by suggesting that regulatory functioning is associated with heterogeneous behavioral problems even during middle childhood.

Analysis of the specific behavioral domains produced a consistent pattern. Adaptive emotion regulation was negatively related to conduct disorder ($\beta = -.512$), attention problems–immaturity ($\beta = -.553$), socialized aggression ($\beta = -.519$), and anxiety–withdrawal ($\beta = -.352$), whereas lability/negativity showed positive associations with all four outcomes. These findings indicate that emotion regulation is not limited to one form of maladjustment. In conduct and aggression-related problems, effective regulation may enable children to tolerate frustration, inhibit retaliatory responses, and manage anger before it is translated into overt behavior. In contrast, emotional instability can increase the likelihood that ordinary interpersonal conflicts produce disproportionate reactions. Findings from emotion-regulation interventions targeting externalizing problems are compatible with this explanation (12, 22). Taheri et al. also demonstrated the relevance of a family-centered emotion-regulation program to impulsivity among adolescents with oppositional defiant disorder, further supporting the connection between emotional control, impulsive responding, and disruptive behavior (14).

The relationship with attention problems–immaturity can similarly be interpreted through the interaction between emotional and behavioral self-regulation. Strong emotional arousal may consume attentional resources, interfere with sustained concentration, and make it more difficult for children to inhibit irrelevant responses or remain focused on goal-directed activities. Children who become emotionally overwhelmed may consequently appear inattentive, immature, or poorly controlled, particularly in demanding academic situations. Mohammadi et al. investigated metacognitive therapy in children with ADHD with respect to behavioral-emotional problems, cognitive-emotional regulation strategies, and mind wandering, demonstrating the close conceptual relationship among these domains (7). Evidence concerning children with specific learning difficulties similarly indicates that cognitive emotion regulation and behavioral problems should not be treated as isolated areas of functioning (6). Thus, emotional dysregulation may amplify attentional and behavioral problems when children encounter frustration, failure, criticism, or cognitively demanding situations.

The significant findings for anxiety–withdrawal are also important because they demonstrate that the relevance of emotion regulation extends beyond overt externalizing behavior. Children who cannot effectively regulate fear, sadness, worry, or interpersonal distress may rely more heavily on avoidance and withdrawal. Conversely, children capable of modulating emotional arousal may remain engaged with situations despite discomfort and may recover more effectively following upsetting events. Salerni and Messetti highlighted connections among emotion regulation, peer acceptance and rejection, and emotional–behavioral problems in school-aged children (1). Research involving children experiencing major health-related stress has likewise emphasized self-regulation in understanding emotional and behavioral problems (2). Together, these findings are consistent with the present results and reinforce the view that emotional-regulation processes are relevant to both outwardly expressed and inwardly directed behavioral difficulties.

A second major finding was that the quality of the parent–child relationship was significantly associated with behavioral adjustment. More positive parent–child relationships predicted lower total behavioral problems and lower levels of conduct disorder, attention problems–immaturity, socialized aggression, and anxiety–withdrawal. This finding is consistent with evidence demonstrating that parenting, emotional

socialization, and family interaction contribute to children's regulation and adjustment. Haslam et al. showed that parenting style, child emotion regulation, and behavioral problems are interconnected and that these relationships may be shaped by cultural values (17). Guo et al. similarly showed that parental emotion socialization is associated with internalizing problems through adolescents' emotion-regulation strategies (18). Rezaei et al. further modeled adolescent behavioral problems in relation to parent–child conflict and family-process problems, with emotion-regulation difficulties occupying an important mediating position (19). The current findings therefore support the broader proposition that children's behavioral functioning cannot be fully understood independently of the relational context in which their emotions are expressed and managed.

The mediation results provide further insight into this relationship. Adaptive emotion regulation was associated with a more positive parent–child relationship, whereas lability/negativity was associated with poorer relationship quality; the relationship, in turn, was associated with behavioral problems. Significant indirect effects were found not only for overall behavioral problems but also for conduct disorder, attention problems–immaturity, socialized aggression, and anxiety–withdrawal. This suggests that the parent–child relationship may represent one interpersonal pathway connecting children's emotional-regulation characteristics with behavioral adjustment. Children capable of regulating frustration and communicating emotions appropriately may experience fewer escalating conflicts and more constructive interactions with parents. Conversely, highly labile emotional responses can strain parent–child interactions, while repeated relational conflict may further intensify children's negative emotional responses. The significant remaining direct effects indicate, however, that the parent–child relationship explains only part of the association; emotion regulation also appears to have an association with behavioral problems beyond this relational pathway.

Family-based intervention studies provide support for this interpretation. Parent management training based on the Oregon model has been investigated among mothers of children with externalizing behavioral problems with particular emphasis on parental adaptability and emotion regulation (20, 21). Furthermore, mother–adolescent efficient-interaction training and direct emotion-regulation training have been compared among girls with externalizing problems, demonstrating the relevance of both relational and emotion-focused approaches (22). Ghorbani-Amir et al. also demonstrated the usefulness of cognitive-behavioral components for cognitive-emotional adjustment, resilience, and self-control in a family-related context (23). These studies collectively support the present finding that emotional regulation and family relationships are interrelated domains rather than independent influences on psychological adjustment.

The supplementary analyses provide an even more differentiated interpretation of the parent–child relationship. Closeness was negatively associated with behavioral problems ($\beta = -.365$), whereas dependency ($\beta = .348$) and conflict ($\beta = .236$) were positive predictors. Together, these dimensions accounted for 66.8% of the variance in behavioral-problem scores in the supplementary regression model. Closeness may operate as a protective relational characteristic because emotionally available parent–child relationships provide children with opportunities to communicate distress, seek support, receive guidance, and learn constructive strategies for coping with difficult emotions. By contrast, frequent conflict may repeatedly activate anger, frustration, and defensiveness and can contribute to reciprocal cycles in which children's difficult behavior produces harsher interactions and those interactions further intensify behavioral difficulties. The finding

regarding dependency should be understood as referring to excessive or developmentally inappropriate dependency rather than healthy reliance on caregivers. At ages 10–12, children increasingly require a balance between parental support and developmentally appropriate autonomy; excessive dependency may therefore coexist with anxiety, immaturity, or difficulty independently regulating emotion and behavior.

The overall pattern of findings consequently supports an integrated developmental interpretation. Emotion regulation appears to operate at the individual level by shaping children's capacity to modulate arousal and control behavioral responses, while the parent–child relationship constitutes an interpersonal context in which these regulatory capacities are supported, challenged, and expressed. Evidence showing that emotion-regulation interventions can affect social problem solving, emotional knowledge, school engagement, and behavioral-emotional functioning is consistent with this interpretation (8, 9, 11). At the same time, evidence from family-focused interventions emphasizes the importance of parent–child interaction and parental regulation (20, 22). Thus, the significant partial mediation identified in the present study is conceptually meaningful: children's behavioral functioning appears to be associated both directly with their emotional-regulation characteristics and indirectly with the relational environment reflected in the quality of their relationships with parents.

Several limitations should be considered when interpreting these findings. First, the cross-sectional correlational design does not permit causal conclusions or confirmation of the temporal sequence implied by the mediation model; emotion regulation, parent–child relationships, and behavioral problems may influence one another reciprocally. Second, reliance primarily on questionnaire measures increases susceptibility to response bias, informant effects, and shared-method variance. Third, the participants were fourth- to sixth-grade students aged 10–12 years from a geographically restricted educational context, which limits generalization to younger children, adolescents, clinical populations, and families from other cultural or socioeconomic settings. Fourth, potentially important variables such as temperament, executive functioning, parenting style, parental psychological functioning, socioeconomic stress, peer relationships, and school climate were not incorporated into the structural model. Finally, the relatively large amount of variance explained by the parent–child relationship dimensions in the supplementary regression analysis should be interpreted cautiously until replicated in independent samples, and questionnaire scores representing conduct or attention-related problems should not be equated automatically with formal clinical diagnoses.

Future studies should use longitudinal designs with three or more assessment points to establish the temporal ordering of emotion regulation, changes in parent–child relationships, and subsequent behavioral outcomes and to examine reciprocal child-to-parent and parent-to-child pathways. Larger and more diverse samples from different regions, socioeconomic groups, educational settings, and cultural contexts would strengthen generalizability. Multi-informant assessment involving children, parents, and teachers should be combined with behavioral observation and, where appropriate, structured clinical interviews to reduce shared-method bias. Future models could also include executive functioning, temperament, peer relationships, parenting practices, parental emotion regulation, family stress, and school-related variables as moderators, competing mediators, or confounders. It would also be useful to examine whether the indirect pathways differ according to sex, age, grade, socioeconomic status, or type of behavioral problem and to replicate the current structural model using preregistered analyses and independent samples.

The findings suggest that interventions for elementary-school children with behavioral difficulties should address both children's emotion-regulation abilities and the quality of parent–child interactions rather than focusing exclusively on observable problematic behavior. School counselors, psychologists, and educators can incorporate developmentally appropriate activities for identifying emotions, tolerating frustration, controlling impulsive responses, solving interpersonal problems, and selecting adaptive responses to emotionally challenging situations. Parent-oriented programs can simultaneously emphasize warm communication, emotion coaching, consistent and nonhostile limit setting, reduction of coercive conflict, and promotion of age-appropriate autonomy. Screening children who display persistent conduct problems, attentional immaturity, aggression, anxiety, or withdrawal for both emotional-regulation difficulties and family-relational stress may facilitate earlier and more comprehensive intervention. Coordinated school–family programs may therefore be particularly useful because they can strengthen children's self-regulation while helping parents create relational conditions that support adaptive emotional and behavioral development.

Acknowledgments

The authors express their deep gratitude to all participants who contributed to this study.

Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

References

1. Salerni N, Messetti M. Emotion Regulation, Peer Acceptance and Rejection, and Emotional–Behavioral Problems in School-Aged Children. *Children*. 2025;12(2):159. doi: 10.3390/children12020159.

2. Pan X, Mo L, Liu Q, Guo X, Zhang S. Factors Influencing Emotional and Behavioral Problems in Preschool Children With Cancer Based on Self-Regulation Shift Theory. *Clinical Child Psychology and Psychiatry*. 2022;27(3):755-68. doi: 10.1177/13591045211061799.
3. Garnefski N, Kraaij V. The Behavioral Emotion Regulation Questionnaire: Development, Psychometric Properties, and Relationships with Emotional Problems and the Cognitive Emotion Regulation Questionnaire. *Personality and Individual Differences*. 2019;137:56-61. doi: 10.1016/j.paid.2018.07.028.
4. Preece DA, Mehta A, Petrova K, Sikka P, Bjureberg J, Becerra R, et al. Alexithymia and emotion regulation. *Journal of Affective Disorders*. 2023;324:232-8.
5. Alipour F, Nejati V, Dehrouyeh SH, Moradalian F, Bodaghi E. Cognitive Emotion Regulation and Behavioral Problems in 7-12 Years Old Children with Specific Learning Disorders (Reading, Writing and Mathematics Deficits). *JOEC*. 2020;20(1):87-98.
6. Alipour F, Nejati V, Dehrouyeh S, Moradalian F, Bodaghi E. Cognitive Emotion Regulation and Behavioral Problems in 7-12 Years Old Children with Specific Learning Disorders: Reading, Writing, and Mathematics Deficits. *Journal of Exceptional Children (Research on Exceptional Children)*. 2022;20(1):87-98.
7. Mohammadi ZD, Bavi S, Human F. Effectiveness of metacognitive therapy in behavioral-emotional problems, cognitive-emotional regulation strategies, and mind wandering of 9 to 13-year-old children with ADHD: A quasi-experimental study. *Jundishapur Journal of Chronic Disease Care*. 2022;11(4).
8. Hasani B, Taher M. Effect of Emotion Regulation Training on Social Problem Solving, Emotional Knowledge and Emotion Regulation in Preschool Children. *Medical Journal of Mashhad University of Medical Sciences*. 2020;63(2):2483-9.
9. Seyfivand Dezaki A, editor The effectiveness of an emotion regulation-based training program on reducing behavioral-emotional problems in preschool children (Case study: Preschool children in Shahr-e Kord)2023.
10. Ravanbakhsh A. Investigating the effectiveness of emotion regulation training on reducing disciplinary and behavioral problems and on academic achievement of students with high-risk behavior in art school [Master's thesis]: Payam Noor University, Isfahan Province; 2018.
11. Sardari B. The Effectiveness of Emotional Self-Regulation Training on Empathy and School Engagement in Elementary School Students with Emotional-Behavioral Problems. *Exceptional Education*. 2021;2(162):98-87.
12. Te Brinke LW, Schuurin HD, Menting AT, Deković M, De Castro BO. A cognitive versus behavioral approach to emotion regulation training for externalizing behavior problems in adolescence: Study protocol of a randomized controlled trial. *BMC psychology*. 2018;6(1):49. doi: 10.1186/s40359-018-0261-0.
13. Asghari Sharabiani A, Atadokht A, Hajloo N, Mikaeili N. An Efficacy of Group Dialectical Behavior Therapy for Emotion Regulation and Irritability in Students with Disruptive Mood Dysregulation Disorder. *UMSHA-PSJ*. 2023;21(1):32-9. doi: 10.61186/psj.21.1.32.
14. Taheri M, Tajali P, Shahriari Ahmadi M. Designing and validation of a family-centered emotion regulation program and determining its effect Impulsivity and Family Quality of Life in adolescents with Oppositional Defiant Disorder. *Journal of Adolescent and Youth Psychological Studies (JAYPS)*. 2022;3(2):1-16. doi: 10.61838/kman.jayps.3.2.1.
15. Farzin Bagheri S, Maryam S, Vahid Savabi N, Zahra Nakhostin A, Zeynab B. The Effectiveness of Cognitive-Behavioral Therapy on Difficulties in Emotional Regulation and Cognitive Flexibility in Patients with Obsessive-Compulsive Disorder. *Journal of Psychology*. 2023;27(1):28-37.
16. Sheykhangafshe FB, Saeedi M, Niri VS, Nakhostin Z, Bourbour Z. The effectiveness of cognitive-behavioral therapy on difficulties in emotional regulation and cognitive flexibility in patients with obsessive-compulsive disorder. *Journal of Psychology*. 2023;27(1):28-37.
17. Haslam D, Poniman C, Filus A, Sumargi AM, Boediman LM. Parenting Style, Child Emotion Regulation and Behavioral Problems: The Moderating Role of Cultural Values in Australia and Indonesia. *Marriage & Family Review*. 2020;56(4):320-42. doi: 10.1080/01494929.2020.1712573.

18. Guo X, Jiao R, Wang J. Connections Between Parental Emotion Socialization and Internalizing Problems in Adolescents: Examining the Mediating Role of Emotion Regulation Strategies and Moderating Effect of Gender. *Behavioral Sciences*. 2024;14(8):660. doi: 10.3390/bs14080660.
19. Rezaei Z, Akbari M, Ahmadian H, Yarahmadi Y. Modeling behavioral problems of adolescents based on parent-child conflict and family process problems with the mediating role of emotion regulation difficulties in adolescent girls. *Disability Studies*. 2021;11(1):1-9.
20. Soleimani F, Khaleghipour. The Effect of Parent Management Training Based on the Oregon Model on Parental Adaptability and Emotion Regulation of Mothers of Children with Externalizing Behavioral Problems: A Quasi-Experimental Study. *Journal of Pediatric and Neonatal Nursing*. 2025;12(2):22-36.
21. Soleimani F, Khaleghipour. The Effect of Oregon Model-Based Parent Management Training on Parenting Adaptability and Emotion Regulation among Mothers of Children with Externalizing Behavioral Problems: A Quasi-Experimental Study. *Journal of Pediatric and Neonatal Nursing*. 2025;12(2):22-36.
22. Rahnamaee S, Golparvar M, Aghaei A. Comparing Effectiveness of Mother-Adolescent Efficient Interaction Training Package and Emotion Regulation Training on Affective Capital among girls with Behavioral Externalizing problems. *Rooyesh-e-Ravanshenasi Journal (RRJ)*. 2024;13(1):83-92.
23. Ghorbani-Amir H-A, Moradi O, Arefi M, Ahmadian H. The Effectiveness of Cognitive Behavioral Components Training on Emotional Cognitive Adjustment, Resilience and Self-Controlling Strategies among Divorced Women. *SALĀMAT-I IJTIMĀ'Ī (Community Health)*. 2019;7(2):166-74. doi: 10.22037/ch.v7i2.25857.
24. Asayesh MH, Parsakia K. Paradoxical Timetable Therapy and Psychological Problems: Mechanisms of Change and Implications. *Mental Health and Lifestyle Journal*. 2025;3(3):1-21. doi: 10.61838/mhlj.3.3.11.