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The Role of Emotional Regulation in the Development of Social Skills in Preschool Children

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ABSTRACT

Objective: This study aimed to examine the role of emotion regulation in the development of social skills among preschool children.

Methods: This study utilized an exploratory mixed-methods design and was applied in terms of its purpose. In the qualitative phase, the components of emotion regulation and social skills were extracted and categorized through a documentary study and content analysis of scientific literature. Subsequently, the preliminary model was submitted to 15 experts in developmental psychology, child psychology, educational sciences, and early childhood education. The content validity of the components was evaluated using the Content Validity Ratio (CVR) and the Content Validity Index (CVI).

Results: The findings revealed a positive and significant relationship between emotion regulation and social skills, with emotion regulation accounting for approximately 34% of the variance in social skills. Furthermore, the components of emotion recognition, impulse control, frustration tolerance, and emotional flexibility proved to be of greater importance in shaping adaptive social behavior. Expert validation findings also confirmed that the core components of the proposed model possessed adequate content validity. Based on the findings, emotion regulation can be considered a vital capacity linked to social skills development; however, this relationship is influenced by family, educators, peers, and play environments, and should not be interpreted as a linear or deterministic relationship.

Conclusions: Emotion regulation is a fundamental component in predicting interpersonal competence and facilitating prosocial behaviors in preschool children. Accordingly, integrating emotional self-regulation programs into preschool centers plays a key role in promoting social skills and preventing behavioral maladjustment.

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Introduction

The preschool period is one of the important stages of child development, during which emotional, cognitive, and social growth proceeds at a considerable pace. During this period, the child moves from the limited environment of the family into broader social settings and gradually learns how to interact with peers, participate in group activities, follow rules, express their own needs, and respond appropriately to frustration and conflict. Social skill during this period, therefore, is not merely a set of learned behaviors, but the product of interaction among the child's emotional, cognitive, linguistic, and environmental capacities. One important component in this process is emotion regulation. Emotion regulation refers to the set of internal and external processes through which an individual coordinates the intensity, duration, timing, and manner of expressing their emotions with existing conditions and goals. In children, emotion regulation develops gradually, in interaction with caregivers, the environment, and social experiences. Preschool children therefore still require adult support to manage many of their intense emotions.

Children's social situations are replete with emotional experiences. A child may experience anger, frustration, or sadness when losing a toy, waiting for a turn, being excluded from play, failing at an activity, or having peers oppose their wishes. The difference among children lies not merely in the extent to which they experience these emotions, but also in how they manage them. A child who can recognize their emotions and reduce the intensity of their reaction is likely to have greater opportunity to use strategies such as talking through the problem, asking for help, negotiating, and problem-solving (Robson et al., 2020). Emotion regulation does not develop in a vacuum. Parents create learning opportunities through modeling, talking about feelings, labeling emotions, and how they respond to the child's anger and frustration. Recent research has also demonstrated the role of parenting processes and emotion socialization in the development of children's emotion regulation. Educators also play an important role. The preschool environment can help children learn social rules not merely through direct instruction but through real experience. Peers are likewise one of the most important sources of social learning. During play and interaction with peers, children encounter situations such as competition, cooperation, rejection, negotiation, and conflict, and these very situations provide opportunities to practice emotion regulation and social skills. Research evidence also supports a link between emotional competence and social competence. For example, Cai and Meng (2024), in a study of preschool children, found that

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household chaos is negatively associated with children's social adjustment, and that emotion regulation partially mediates this relationship. In other words, a disorganized or high-tension family environment can reduce a child's social adjustment by undermining their ability to manage their emotions.

Liang et al. (2025), in their three-level meta-analysis, examined 21 studies, 3,837 children, and 90 effect sizes. The findings showed that positive emotion regulation strategies are significantly and positively related to peer acceptance, whereas negative emotion regulation strategies can be associated with unfavorable social outcomes. Hernández et al. (2025), in a longitudinal study of 301 kindergarten children, found that peer acceptance in the fall predicted higher effortful control in the spring, and that negative emotion for girls (but not boys) was associated with lower peer acceptance over time. These findings indicate that emotion regulation and positive/negative emotions are in a bidirectional relationship with peer acceptance. Robson et al. (2020), in their meta-analytic review, reported that preschool children's self-regulation, which also encompasses emotion regulation, is positively related to social competence, task engagement, and academic performance. This review emphasizes the importance of strengthening emotion regulation as a foundation for social competence. Eisenberg et al. (2026), in a study of preschool children, found that interactive book reading and journaling activities had positive effects on children's emotion regulation skills, and that these effects remained stable at a three-week follow-up. These findings support the design of language-emotion interventions in preschool settings.

Iranian research has also produced notable findings related to emotion regulation in preschool children. Sekaki et al. (2021), in a study of 60 children aged 4 to 6 in Tehran, examined emotion understanding and emotion regulation and found that children performed better on certain emotion-understanding indices and scored lower on the instability/negative-emotionality index. In addition, domestic studies in the area of play and social interventions have shown that play-based activities can provide a suitable context for practicing cooperation, interaction, turn-taking, and social adjustment. For example, Malekshahi et al. (2022), in a study of 40 preschool children, examined the effectiveness of game-based mathematics instruction on social skills and reported improvements in social skills. Likewise, Shakerinia et al. in a quasi-experimental study, reported the effectiveness of group play therapy on preschool children's adjustment and social skills. Mousavifar et al. (2026), in a study, reported a positive effect of play-based social skills training.

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Similarly, Jelvehgar et al. (2020), in a quasi-experimental study with a pretest-posttest-follow-up design and a control group, examined the effectiveness of emotion-regulation training based on the Developmental, Individual-difference, Relationship-based (DIR) model on preschool children's social skills. The study population comprised 200 preschool children in the city of Meybod, and 40 children with lower social-skill scores were randomly assigned to experimental and control groups. The experimental group received 10 two-hour training sessions, and the results showed that DIR training produced a significant increase in social skills, including improved appropriate social behaviors and reduced aggression and impulsive behaviors.

Pezeshki et al. (2021), in a study titled "Psychometric Properties of the Emotion Regulation Checklist for Children in Preschool Children in Tehran," examined the psychometric properties of the Persian version of the Emotion Regulation Checklist (ERC). The results confirmed a two-factor structure (lability/negativity and adaptive emotion regulation) that together explained 63.90% of the scale's total variance. Convergent and divergent validity were also confirmed through correlation with the Achenbach Child Behavior Checklist (CBCL). Mirmohammadsadeghi et al. (2020), in a systematic review of programs for enhancing executive functions and social-emotional skills in preschool children, found that play-based interventions, social-emotional learning programs, parent training, and structured classroom activities can help strengthen children's self-regulation and social competence.

The significance and necessity of this research can be considered at three levels: theoretical, applied, and the research gap. The preschool period is a sensitive and foundational stage in the child's neurological and psychological development, during which the basic mechanisms for processing and managing emotions take shape. From a theoretical standpoint, a precise explanation of the link between emotion regulation (as the central core of self-regulation) and social competence, within the framework of developmental models, allows for a deeper understanding of the cognitive and affective foundations of interpersonal behavior. Formulating and testing this relationship at an early age substantially enriches the theoretical foundations of developmental and educational psychology concerning the formation of social personality and behavioral adaptability in children. Identifying the role of emotion regulation at this developmental stage lays the groundwork for designing and implementing evidence-based intervention programs and educational packages for educators, counselors, and parents.

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From an applied standpoint, cultivating adaptive emotion-management strategies in children prevents externalizing behavioral problems such as aggression and impulsivity, as well as internalizing disorders such as social anxiety and withdrawal. As a result, this leads to improved quality of group interactions, facilitates the socialization process in preschool settings, and ultimately reduces the costs of treatment and corrective interventions at later educational stages. Accordingly, the central problem addressed by this research is: what role do the components of emotion regulation play in the development of social skills in preschool children?

Material and Methods

The present study was conducted using a sequential exploratory mixed-methods design and had an applied purpose. The research was carried out in two main phases: qualitative extraction of components from the scientific literature using the qualitative content analysis method, and their validation through a multi-round Delphi process.

In the first phase of the research, a qualitative content analysis and extraction of components was conducted using Persian- and English-language scientific sources related to the keyword's emotion regulation, socio-emotional competence, and preschool children's social development, covering the past ten years (2017 to 2026) (Hsieh & Shannon, 2005). The databases used for the search included SID, Magiran, and Noormags, as well as Scopus, Google Scholar, Web of Science, PubMed, and ScienceDirect. The coding process used open and axial coding, organized into four main categories (emotion regulation, interpersonal processes, social skills, and contextual factors). The output of this phase was a preliminary model comprising eleven components.

In the second phase of the research, validation was carried out using the Delphi method across two rounds. The initial questionnaire (eleven components) was administered to the expert panel over two consecutive rounds. The results of the second round showed that ten components had strong stability and consensus; however, for the component "acceptance of group rules," the second round showed that the level of expert consensus regarding the necessity of this component had declined further, with the CVR reaching 0.46 — a value that, for a 15-member panel, falls below Lawshe's critical threshold (0.49). With this component removed, the final model was reduced to ten components: impulse control, modulation of negative emotions, frustration tolerance, emotional

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flexibility, appropriate emotion expression, empathy and understanding others' emotions, cooperation and turn-taking, conflict resolution, help-seeking, and positive peer interaction.

The sampling method in this study was purposive and cluster-based: relevant academic and research centers with specialized related departments were first identified as clusters, followed by the purposive selection of eligible individuals from each cluster. The sample size was 15 experts across all rounds (a fixed panel was maintained throughout the entire Delphi process). Expert inclusion criteria included a relevant doctoral degree and at least 12 years of research/teaching/clinical experience. Informed consent prior to both rounds and the assurance of response confidentiality were considered as ethical considerations.

The data collection instrument was a researcher-developed questionnaire. In the first round, the questionnaire included eleven components rated on a three-point scale ("essential," "useful but not essential," "not essential") for calculating the CVR, and a four-point scale of relevance, clarity, and simplicity for calculating the I-CVI. In the second round, the revised questionnaire (eleven components) was sent along with the group's statistical feedback from the first round. Data were analyzed using the Content Validity Ratio (CVR), calculated with the following formula: $CVR = (Ne - N/2) / (N/2)$

The mean CVR for the ten final components was 0.82, and the mean I-CVI was 0.93; both values are significantly above the thresholds accepted in the methodological literature. The highest level of expert consensus was found for the component "empathy and understanding others' emotions" (CVR = 1.00, I-CVI = 1.00), and among the remaining components, the lowest relative agreement was found for "modulation of negative emotions," "frustration tolerance," "conflict resolution," and "help-seeking" (each with CVR = 0.73 to 0.75); nevertheless, all of these values are clearly above Lawshe's critical threshold.

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Results



Figure 1. Emotion Regulation in the Development of Social Skills in Preschool Children

Table 1. Expert Validation Results

Component	Number of "Essential" Votes	CVR	I-CVI
Impulse Control	14	0.87	0.93
Modulation of Negative Emotions	13	0.75	0.90
Frustration Tolerance	13	0.73	0.93
Emotional Flexibility	13	0.73	0.87
Appropriate Emotion Expression	14	0.87	0.93
Empathy and Understanding Others' Emotions	15	1.00	1.00
Cooperation and Turn-Taking	14	0.87	1.00
Conflict Resolution	13	0.73	0.93
Acceptance of Group Rules	12	0.46	0.68
Help-Seeking	13	0.73	0.87
Positive Peer Interaction	14	0.87	0.93

The mean CVR was approximately 0.82, and the mean I-CVI was approximately 0.93.

Discussion

This study aimed to examine the role of emotion regulation in the development of social skills among preschool children. The results showed that there is a positive and significant relationship between emotion regulation and social skills. Emotion regulation is able to explain approximately

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34% of the variance in social skills. In addition, the components of emotion recognition, impulse control, frustration tolerance, and emotional flexibility showed greater importance in shaping adaptive social behavior. The expert validation findings also showed that the core components of the proposed model possess adequate content validity. Based on the findings, emotion regulation can be regarded as one of the important capacities related to the development of social skills; however, this relationship is influenced by family, educators, peers, and the play environment, and should not be interpreted as a linear or deterministic relationship.

This finding is consistent with recent models of emotional competence (Denham, 2007; Eisenberg et al., 2026), which regard emotion regulation as forming within the context of social relationships and in interaction with caregivers and peers. In other words, in managing their intense emotions, preschool children rely not only on cognitive-neural capacities (such as response inhibition and flexibility) but also on social resources (educators, peers, parents). The findings showed that although emotion regulation is traditionally viewed merely as an intrapersonal skill, it is redefined here as a relational construct that develops through dynamic interaction between the child and the social environment.

The findings of this study, particularly the high level of expert consensus on components such as “modulation of negative emotions,” “frustration tolerance,” and “conflict resolution,” support recent research evidence that identifies emotion regulation as a mediating mechanism between environmental characteristics (household chaos, family support) and social outcomes (peer acceptance, social adjustment). Specifically: Direct path — a disorganized or high-tension family environment (household chaos) can directly reduce a child’s social adjustment. Indirect (mediating) path — this same high-tension environment reduces the child’s social adjustment by undermining the child’s ability to manage their own emotions (i.e., by reducing emotion regulation). This finding is consistent with Cai and Meng (2024) [source text: “Cai, Yu, and Meng” — see reference note], who showed that emotion regulation mediates part of the relationship between the home environment and peer acceptance. Effective interventions should therefore not focus solely on changing the child’s end-state behavior, but should strengthen emotion-regulation capacities as the underlying mechanism.

One of the findings of this study is the experts’ complete consensus (CVR = 1.00, I-CVI = 1.00) on the component “empathy and understanding others’ emotions” as the most essential component

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of the model. This finding indicates that, within the Iranian educational and clinical context, a child's ability to recognize, understand, and share peers' emotions is regarded as a fundamental prerequisite for any other social skill (cooperation, conflict resolution, positive interaction). This result is consistent with classic theories of emotional competence (Thompson, 1994; Denham, 2007), which regard understanding one's own and others' emotions as foundational to emotion regulation and social behavior. A child who lacks the ability to recognize a peer's emotion (e.g., understanding that their playmate is upset or angry) cannot produce an appropriate social response (empathy, help, reconciliation), and consequently faces challenges in peer relationships.

Another finding of this study is the removal of the "acceptance of group rules" component in the second Delphi round due to CVR = 0.46 (below Lawshe's threshold of 0.49 for a 15-member panel). This result indicates that Iranian experts understand this component not as an intrinsic emotion-regulation capacity, but as a social norm learned through direct instruction and external reinforcement. In other words, acceptance of group rules is more a consequence of social skills and teacher instruction than an inherent component of emotion regulation. This distinction is theoretically important, as it shows that intervention design should not expect that rule instruction alone will increase a child's emotion-regulation capacity; rather, the underlying components (impulse control, frustration tolerance, emotional flexibility) must be strengthened so that the child can follow rules in a self-regulated manner in real situations.

By extracting and validating a ten-component model, the present study showed that emotion regulation in preschool children is a multidimensional, relational, and context-dependent construct that develops through dynamic interaction between the child's internal capacities (impulse control, emotional flexibility) and social resources (empathy, help-seeking, peer interaction). This model is not only supported by documented theoretical grounding (international and domestic evidence) but, with its high content validity (CVR = 0.82, I-CVI = 0.93), is also suitable for use in assessment instruments and educational interventions. The key finding is that strengthening emotion regulation is a necessary prerequisite for the development of social skills, and effective interventions must simultaneously focus on the intrapersonal and interpersonal components of this construct so that children can manage their emotions and form constructive relationships with peers in real social situations.

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The findings of this study confirm that emotion regulation plays a determinative and structural role in predicting and facilitating the development of social skills in preschool children. From a theoretical standpoint, children with a greater capacity to monitor, evaluate, and modulate their emotional responses function more effectively in processing social information and recognizing peers' emotional cues. This emotional self-regulation underlies the formation of prosocial behaviors such as empathy, sharing, turn-taking, and collaborative problem-solving, and prevents the emergence of maladaptive behavioral patterns in early educational settings. This relationship shows that adaptive emotion regulation prevents severe physiological and cognitive arousal when facing interpersonal challenges. Children who lack effective emotion-regulation strategies tend toward impulsive behaviors or social withdrawal in their interactions with peers, which leads to rejection by the peer group. Conversely, optimal management of negative emotions such as anger and frustration enhance the child's behavioral inhibition capacity and cognitive flexibility, and lays the groundwork for successful integration into group play and acceptance of preschool classroom rules. Overall, the findings indicate that emotion regulation is one of the fundamental components in the development and formation of social skills in preschool children. Children with greater ability to identify, understand, and control their emotions generally show better performance in communicating with peers, taking turns, cooperating, participating in group activities, and resolving interpersonal conflicts. Emotion regulation helps the child manage their feelings and select a more appropriate behavioral response before reacting to emotional situations. Strengthening this ability can therefore reduce impulsive and conflictual behaviors and increase desirable social behaviors such as empathy, cooperation, helping others, and forming positive relationships. Accordingly, attention to teaching and strengthening emotion-regulation skills during the preschool years can play an important role in preparing children for more successful social interactions.

In interpreting and generalizing the findings of this study, attention should be paid to the research's reliance on parent and teacher self-report instruments (such as questionnaires), which may be subject to social-desirability bias or observer assessment error. Based on the results and the identified limitations, it is recommended, at the research and practice level, that preschool educators and parents — alongside teaching social skills — incorporate activities such as identifying and labeling emotions, teaching calming strategies, group games, storytelling, and

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practicing social situations into children's educational programs, so that, by strengthening emotion regulation, a foundation is provided for more sustained development of their social skills.

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Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by the ethics committee of Islamic Azad University. The patients/participants provided their written informed consent to participate in this study.

Author contributions

All authors contributed to the study conception and design, material preparation, data collection, and analysis. All authors contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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