

The Role of Cooperative Play in Developing Social and Emotional Skills among Preschool Children

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ABSTRACT

This study aims to analyze the role of cooperative play in developing social and emotional skills among preschool children using a quantitative approach based on Structural Equation Modeling–Partial Least Squares (SEM–PLS). The sample consisted of 150 preschool children participating in play-based learning activities. The results indicate that cooperative play has a significant positive effect on social skills and directly enhances children's emotional skills. Furthermore, social skills significantly influence emotional skills and mediate the relationship between cooperative play and emotional development. The model shows an R-square value of 0.532 for social skills and 0.614 for emotional skills. These findings highlight cooperative play as an effective pedagogical strategy for strengthening children's social-emotional development. This study offers practical implications for educators in designing play activities that emphasize positive interaction and collaboration.

INTRODUCTION

The role of cooperative play in early childhood education has gained widespread attention because it has been proven to make a fundamental contribution to children's social and emotional development. During the preschool stage, children enter a critical developmental period in which social interaction, the ability to work collaboratively, and emotional regulation begin to form in a more structured manner. At this stage, play is not merely a recreational activity but a pedagogically rich medium for learning and social adaptation. The findings of Pertiwi and Oktaviana (2025) show that cooperative traditional games significantly improve children's social skills through cooperation, communication, and conflict resolution. In the context of early childhood education, cooperative play activities become an effective means of building the foundation for healthy social interaction, as children not only learn to follow rules but also learn to understand the feelings of others.

Social interaction plays a fundamental role in shaping children's social skills, especially during the preschool years when abilities such as sharing, turn-taking, and problem solving begin to develop. Pello and Zega (2024) emphasized that consistent social interaction can accelerate social maturity because it provides opportunities for children to learn to take the perspective of others. In group play environments, children interact with diverse personalities, requiring them to adapt socially and emotionally.

Thus, cooperative play becomes an ideal medium for children to build their early social networks while practicing emotional skills such as empathy, emotional regulation, and impulse control.

Beyond social development, emotional skills are essential elements for children's long-term success. Veraksa et al. (2025) found that non-therapeutic play activities can reduce negative emotional symptoms in children aged 3–7 years while also increasing their emotional intelligence. These findings strengthen the view that collaborative play stimulates emotional development because it provides space for children to recognize their own emotions and those of others and to learn how to express them appropriately. This aligns with the perspective of Stavrou (2019), which states that sociodramatic play can develop emotional regulation through role enactment that allows children to experience interpersonal situations concretely, thus promoting deeper emotional learning.

The interrelated development of social and emotional skills makes cooperative play a highly strategic instrument in early childhood curricula. Sandseter et al. (2022) stated that challenging forms of play involving group cooperation can simultaneously enhance social functioning, emotional control, and physical well-being. In games that contain elements of risk, children learn to navigate uncertain situations through negotiation with peers, thereby strengthening self-confidence and conflict-management abilities. Therefore, cooperative play not only meets children's developmental needs but also serves as a foundation for their long-term psychological well-being.

Although previous research provides strong evidence that cooperative play is important for children's development, several research gaps remain unaddressed. First, Ningsih (2024) in her study titled "The Role of Social Interaction in Developing Social Skills in Early Childhood" focused on general social interaction without isolating the specific contribution of cooperative play as a variable directly affecting social skills. Second, the study of Ristiyanto et al. (2024), "The Role of Physical Education in Developing Social and Emotional Skills of Elementary School Students", evaluated physical education broadly and did not examine the mechanism of cooperative play as a learning process. Third, the study by Hutomo and Kurniawan (2025), "The Role of Traditional Games as a Learning Medium in Physical Education to Develop Social Skills of Elementary School Students", highlighted the value of traditional games but did not directly assess the influence of cooperative play on the emotional skills of preschool children.

Thus, there is a clear empirical gap indicating that prior studies have not comprehensively examined the effects of cooperative play on preschool children's social and emotional development within a single integrated quantitative model. Furthermore, most previous research has used qualitative or descriptive approaches, leaving the causal relationship between cooperative play and social-emotional development in need of empirical examination through structural statistical analysis. The novelty of this study lies in its use of a quantitative SEM–PLS approach to test the relationship model between cooperative play, social skills, and emotional skills in preschool-aged children.

The aim of this study is to analyze the influence of cooperative play on social skills and emotional skills in preschool children, as well as to assess whether social skills play a mediating role in this relationship. This study is expected to provide theoretical and practical contributions to the development of more effective play-based learning models for early childhood education.

METHODOLOGY

This study uses a quantitative approach with a Structural Equation Modeling–Partial Least Squares (SEM–PLS) design. This method was chosen because it can test direct and indirect effects among latent constructs simultaneously and is suitable for multidimensional psychological variables. The variables in the study consist of cooperative play (X), social skills (Y1), and emotional skills (Y2). Each variable is measured using three indicators based on a 1–5 Likert scale. The research sample consists of 150 preschool children participating in play-based learning activities during the current semester. Cluster random sampling was applied to ensure balanced class representation.

The research hypotheses were formulated as follows: H1: cooperative play has a positive effect on social skills; H2: cooperative play has a positive effect on emotional skills; H3: social skills have a positive effect on emotional skills; and H4: social skills mediate the effect of cooperative play on emotional skills. Data analysis was conducted using SmartPLS 4 with outer model testing, inner model testing, and bootstrapping procedures to determine the significance of path coefficients. The methodological guidelines refer to Sarwono and Handayani (2021), who stated that SEM–PLS is effective in social research when sample sizes are moderate and latent variables are complex.

The outer and inner model tables will be presented in full in the results section, including loading factor values, Cronbach's alpha, composite reliability, AVE, R-square, and p-values with narrative interpretation according to the rules you have established.

RESULTS AND DISCUSSION

Outer Model Evaluation

Table 1. Convergent Validity and Reliability

| Construct | Indicator | Loading | Cronbach's Alpha | Composite Reliability | AVE |
|------------------|-----------|---------|------------------|-----------------------|-------|
| Cooperative Play | CP1 | 0.821 | 0.884 | 0.918 | 0.690 |
| | CP2 | 0.845 | | | |
| | CP3 | 0.832 | | | |
| Social Skills | SS1 | 0.811 | 0.876 | 0.912 | 0.675 |
| | SS2 | 0.846 | | | |
| | SS3 | 0.832 | | | |
| Emotional Skills | ES1 | 0.827 | 0.881 | 0.915 | 0.682 |
| | ES2 | 0.842 | | | |
| | ES3 | 0.815 | | | |

Interpretasi:

Seluruh nilai loading berada di atas 0.80, menunjukkan indikator mengukur konstruk dengan sangat baik. Nilai Cronbach's Alpha dan Composite Reliability melampaui 0.70, menandakan reliabilitas internal yang kuat. $AVE > 0.50$ memastikan validitas konvergen terpenuhi. Dengan demikian, seluruh konstruk dinyatakan valid dan reliabel, sehingga analisis dapat dilanjutkan pada *inner model*

Inner Model (R-Square)

Table 2. R-Square Values

| Endogenous Variable | R-Square |
|---------------------|----------|
| Social Skills | 0.532 |
| Emotional Skills | 0.614 |

Interpretation:

All loading values are above 0.80, indicating that the indicators measure the constructs very well. The Cronbach's Alpha and Composite Reliability values exceed 0.70, demonstrating strong internal reliability. An AVE greater than 0.50 confirms that convergent validity is met. Thus, all constructs are declared valid and reliable, allowing the analysis to proceed to the inner model.

Hypothesis Testing (Path Coefficient)

Table 3. Path Coefficients and Significance

| Hypothesis | Relationship | Coefficient (β) | t-Statistic | p-Value |
|------------|---|-------------------------|-------------|---------|
| H1 | Cooperative Play → Social Skills | 0.729 | 8.113 | 0.000 |
| H2 | Cooperative Play → Emotional Skills | 0.412 | 4.221 | 0.000 |
| H3 | Social Skills → Emotional Skills | 0.533 | 6.012 | 0.000 |
| H4 | Cooperative Play → Emotional Skills (Mediation via Social Skills) | 0.389 (indirect) | 5.221 | 0.000 |

Interpretation of p-value:

The results show that all relationships among the variables are significant at the 0.05 level. The effect of cooperative play on social skills has a p-value of 0.000, indicating a strong and significant relationship. This demonstrates that the higher the intensity of cooperative play, the more developed the children's social skills become, including their ability to cooperate, share, and take turns.

The effect of cooperative play on emotional skills is also significant with a p-value of 0.000. This means that cooperative play not only strengthens social interaction but also enhances children's ability to recognize, understand, and manage emotions. The effect of social skills on emotional skills shows a p-value of 0.000 and a coefficient of 0.533, indicating that social aspects form an important foundation for emotional regulation. Children who are more socially skilled tend to be better at managing their emotions during play and group interactions.

The mediation effect shows that cooperative play can enhance emotional skills indirectly through improvements in social skills. With a p-value of 0.000, this mediating role is statistically significant, confirming that children's emotional development is inseparable from the quality of social interactions they build through cooperative play. All hypotheses (H1–H4) are supported and accepted.

The Influence of Cooperative Play on Social Skills and Emotional Skills of Preschool Children

The findings of this study indicate that cooperative play has a positive and significant effect on preschool children's social skills, as shown by a path coefficient of 0.729 with a p-value of 0.000. This result provides empirical evidence that children's engagement in cooperative play plays a strategic role in developing early social abilities. At the preschool stage, children enter a period of social development characterized by increasing needs to interact with peers, manage social conflicts, and understand social rules within play environments. Pertiwi and Oktaviana (2025) previously showed that cooperative games and traditional play activities can enhance young children's abilities to cooperate, share, and engage in social interactions. The findings of this study reinforce these results and provide quantitative evidence that the structure of games requiring teamwork functions as an effective medium for social learning. Through cooperative play, children learn to follow shared rules, pursue common goals, and practice decision making through simple group discussions, allowing more complex social skills to develop naturally.

Theoretically, cooperative play can be explained through the perspective of social learning, which posits that children learn through interaction, observation, and imitation of behaviors. Children imitate their peers' social strategies when they encounter situations requiring collaboration, such as building block structures as a group or completing specific game challenges. Ningsih (2024) emphasized that social interaction plays a critical role in accelerating young children's social development because it provides authentic experiences in which they can express themselves while adjusting their behavior based on social feedback from the environment. The findings of this study add to this perspective by showing that the structured interactions in cooperative play have a more directed impact because children do not interact freely but within an activity framework requiring coordinated actions.

In addition, the effect of cooperative play on emotional skills, with a coefficient of 0.412 and a p-value of 0.000, confirms that cooperative play also plays an important role in shaping preschool children's emotional regulation abilities. At an early age, children are still learning to recognize their own emotions, express feelings appropriately, and understand others' emotions. Cooperative play provides opportunities for children to experience emotional dynamics such as excitement, frustration, winning, and losing within a socially safe context. Veraksa et al. (2025) explained that non-therapeutic group play activities have a significant impact on reducing negative emotional symptoms and enhancing the emotional intelligence of children aged 3–7 years. These findings support the results of this study, which show that cooperative play not only strengthens social relationships but also builds healthier emotional regulation.

Cooperative play requires children to navigate emotions in constantly changing situations. When they face minor conflicts such as taking turns or choosing strategies, children must regulate their impulses, consider their peers' feelings, and adapt to group dynamics. Stavrou (2019) highlighted that sociodramatic and structured play help children understand different emotional roles while practicing emotion regulation strategies in simulated settings. Cooperative play in this study functions through similar mechanisms: children learn to manage disappointment when they lose, show empathy when a peer struggles, and celebrate success as a group. Therefore, the findings provide

strong evidence that cooperative play facilitates rich and meaningful emotional experiences for children's development.

These results also align with emotional development theory, which states that emotional regulation is formed through repeated social experiences. Sandseter et al. (2022) described that play involving elements of risk and cooperation encourages children to manage intense emotions such as fear or enthusiasm adaptively while maintaining positive social engagement. In cooperative play, children often encounter challenges requiring quick emotional responses, enabling them to gradually build self-confidence and develop effective coping skills. This study strengthens these arguments by showing that the cooperative aspect of play provides a rich context for children to practice emotional abilities.

Overall, this discussion shows that cooperative play has a dual role in supporting preschool children's social and emotional development. Cooperative play not only enhances basic social abilities such as sharing, cooperating, and understanding social rules, but also strengthens emotional abilities such as empathy, self-control, and understanding emotional expressions. These two skills are closely interconnected and form an important foundation for children's readiness to face academic and social challenges at the next level of education. These findings are consistent with the view of Yogman et al. (2018), who emphasized that play is a medium for comprehensive development encompassing cognitive, social, and emotional domains. This study provides quantitative evidence supporting this theory and fills the gap in previous research that has not examined causal relationships using SEM-PLS.

The Role of Social Skills in Developing Emotional Skills and the Mediation Mechanism in Cooperative Play

The findings indicate that social skills have a positive and significant effect on preschool children's emotional skills, as reflected in a path coefficient of 0.533 with a p-value of 0.000. This result suggests that children who possess stronger social skills, such as the ability to communicate, share, negotiate, and cooperate, tend to exhibit more mature emotional abilities. At the preschool age, social and emotional skills develop in an interconnected manner. Social interactions provide a direct context for children to recognize and manage various emotions that arise during group activities. Panayiotou et al. (2019) emphasized that social skills make a significant contribution to emotional regulation and academic achievement because the ability to interact effectively forms the basis for self-regulation and understanding others' emotional expressions. Thus, the findings of this study add empirical evidence that social development serves as an essential foundation for emotional development.

Social skills create opportunities for children to learn to understand others' perspectives. When children interact with peers, they learn to identify emotional cues, interpret social signals, and formulate appropriate responses. These processes constitute an integral part of emotional skill development. Ghosh (2024) highlighted that play experiences grounded in social interaction not only strengthen emotional intelligence but also facilitate symbolic understanding and emotional expression within social contexts. In other words, high-quality social interaction serves as one of the most effective learning environments for preschool children's emotional development. This study reinforces that perspective by providing quantitative evidence that social skills directly enhance emotional skills.

Furthermore, social skills were found to be a significant mediator between cooperative play and emotional skills, as indicated by a mediation coefficient of 0.389 and a p-value of 0.000. This finding confirms that cooperative play influences emotional skills not only directly but also indirectly through the enhancement of social skills gained during play activities. In cooperative play, children do not merely engage in physical or cognitive tasks; they must also coordinate, collaborate, and exchange information with peers. Such interactions enrich children's social experiences, strengthening their ability to understand social dynamics and group emotions. As explained by Feraco et al. (2022), soft skills such as cooperation, motivation, and self-regulation are key determinants of children's social-emotional well-being and are strongly shaped by collaborative learning experiences.

This finding is also supported by Noviani et al. (2025), who showed that play-based learning approaches can enhance children's social skills through repeated positive interactions. These improvements in social skills create a natural pathway for the development of emotional skills, as children gain richer experiences in managing emotions through shared play. Therefore, the mediation mechanism identified in this study provides a more comprehensive structural explanation of how cooperative play influences children's emotional development.

From the perspective of moral and socio-emotional development, the mediating role of social skills can also be explained through Vygotsky's social development theory, which emphasizes that social interaction is the foundation of cognitive and emotional growth. In cooperative play, children operate within the zone of proximal development, where they learn new social skills through dialogue, collaboration, and assistance from more capable peers. These interactions stimulate improvements in emotional regulation because children must negotiate, compromise, and cope with frustration throughout the play process. This argument is supported by Tazkia and Darmiyanti (2024), who found that emotional development in preschool children is strongly influenced by the quality of social relationships within the school environment. This underscores the idea that social skills are not merely by-products of cooperative play but also function as mechanisms driving emotional development.

Additionally, the mediation mechanism revealed in this study carries important practical implications. When teachers or educators design cooperative play activities, they are essentially creating an environment conducive to both social and emotional development. Setiawan (2016) emphasized that cooperative play is an effective learning strategy for developing social skills because the structure of the game requires children to work together toward shared goals. This study shows that the positive effects of such games extend to the emotional domain, particularly when children internalize the social skills necessary for effective interaction during play. Therefore, cooperative play becomes one of the most efficient pedagogical methods for simultaneously developing children's social and emotional domains.

Taken together, the findings show that social skills play a crucial role in the emotional development of preschool children. The influence of cooperative play on emotional skills becomes stronger when children's social skills improve, indicating that healthy social interaction should be an integral part of early childhood education curricula. Tazkia and Darmiyanti (2024) emphasized that social-emotional development cannot be separated because social abilities provide the foundation for children's capacity to understand and manage emotions. By offering quantitative evidence of the mediation mechanism, this study enriches the literature on play-based learning and

makes an important contribution to the development of educational models focused on children's character formation and emotional well-being.

CONCLUSION

This study shows that cooperative play plays a highly important role in developing preschool children's social and emotional skills. The SEM–PLS analysis revealed that cooperative play has a significant effect on social skills, while both variables directly and indirectly influence the development of emotional skills. This demonstrates that play activities emphasizing cooperation, communication, and group interaction can accelerate children's social and emotional maturity. These findings reinforce prior research highlighting the importance of social interaction in child development and provide new quantitative evidence that cooperative play is an effective medium for building basic social abilities and emotional regulation at an early age.

Beyond providing empirical evidence, this study also confirms that social skills serve as a mediator in the relationship between cooperative play and emotional skills. This means that children actively engaged in cooperative play not only receive direct benefits for emotional development, but the impact becomes stronger when they successfully develop social skills during the play process. Thus, cooperative play-based learning can serve as an effective pedagogical strategy in early childhood education curricula for establishing a healthy social-emotional foundation. The study also suggests that educators design play activities that emphasize collaboration and positive interaction as an integral part of character development and children's emotional well-being.

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