



Structured Pretend Play for Enhancing Executive Functioning and Emotion Regulation in Children Aged 3–8 Years: Findings From a 24-Week Experimental Intervention

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Abstract: Executive functioning and emotion regulation are fundamental components of children's cognitive, behavioral, emotional, and social development. The preschool and early school years represent an important developmental period during which children progressively acquire inhibitory control, working memory, cognitive flexibility, emotional awareness, and the capacity to regulate behavior. Pretend Play helps children to sustain imaginary schemas, adhere to role dependent rules, delay immediate reactions, negotiate others, solve problems and learn alternative emotional reaction. In the current 24 week experimental study, the Pretend Play intervention was studied for its effectiveness in improving children's (3–8 years) executive functioning and emotion regulation. A total study sample of 180 children participated in the study. Standardized measures were used to assess executive functioning and emotion regulation, both pre- and post-intervention. The intervention included symbolic pretend play, role play, sociodramatic play, narrative pretend play, emotion focused play, problem-solving scenarios and flexible rule changing activities. Inside of 24 weeks the intervention was delivered, moving from simple symbolic to more complex social, cognitive and emotional scenarios. IBM SPSS Statistics Version 27 was used for data analysis. Results showed that executive functioning, emotion regulation and emotional lability/negativity assessed as domains significantly differed with respect to pre and post intervention scores. To check for gender-specific differences in the effect of intervention, male–female differences were also explored. Results demonstrate that structured pretend play is not only developmentally appropriate, but also may be helpful in promoting children's ECR and executive function.

Introduction

Executive functioning (EF) refers to a collection of higher-order cognitive processes that enable individuals to regulate thought and behavior in accordance with goals and changing environmental demands. Core executive functions include inhibitory control, working memory, and cognitive flexibility.

These processes provide the foundation for more complex abilities such as planning, reasoning, problem solving, and self-monitoring (Diamond, 2013; Miyake et al., 2000; Zelazo & Carlson, 2012). Executive functioning is especially critical in children as they face increasingly situations in which they need to inhibit their impulses, adhere to instructions, retain information, shift from one task to another, and control behavior. Within an educational setting, these skills help children to participate in class, learn, socially interact and prepare for school (Blair & Raver, 2015; McClelland et al., 2013).

Self-regulation is closely related to executive functioning, being the ability to regulate attention, behaviour, cognitive function and emotive response. Recent developmental studies are focusing on how these can be developed, and how they can be increased in ability through well-designed intervention (Diamond & Ling 2020; Muir et al., 2023). The skills are relevant for play, which is an important developmental sphere for their practice. Through play, children are able to make active interactions with their surroundings, manipulate objects, formulate and make rules, attempt to resolve problems and try out various behaviour. In the context of play, children frequently have to remember rules, wait to take turns, change their point of view and control their feelings.

Pretend play is one of the most challenging forms of play where children have to pretend that one object, person or situation is another. A child can turn a box into a car, a block into a telephone and a spoon into a microphone. Child has to hold the imaginary representation, and also to realize the real nature of the object. More cognitive demands are added when the role of pretend play extends to simply role based play. If a child takes on role of a doctor, teacher, shopkeeper, parent etc., then the child has to behave like the role he/she has taken on and be try to inhibit the response that is not suitable to the role. In the pretend play with other children, children have to take turns and adjust rules, observe each other's actions and adjust to the changing surroundings in the imagination story, and also cooperate to sort out the problems.

There is an increasing body of research which supports the association between pretend play and executive functioning. White and Carlson (2021) found a positive effect of pretend play involving story in their experimental study in which children who engaged in pretend play had higher levels of inhibitory control than children who engaged in a nonrelative pretend play activity. There is also evidence of this from a longitudinal perspective, showing that social pretend play is related to executive-function development. White et al., (2021) showed that 132 preschool children who engaged in social pretend play showed gains in inhibitory control throughout the preschool year. Thibodeau-Nielsen et al. (2020) also found that preschool pretend play positively predicted EF in first-grade, among children who were undergoing high and diverse exposure to risk factors. Their results indicated that there is a possibility of a special relevance of pretend play for inhibitory control. The links between pretend play and executive functioning recently have emerged as a major research topic. Finally, large-scale meta-analytic studies suggest a positive association between pretend play and children's EF.

Muir et al. (2023) reviewed 85 studies of interventions for preschoolers who showed evidence that a number of preschool interventions are effective at improving self-regulation and executive functioning. Mediated structured play was one of the approaches to intervention identified – it was often found that interventions had a gradual progression of cognitive elaboration as a child became more experienced. More importantly, Muir et al., (2023) described associations with higher level outcomes: interventions that included cognitive challenge, appropriate dosage, involvement of the intervention, and fidelity of the intervention.

Pretend play might also play a role in affecting emotional development. Emotion regulation, monitoring, evaluating and adjusting emotional responses to make sure they are suitable for the situation. Emotion

regulation emerges in childhood in the context of relationships with others, both within the family and with peers and society. Pretend play gives opportunities to children to 'act out' scenarios without them getting the physiological effects of the scenarios. A child can act out how the character feels, in anger, fright, disappointment, exclusion, or frustration and then try and explore other things the character could do.

A child might play out, for instance, a loss of a beloved toy. The child is able to identify the emotion of the character, discuss/wonder about what they might have done and create an alternative ending. Through such interactions opportunities are presented for emotional labeling, perspective taking, problem solving and behavior regulation to occur. Sociodramatic play, in which children have to synchronise what they do with another child, might be especially important. For the emotional and behavioural regulation needed in the process of negotiating, waiting turns, taking turns, accepting others' ideas and putting conflict to the test. In the present study, therefore, we investigated structured, 24-week intervention pretend play. Intentionally used progressively higher levels of cognitive, social and emotional challenges. The study were conducted with the following reasons:

While there is evidence from the literature that there is a link between pretend play and executive functioning, there is relatively little experimental research on extended, structured pretend-play interventions. There are a number of studies which have explored the immediate impact of story based pretend play and others of 'free real play' occurring throughout the preschool year. For instance, White and Carlson (2021) reported more inhibitory control after pretend play about the story material. This research builds on this work in a few ways, such as focusing on a 24-month structured intervention and exploring both executive functioning and emotion regulation. The intervention aimed to offer many opportunities for the children to practice inhibiting, working memory, cognitive flexibility, awareness of emotions, perspective taking, social negotiation, and problem-solving ability.

Significance of the study

The study is important because pretend play has been studied as a developmental intervention as opposed to merely a recreational activity.

It could help to build in structured pretend play activities for use within early childhood educational programmes. Results could have implications for psychologists, as well as for speech-language pathologists, occupational therapists, teachers, and other professionals who work with children who have problems regulating their behavior. Study findings add to the literature on malleability of executive and emotional regulation in childhood. Pretend play can generally be implemented using simple, inexpensive materials, making it potentially feasible in educational and community settings.

Objectives

1. To determine the effectiveness of a structured 24-week pretend-play intervention on executive functioning.
2. To examine the effect of the intervention on emotion regulation.
3. To examine changes in emotional lability and negativity following intervention.
4. To compare pretest and posttest executive-functioning scores.
5. To compare pretest and posttest emotion-regulation scores.
6. To examine male–female differences in executive functioning.
7. To examine male–female differences in emotion regulation and emotional lability.

Hypotheses

H1: Children receiving the structured pretend-play intervention will demonstrate significantly greater improvement in executive functioning from pretest to posttest.

H2: Children receiving the structured pretend-play intervention will demonstrate significantly greater improvement in emotion regulation from pretest to posttest.

H3: Children receiving the structured pretend-play intervention will demonstrate significantly reduced emotional lability and negativity at posttest.

H4: Executive-functioning outcomes will differ between male and female children.

H5: Emotion-regulation outcomes will differ between male and female children.

Methodology

Research Design

An experimental pretest-posttest design was employed to investigate the effects of a structured pretend-play intervention on executive functioning and emotion regulation. The study included an experimental condition receiving the structured intervention and a comparison/control condition continuing routine activities. The intervention lasted 24 weeks.

Study Sample

The total study sample consisted of 180 children aged 3–8 years. Children were assessed before commencement of the intervention and again following completion of the 24-week intervention period. Both male and female children were included to permit examination of gender-related differences in outcomes.

Measures

Childhood Executive Functioning Inventory

Executive functioning was assessed using the Childhood Executive Functioning Inventory (CHEXI). Thorell and Nyberg created the CHEXI to determine difficulties in everyday functioning due to EF impairments in children. There are 26 items on the measure and the focus is on two areas of executive functioning: working memory and inhibition. Items are graded on a 5 point scale. It measures aspects of behavior including the ability to remember instructions, hold information, engage in activities that demand several steps, control of impulses, and the suppression of inappropriate responses.

The higher the CHEXI score, the more severe the executive-functioning problems. Therefore, decrease scores pre-test to post-test reflects improved scores. Recent psychometric studies have investigated further the factor structure of the CHEXI and its measurement invariance across sex and age and confirm its use in child research.

Emotion Regulation Checklist

Emotion Regulation Checklist (ERC) was used to measure emotion regulation. Shields and Cicchetti developed a 24 item ERC parent/teacher report measure. It is written using the 4 point Likert-type response scale: 1 = Never to 4 = Almost Always. The instrument measures two scales which are Emotion Regulation and Lability/Negativity.

Adaptive emotional functioning (emotion regulation dimension) is measured in terms of appropriate emotional expression, empathy, emotional awareness, and modulation of emotional responses. Lability/Negativity measures emotional instability, fluctuations in mood, inflexibility and the dysregulation of negative emotions.

The ERC has been applied with children throughout the developmental period including children in the range used in this study. Current validation studies are still studying its psychometric structure in preschool and school age children. Higher Emotion Regulation scores represent stronger adaptive regulation, whereas higher Lability/Negativity scores represent greater emotional dysregulation.

Structured Pretend-Play Intervention

The intervention was delivered over 24 weeks and was organized developmentally so that children progressed from relatively simple symbolic activities to increasingly complex social, narrative, emotional, and rule-changing scenarios.

Symbolic Pretend Play

Children were encouraged to transform ordinary objects into imaginary objects.

Examples included:

- using a block as a telephone;
- using a cardboard box as a car;
- using a spoon as a microphone;
- using a stick as a magic wand; and
- using paper as a pretend ticket.

These activities required children to maintain an imaginary representation while inhibiting the literal function of the object.

Role Play

Children enacted familiar social roles.

Examples included:

- doctor and patient;
- teacher and student;
- shopkeeper and customer;
- chef and customer; and
- parent and child.

For example, in doctor-patient play, the child acting as the doctor had to remember the role, ask questions, perform an imaginary examination, and provide pretend treatment.

Sociodramatic Play

Children participated in shared scenarios including:

- hospital;
- school;
- restaurant;
- supermarket; and
- birthday party.

These activities required children to negotiate roles, follow shared rules, communicate with peers, wait for turns, and modify their behavior according to the developing storyline.

Narrative Pretend Play

Children participated in stories involving problems that required solutions.

For example, a pretend animal could become lost. Children were required to remember the story, identify possible locations, consider how the character might feel, generate solutions, and enact the resolution.

Emotion-Focused Pretend Play

Scenarios included:

- losing a favorite toy;
- waiting for a desired object;
- sharing;
- becoming frightened;

- becoming angry; and
- experiencing disappointment.

Children identified the character's emotional state and practiced alternative responses.

Rule-Changing Pretend Play

Children were asked to modify previously established rules. For example, during pretend supermarket play, children could initially be instructed to purchase one item and subsequently be required to purchase two items. Such activities required children to inhibit the previous response and shift to the newly established rule.

Data Collection Procedure

Pretest Assessment

Before the intervention, demographic information was obtained and baseline executive functioning and emotion regulation were assessed.

The CHEXI and ERC were administered according to standardized administration procedures.

Intervention Phase

The experimental group participated in structured pretend-play activities for 24 weeks.

The program was structured to develop the symbolic play to social, narrative, emotional and rule based play.

Weeks 1–4: Symbolic Representation

Children were given opportunities for simple pretend play and object substitution.

Weeks 5–8: Role Maintenance

Children joined in with familiar role play activities and to hold particular roles within role play.

Weeks 9–12: Sociodramatic Play

Children were involved in shared scenarios that involved them negotiating, taking turns, coordinating roles and working cooperatively. This unit covers personal narrative problem-solving in Weeks 13–16. The children were involved in progressively higher memory, sequencing, planning and problem solving stories.

Weeks 17–20: Emotion-Focused Play

Children re-enacted angry, fearful, disappointed, frustrated, sharing, and interpersonal conflicts.

WEEK 21-24: Flexible and Rule Changing Play

Children were involved in activities that involved changes to the rules, rotation of roles and different finishes/expectations and flexibility of response. The control condition engaged in normal routines and without any structured pretend play during the intervention time.

Posttest Assessment

At the end of the 24 week intervention, the CHEXI/ERC were readministered for an appreciation of the impact from the baseline.

Data Analysis

Data were analyzed using IBM SPSS Statistics Version 27.

Descriptive statistics were calculated for demographic variables and study outcomes. Pretest and posttest means and standard deviations were calculated for the experimental and control groups. Repeated-measures analysis was used to examine changes across time and differences between study conditions. The primary intervention effect was evaluated through the Time $\times$ Group interaction. Partial eta squared (η^2) was reported as the effect-size estimate. Gender was included as a secondary analytical variable. The level of statistical significance was set at .05.

Results

Demographic Characteristics

Table 1: Demographic Characteristics of the Study Sample

Variable	Category	<i>n</i>	%
Gender	Male	94	52.2
	Female	86	47.8
Study Condition	Experimental	90	50.0
	Control	90	50.0
Age	3 years	27	15.0
	4 years	30	16.7
	5 years	31	17.2
	6 years	31	17.2
	7 years	30	16.7
	8 years	31	17.2
Total		180	100.0

Interpretation

A total of 180 children participated in the study ranging from the age of 3–8 years. The male children comprised 52.2% of the sample and the female children comprised 47.8% of the sample. There was equal allocation of the 90 children between the experimental and control group. There was a fairly even spread of age groups among the six age bands.

Pretest and Posttest Executive Functioning

Table 2: Pretest and Posttest Executive-Functioning Scores

Group	Pretest <i>M</i>	Pretest <i>SD</i>	Posttest <i>M</i>	Posttest <i>SD</i>
Experimental	83.41	8.27	62.18	7.14
Control	82.76	7.94	80.94	8.16

Interpretation

The mean scores on the pretests for the experimental group and control group show a score of 83.41 and 82.76, respectively, with standard deviations of 8.27 and 7.94. The mean score of the experimental group at the Post test was 62.18 (S.D. 7.14) and the mean score of the control group was 80.94 (S.D. 8.16). As CHEXI scores increase, there is a higher level of executive-functioning difficulties, so the decreased scores seen in the experimental group show that there was improvement in executive functioning after the intervention.

Pretest and Posttest Emotion Regulation

Table 3: Pretest and Posttest Emotion Regulation Scores

Group	Pretest <i>M</i>	Pretest <i>SD</i>	Posttest <i>M</i>	Posttest <i>SD</i>
Experimental	20.76	3.41	28.82	2.94
Control	21.12	3.26	22.06	3.38

Interpretation

At the pretest, the experimental group had a mean score of 20.76 (SD = 3.41) while the control group had a mean score of 21.12 (SD = 3.26) on the Emotion Regulation. The mean score of the experimental group at posttest was 28.82 (SD = 2.94), and the mean of the control group at posttest was 22.06 (SD = 3.38). Larger effects in the experimental condition suggest more adaptation in emotion regulation after the pseudo-play structured training.

Pretest and Posttest Lability/Negativity

Table 4: Pretest and Posttest Lability/Negativity Scores

Group	Pretest <i>M</i>	Pretest <i>SD</i>	Posttest <i>M</i>	Posttest <i>SD</i>
Experimental	38.24	5.18	27.41	4.62
Control	37.88	5.06	36.71	5.23

Interpretation

The pretest Lability/Negativity mean score for the experimental group was 38.24 (SD = 5.18) while the control group had a mean score of 37.88 (SD = 5.06). In the post intervention, the mean for the experimental group changed to 27.41 (SD = 4.62) as compared to 36.71 (SD = 5.23) for the control group. A reduction in children's emotional instability and negative emotional responding can be seen in the reduction of Lability/Negativity scores for children who participated in the structured pretend-play programme.

Overall Intervention Effects

Table 5: Repeated-Measures Analysis of Intervention Effects

Outcome	<i>F</i>	<i>p</i>	ηp^2
Executive Functioning	92.47	.001	.342
Emotion Regulation	78.63	.001	.306
Lability/Negativity	85.14	.001	.324

Interpretation

The Time $\times$ Group interaction for executive functioning was statistically significant, $F = 92.47$, $p = .001$, $\eta p^2 = .342$. This indicates that executive-functioning scores changed differently across time in the experimental and control conditions. The Time $\times$ Group interaction for Emotion Regulation was also statistically significant, $F = 78.63$, $p = .001$, $\eta p^2 = .306$. The result indicates a significant difference in change in adaptive emotional regulation between the two conditions. The Time $\times$ Group interaction for Lability/Negativity was statistically significant, $F = 85.14$, $p = .001$, $\eta p^2 = .324$, indicating significantly different changes in emotional lability and negative emotional responding between the experimental and control conditions. Collectively, these results support the effectiveness of the structured pretend-play intervention in producing changes in executive functioning and emotional regulation.

Gender Differences

Table 6: Male–Female Differences in Posttest Outcomes

Outcome	Male <i>M</i> (<i>SD</i>)	Female <i>M</i> (<i>SD</i>)	<i>t</i>	<i>p</i>
Executive Functioning	63.74 (7.31)	60.42 (6.87)	1.38	.177
Emotion Regulation	27.91 (3.16)	29.84 (2.61)	–1.95	.060
Lability/Negativity	28.64 (4.83)	26.02 (4.31)	1.68	.103

Interpretation

Female children demonstrated a lower mean CHEXI score than male children at posttest, indicating fewer reported executive-functioning difficulties. However, the difference was not statistically significant, $t = 1.38$, $p = .177$. Female children also demonstrated a higher mean Emotion Regulation score than male children. Although this pattern indicated somewhat stronger adaptive emotional regulation among female children, the difference was not statistically significant, $t = -1.95$, $p = .060$. For Lability/Negativity, female children demonstrated a lower mean score than male children. However, this difference was also not statistically significant, $t = 1.68$, $p = .103$. Results overall identified descriptive sex differences; however no differences reached statistical significance.

Discussion

The aim of the present experimental study was to assess efficacy of a 24-week pretend play structured intervention in enhancing the executive functioning and emotional regulation of 180 children aged 3-8 years. Results revealed that involvement in the structured intervention significantly influenced levels of executive functioning, adaptive emotion regulation, and emotional lability/negativity.

The results are in line with current research, which shows that pretend play relates to the development of executive functions. White and Carlson (2021) showed in an experimental study that pretend play in the context of a story enhanced nine-to 30-month-old children's inhibitory control over a pretend activity in comparison to a non-pretense activity. These current analyses add to this evidence by studying an intervention over a much longer period. While short-duration experimental studies may show immediate impacts, a 24-week programme affords multiple opportunities for children to repeatedly engage in the same underlying regulatory processes in various scenarios.

Inhibitory control is a way in which pretend play might affect executive functioning. Children are expected to "restrain" behaviours that are not consistent with the role in role play. For instance, if a child plays a doctor they should play a doctor, which means that they are not always permitted to do what comes in the moment. Working memory may also be engaged because children need to retain information about roles, rules, characters, objects, and the sequence of events. Narrative pretend play places particularly strong demands on working memory because children must remember earlier elements of a story while contributing new events.

Cognitive flexibility is likely to become increasingly important as pretend play becomes more complex. When children change roles, modify rules, or accept a peer's alternative storyline, they must shift away from an established response and adopt another. The present intervention deliberately incorporated rule-changing activities during its later stages. This progressive increase in complexity may have contributed to the observed executive-functioning improvement.

The findings are also consistent with White et al. (2021), who found that social pretend play predicted gains in inhibitory control across the preschool year. Their study involved 132 preschool children and found that social pretend play, rather than solitary pretend play, was associated with inhibitory-control growth. Similarly, Thibodeau-Nielsen et al. (2020) found that preschool pretend play was prospectively associated with later executive-function outcomes among children experiencing cumulative risk.

The present findings concerning emotion regulation are also theoretically meaningful. Pretend play allows children to rehearse emotional experiences in a controlled context. A child can enact anger, disappointment, fear, or frustration and then experiment with alternative behavioral responses. The Emotion Regulation Checklist assesses both adaptive emotion regulation and emotional lability/negativity. The simultaneous increase in adaptive Emotion Regulation and reduction in

Lability/Negativity observed in the experimental group therefore suggests changes in two complementary dimensions of emotional functioning.

Sociodramatic play may be especially important for emotional regulation because it requires coordination with other children. Children must negotiate roles, tolerate disagreement, wait, share resources, and adapt when another child changes the storyline. These experiences provide repeated opportunities for children to regulate emotional responses while maintaining participation in a shared social activity.

The findings are consistent with the broader intervention literature. Muir et al. (2023) reviewed 85 preschool intervention studies and concluded that targeted interventions can enhance self-regulation and executive functioning, although effects vary across approaches and intervention characteristics. Their review specifically identified mediated structured play as one promising intervention approach. The review also noted that structured interventions frequently increased cognitive complexity as children gained experience. This principle was reflected in the present 24-week intervention, in which activities progressed from simple symbolic representation toward more complex social, emotional, narrative, and rule-changing situations.

Play-based learning research also supports the developmental value of activities that combine cognitive engagement with meaningful contexts. A 2021 study examining preschool children's executive-function development through play-based learning found that inhibitory control and cognitive flexibility could be engaged through fictive characters, games, and alternative narratives. The present findings therefore provide further support for the argument that play can serve as an important context for practicing executive and emotional skills.

The work has practical implications, as well. The organization of pretend play does not need specialized equipment, unlike interventions that do. With a very small amount of resources, a classroom could be turned into a hospital, a restaurant, a shop, or a school or transportation system. This accessibility is especially pertinent in the context of preschool interventions in which it is often necessary to work within an already established classroom experience.

One other essential facet is the 24 week time period. Practicing the behavior several times could help children transition from an externally supported regulation to potentially greater independent regulation. In the initial sessions adult modeling and prompting could be used, then in subsequent sessions the adult could be more demanding in terms of children's own flexible responding and planning for the task. The gender analysis reflected descriptive differences but, no statistically significant differences in the posttest measures. A somewhat better descriptive outcome was achieved by female children in executive functioning and emotions regulation, whereas male children achieved a slightly higher Lability/Negativity. However, no significant differences in these are seen.

Therefore, the results do not indicate that there is a clear gender gap. Recent psychometric analyses of the CHEXI have been undertaken on the characteristics of measurement invariance across sex and age groups; it is important that instruments behave in similar ways when used across groups. There was also no significant gender difference, which indicates that the pretrained content of organized pretend play could be widely used among children of both genders. Teachers and medical professionals could target each person's developmental needs and the ways they engage with different interventions instead of creating intervention specifically for each gender.

The results should, however, be viewed in the light of the design and sample of the study. Future studies might analyze if effects of the interventions are moderated by children's individual characteristics, their

baseline level executive functioning, language abilities, temperament, social-competence, and previous experience with pretend play.

Limitations

1. The study required that children be in the 3-8 year-old age range, which is somewhat wide spread. Executive functioning and emotional regulation in the years between the ages of 9 and 14 are a major field of developmental change and more research is needed to explore how interventions affect the development of these domains in different age groups.
2. The study relied on standardized behavioral rating measures. Although these measures provide useful information about children's everyday functioning, performance-based executive-function tasks could provide complementary information.
3. The study examined outcomes following a 24-week intervention but did not establish whether improvements were maintained over longer periods.
4. The children's engagement with pretend play may have varied according to language ability, social confidence, prior play experience, and individual interests.
5. The study was conducted within a particular cultural and educational context, which may limit generalization to other populations.
6. Larger multisite studies would provide stronger evidence regarding the generalizability and replicability of the findings.

Implications

1. Structured pretend play can be incorporated into preschool and early-primary classroom activities to provide repeated opportunities for executive and emotional self-regulation.
2. Psychologists, speech-language pathologists, occupational therapists, and other child-development professionals may incorporate structured pretend-play activities as a complementary intervention approach.
3. Parents can use everyday objects and familiar social situations to provide children with opportunities for symbolic play, role play, emotional problem solving, and flexible thinking.
4. Future research should include larger multisite samples, performance-based executive-function measures, and longitudinal follow-up.

Recommendations

1. Structured pretend play should be incorporated into early childhood educational programmes.
2. Pretend-play activities should progressively increase in cognitive and social complexity.
3. Teachers should use role play to provide opportunities for inhibition and flexible thinking.
4. Parents should provide regular opportunities for symbolic and social pretend play.
5. Clinicians should consider structured pretend play as a complementary developmental intervention.
6. Future studies should include performance-based measures of executive functioning.
7. Future research should include long-term follow-up assessments.

Conclusion

The present experimental study investigated the effectiveness of a structured 24-week pretend-play intervention among 180 children aged 3–8 years. The intervention incorporated symbolic play, role play, sociodramatic play, narrative play, emotion-focused scenarios, problem solving, and rule-changing activities. The findings demonstrated significant intervention-related changes in executive functioning,

emotion regulation, and emotional lability/negativity. The experimental group demonstrated a greater improvement pattern than the control group, suggesting that structured pretend play may provide a meaningful context for practicing cognitive and emotional self-regulation.

The findings are consistent with experimental and longitudinal research demonstrating relationships between pretend play and executive-function development. They are also consistent with systematic-review evidence indicating that mediated structured play can be an effective approach for supporting early self-regulation and executive functioning. Overall, the findings support structured pretend play as a developmentally appropriate, engaging, and potentially scalable intervention for strengthening executive and emotional regulation during childhood.

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