



Lego Play Therapy for Managing Excessive Gadget Use in a School-Aged Child: A Pediatric Nursing Case Study

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ABSTRACT

Background: Excessive gadget use among school-aged children has become an increasing concern because prolonged screen exposure may interfere with cognitive, emotional, and social development. Therapeutic play has been proposed as a non-pharmacological nursing intervention to encourage healthy developmental behaviors.

Objective: To describe the implementation of Lego play therapy in managing excessive gadget use in a school-aged child through a pediatric nursing case study.

Methods: A qualitative single-case study was conducted involving a 9-year-old girl who demonstrated excessive gadget use. Nursing assessment, observation, and parental interviews were performed before and after a three-day Lego play therapy intervention. Behavioral responses, social interaction, attention span, emotional regulation, and engagement in play activities were documented descriptively.

Results: Following the intervention, the child demonstrated reduced interest in gadget use during therapy sessions, improved attention and concentration, increased verbal communication, better emotional regulation, and greater willingness to interact with family members. The intervention also encouraged creativity and active participation in constructive play.

Conclusion: This case study suggests that Lego play therapy may serve as a practical nursing intervention to redirect excessive gadget use while promoting cognitive and social engagement in school-aged children. Further studies with larger samples, standardized outcome measures, and longer follow-up periods are required to confirm these preliminary findings.

Keywords: Lego play therapy; excessive gadget use; school-aged child; pediatric nursing; therapeutic play

Introduction

The rapid expansion of digital technology has transformed children's daily lives, making smartphones and tablets an integral part of education, communication, and entertainment. Although digital devices provide educational opportunities, excessive screen exposure has become a growing public health concern because of its association with impaired cognitive,

behavioral, emotional, and social development among children. School-aged children are particularly vulnerable because this developmental period is characterized by rapid growth in executive functioning, attention, and interpersonal skills.

Recent evidence indicates that prolonged gadget use is associated with shorter attention spans, reduced physical activity, impaired social interaction, emotional dysregulation, and decreased academic performance. Children who spend excessive time on digital devices are also more likely to experience difficulties in communication, self-regulation, and creative play. These developmental concerns have prompted healthcare professionals to seek practical, developmentally appropriate interventions that can reduce screen dependency while promoting healthy child development.

In Indonesia, the increasing accessibility of smartphones has contributed to rising gadget use among children. Reports from the Komisi Perlindungan Anak Indonesia (KPAI) indicate that gadget ownership and screen time among school-aged children have increased substantially over recent years, raising concerns among parents, educators, and healthcare providers regarding its long-term developmental consequences. Similar trends have been reported globally, emphasizing the need for early preventive interventions that encourage active rather than passive forms of play.

Therapeutic play is widely recognized as an essential component of pediatric nursing because it facilitates emotional expression, cognitive stimulation, communication, and social interaction. Among various forms of therapeutic play, Lego play offers unique developmental benefits by engaging children in problem-solving, creativity, fine motor coordination, sustained attention, and cooperative interaction. Previous studies have demonstrated that Lego-based activities can improve concentration, executive functioning, communication skills, and emotional regulation in children. However, most available studies have focused on educational outcomes or neurodevelopmental conditions, while evidence regarding its application for children with excessive gadget use remains limited.

Furthermore, few nursing case studies have described how Lego play therapy can be integrated into individualized nursing care to address behavioral changes associated with excessive gadget use. This gap highlights the need for practical clinical evidence that illustrates the implementation process and observed behavioral responses in real-world settings.

Therefore, this study aims to describe the implementation of Lego play therapy as a pediatric nursing intervention for a school-aged child with excessive gadget use. The findings are expected to provide preliminary evidence supporting the use of therapeutic play as a feasible, low-cost, and developmentally appropriate nursing strategy to encourage cognitive engagement, social interaction, and reduced reliance on digital devices..

Objective

This study aimed to describe the implementation of Lego play therapy and its observed effects on attention, social interaction, and gadget-use behavior in a school-aged child receiving pediatric nursing care.

Method

Study Design and Setting

This study employed a qualitative single-case study design using a pediatric nursing care approach. The study was conducted in the participant's home in Cisonrol Village, Rancah District, Ciamis Regency, West Java, Indonesia. The nursing intervention was implemented over three consecutive days, allowing repeated observation of the child's behavioral responses during Lego play therapy.

Participant

The participant was a 9-year-old school-aged girl who demonstrated excessive gadget use accompanied by decreased attention, limited social interaction, and reduced interest in non-digital play activities. The participant was selected purposively because she met the following inclusion criteria: (1) aged between 6 and 12 years; (2) demonstrated excessive gadget use based on parental reports and nursing assessment; (3) was able to communicate and participate in play activities; and (4) obtained parental consent to participate in the study.

Nursing Intervention

Lego play therapy was implemented as a structured therapeutic play intervention integrated into the pediatric nursing process. Each therapy session lasted approximately 30–45 minutes for three consecutive days. During each session, the participant was encouraged to construct Lego models independently while receiving minimal verbal guidance from the researcher. The activities were designed to promote attention, creativity, problem-solving ability, fine motor coordination, verbal communication, and social interaction.

Data Collection

Data were collected through comprehensive nursing assessment, direct observation, structured interviews with the participant's parent, and field documentation. Behavioral responses were observed before, during, and after each therapy session. The observed indicators included attention span, willingness to participate in play activities, verbal communication, emotional regulation, social interaction, and interest in gadget use.

Data Analysis

The collected data were analyzed descriptively using qualitative content analysis. Behavioral changes observed throughout the intervention were compared across the three therapy sessions to identify patterns of improvement. Data credibility was enhanced through triangulation of observation findings, parental interviews, and field documentation.

Trustworthiness

To enhance the rigor of the study, credibility was established through data triangulation involving multiple data sources, including direct observation, parental interviews, and field notes. Consistent documentation throughout the intervention also supported the dependability of the findings.

Ethical Considerations

This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. Written informed consent was obtained from the participant's parent prior to data collection. The participant's identity was anonymized to ensure confidentiality

and privacy throughout the study. Ethical approval was obtained from the Institutional Research Ethics Committee of STIKes Muhammadiyah Ciamis (Approval No.: 108/KEPK-MUCIS/X/2025).

Result

Participant Characteristics

The participant was a 9-year-old school-aged girl enrolled in the third grade of elementary school and residing in Cisonrol Village, Rancah District, Ciamis Regency, West Java, Indonesia. According to parental reports, the child spent several hours each day using a smartphone for entertainment purposes. Excessive gadget use was accompanied by decreased interest in academic activities, limited social interaction, reduced verbal communication, and emotional irritability when access to the gadget was restricted.

Baseline Nursing Assessment

The initial nursing assessment identified several behavioral characteristics associated with excessive gadget use. The participant demonstrated a limited attention span during conversations, preferred screen-based activities over physical play, showed minimal verbal interaction, and became irritable when separated from her smartphone. These observations suggested reduced engagement in age-appropriate social and recreational activities.

Implementation of Lego Play Therapy

Lego play therapy was conducted over three consecutive days, with each session lasting approximately 30–45 minutes. During each session, the participant was encouraged to construct Lego models independently while receiving minimal guidance from the researcher. Activities emphasized creativity, concentration, problem-solving, and verbal interaction throughout the therapeutic process.

Behavioral Changes During the Intervention

Progressive behavioral changes were observed across the three therapy sessions. During the first session, the participant initially showed reluctance to engage in Lego activities and frequently requested access to her smartphone. However, after several minutes of guided play, she began participating more actively and maintained attention for longer periods.

During the second session, the participant demonstrated greater enthusiasm for the Lego activities. She interacted more frequently with the facilitator, initiated simple conversations, and required fewer reminders to remain engaged in the task. Requests to use the smartphone became less frequent during the therapy session.

By the third session, noticeable improvements were observed. The participant remained focused throughout most of the activity, demonstrated increased creativity while constructing Lego models, willingly explained her creations, interacted more comfortably with family members, and displayed improved emotional regulation when completing challenging tasks. No repeated requests for smartphone use were observed during the therapy session.

Summary of Observed Behavioral Changes

Behavioral Aspect	Before Intervention	After Three Therapy Sessions
Attention span	Easily distracted	Sustained attention during play activities
Interest in gadgets	Frequently requested smartphone	Reduced requests during therapy sessions
Verbal communication	Limited spontaneous communication	Increased verbal interaction and explanation of Lego creations
Emotional regulation	Easily irritated when gadget use was restricted	Demonstrated greater patience and emotional control
Social interaction	Minimal interaction with others	More willing to communicate with the facilitator and family
Participation in play	Preferred screen-based entertainment	Actively engaged in constructive Lego play

The observations across the three therapy sessions demonstrated gradual improvements in attention, communication, emotional regulation, and participation in constructive play activities. These findings represent the behavioral responses observed during the nursing intervention.

Discussion

The present single-case study demonstrated that structured Lego play therapy was associated with positive behavioral changes in a school-aged child with excessive gadget use. Following three consecutive therapy sessions, improvements were observed in attention span, verbal communication, emotional regulation, and willingness to engage in constructive play. In addition, the participant showed reduced interest in using a smartphone during therapy sessions and increased interaction with family members. Although these findings are limited to a single participant, they suggest that therapeutic play may provide meaningful support for pediatric nursing interventions aimed at managing excessive screen use.

The observed behavioral improvements may be explained by the developmental characteristics of Lego play. Constructive play requires sustained attention, planning, problem-solving, creativity, and fine motor coordination, all of which stimulate executive functioning and active cognitive engagement. Unlike passive screen exposure, Lego activities encourage children to participate actively in learning experiences while simultaneously promoting verbal communication and social interaction. The gradual reduction in requests for smartphone use during the intervention also suggests that engaging play activities can temporarily replace screen-based entertainment by providing intrinsic motivation and positive emotional experiences.

These findings are consistent with previous studies demonstrating the developmental benefits of therapeutic play. Educational play interventions have been shown to improve

children's concentration, communication skills, emotional regulation, and social participation. Lego-based activities, in particular, have been reported to enhance executive functioning, creativity, and collaborative interaction among school-aged children. Although previous research has primarily focused on educational settings or children with neurodevelopmental conditions, the present case study extends existing evidence by illustrating how Lego play therapy can be incorporated into individualized pediatric nursing care for children exhibiting excessive gadget use.

From a clinical perspective, the findings highlight the potential role of nurses in promoting healthy digital habits through developmentally appropriate play interventions. Lego play therapy is inexpensive, easy to implement, and can be conducted in both home and community settings with active parental involvement. Integrating structured play into pediatric nursing care may provide an alternative strategy to encourage children's cognitive engagement and reduce dependence on screen-based activities without relying solely on restrictive approaches.

Nevertheless, the findings should be interpreted with caution. As a single-case study, the results cannot be generalized to broader populations. The intervention was conducted over only three consecutive days, preventing evaluation of long-term behavioral changes. Furthermore, behavioral outcomes were assessed through qualitative observation and parental interviews rather than standardized measurement instruments, which may introduce observer bias. Future studies should include larger sample sizes, validated assessment tools for measuring excessive gadget use and child development, longer follow-up periods, and comparative study designs to strengthen the evidence supporting Lego play therapy in pediatric nursing practice.

Overall, this study provides preliminary clinical evidence that structured Lego play therapy may represent a feasible and developmentally appropriate nursing intervention for children with excessive gadget use. Although additional research is required to establish its effectiveness, the observed behavioral responses indicate that therapeutic play has the potential to support children's cognitive, emotional, and social development within the context of pediatric nursing care.

Conclusion

This single-case study described the implementation of Lego play therapy as a pediatric nursing intervention for a school-aged child with excessive gadget use. The intervention was associated with improvements in attention, verbal communication, emotional regulation, and participation in constructive play during the three-day observation period. Although these findings cannot be generalized beyond the individual participant, they suggest that Lego play therapy may serve as a feasible and developmentally appropriate nursing intervention to encourage healthy behavioral engagement while reducing reliance on screen-based activities. Further studies involving larger samples, standardized assessment instruments, and longer follow-up periods are needed to establish the effectiveness and long-term benefits of this intervention.

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