



## Jump Rope Play Therapy to Enhance Social Interaction in a Child with Gadget Addiction: A Case Study

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### ABSTRACT

**Introduction:** Excessive gadget use among school-age children has become a growing concern due to its negative impact on social and behavioral development. Children who spend prolonged periods using digital devices often exhibit reduced social engagement, limited verbal communication, emotional withdrawal, and decreased participation in peer interactions. These conditions may hinder the development of essential interpersonal skills during a critical stage of growth. Traditional play activities, such as jump rope, offer opportunities for physical movement, communication, cooperation, and social interaction, making them potential therapeutic interventions for children experiencing gadget-related social difficulties.

**Objective:** This study aimed to evaluate the effectiveness of jump rope play therapy in improving social interaction among children with gadget addiction.

**Method:** A descriptive case study design was employed involving a 10-year-old female child residing in Dayeuhmanggung Village, West Java, Indonesia. The intervention consisted of two structured jump rope play therapy sessions conducted over four consecutive days. Data were collected through semi-structured interviews with parents, direct observations using behavioral checklists, gadget usage logs, and field documentation. Behavioral changes before and after the intervention were analyzed descriptively.

**Results:** Following the intervention, the child demonstrated notable improvements in social behavior. Daily gadget use decreased from more than 3 hours to approximately 1.5 hours. Increased eye contact, spontaneous verbal responses, initiation of conversations, active participation in outdoor play, and greater willingness to interact with family members and peers were observed. Parents also reported enhanced sociability, improved mood, and reduced dependence on digital devices.

**Conclusion:** Jump rope play therapy appears to be a culturally appropriate, low-cost, and effective intervention for enhancing social interaction and reducing gadget dependency among school-age children. The findings suggest that integrating traditional play activities into community and family-based nursing interventions may support children's psychosocial development and social reintegration.

**Keywords:** gadget addiction, jump rope play therapy, social interaction, school-age children, play therapy

## Introduction

The rapid advancement of digital technology has significantly increased children's exposure to gadgets, including smartphones, tablets, and other electronic devices. While these technologies provide educational and entertainment benefits, excessive and uncontrolled use has emerged as a growing public health concern. Gadget addiction among children has been associated with various developmental problems, particularly in the social, emotional, and behavioral domains. Children who spend prolonged periods engaged with digital devices often exhibit reduced face-to-face communication, social withdrawal, emotional detachment, and decreased participation in peer activities. According to Adib (2021), excessive gadget use may contribute to delayed speech development, impaired social skills, and difficulties in establishing interpersonal relationships.

School-age children represent a critical developmental group in which social competence and communication skills are rapidly evolving. During this period, children learn to cooperate, negotiate, share experiences, and develop emotional regulation through interactions with peers and family members. However, excessive reliance on digital devices may reduce opportunities for meaningful social engagement and experiential learning. Previous studies have reported a negative relationship between gadget addiction and children's social interaction, indicating that children with higher levels of gadget use tend to demonstrate lower levels of social participation and communication (Andriyani, Arifin, & Wahyuningsih, 2021). Consequently, effective interventions are needed to minimize the adverse effects of gadget dependency and promote healthy psychosocial development.

Play therapy has long been recognized as an effective non-pharmacological intervention for supporting children's emotional, cognitive, and social development. Through structured play activities, children are encouraged to express emotions, improve communication skills, and engage in cooperative interactions with others. Traditional games, in particular, provide opportunities for direct social engagement while simultaneously promoting physical activity. One such traditional game is jump rope, which requires coordination, cooperation, turn-taking, communication, and mutual encouragement among participants. Research conducted by Andini, Syamsudin, and Ulansari (2022) demonstrated that jump rope activities contribute positively to children's motor development and social interaction skills.

Despite growing concerns regarding gadget addiction among children, studies investigating the use of traditional play-based interventions to address social withdrawal remain limited. Most existing interventions focus on parental control strategies, digital literacy education, or behavioral restrictions, while fewer studies explore the therapeutic potential of culturally relevant traditional games. Therefore, there is a need to examine alternative community-based interventions that are practical, affordable, and easily implemented within family and nursing settings.

This study aimed to evaluate the effectiveness of jump rope play therapy in improving social interaction among a school-age child experiencing gadget addiction. The findings are expected to provide evidence supporting the integration of traditional play therapy into pediatric nursing interventions and community health programs designed to promote children's psychosocial well-being.

## **Objective**

To explore the effectiveness of jump rope play therapy in enhancing social interaction in a school-age child with gadget addiction through a descriptive case study approach.

## **Method**

### ***Design and setting***

This study employed a descriptive single-case study design to explore behavioral changes following the implementation of jump rope play therapy. The study was conducted in Dayeuhmanggung Village, Cilawu Subdistrict, Garut Regency, West Java, Indonesia. The community-based setting was selected to reflect the participant's natural social environment and facilitate authentic interactions with family members and peers.

The intervention was carried out over four consecutive days in both indoor and outdoor areas surrounding the participant's residence. This setting enabled the child to participate comfortably in structured play activities while maintaining familiarity with the environment.

### ***Participant***

The participant was a purposively selected 10-year-old female child identified as exhibiting behavioral indicators of gadget addiction. Inclusion criteria included: (1) gadget use exceeding three hours per day without adequate parental supervision; (2) reluctance to engage in peer interaction; (3) limited verbal communication or emotional withdrawal; (4) no previous participation in behavioral therapy related to gadget use; and (5) residence in a family environment willing to support the intervention process.

The participant was referred by a community health worker and selected following consultation with her parents. According to parental reports, the child demonstrated prolonged screen time, limited communication with family members, and reduced participation in social activities. Written informed consent was obtained from the parents, and verbal assent was obtained from the child prior to data collection.

### ***Instrument***

Data were collected using four instruments:

1. a structured observation checklist assessing eye contact, verbal responsiveness, emotional expression, and participation in cooperative play using a three-point Likert scale (1 = absent, 2 = occasional, 3 = consistent);
2. semi-structured interviews with parents regarding gadget use patterns and social behaviors;
3. behavioral documentation logs maintained by the researcher during intervention sessions; and
4. a gadget usage time log completed by the parents to monitor daily screen time.

Instrument credibility was strengthened through data triangulation involving direct observations, parental reports, and field documentation

**Intervention Procedure**

The intervention consisted of two structured jump rope play therapy sessions conducted over four consecutive days. Each session involved guided jump rope activities designed to encourage physical movement, communication, cooperation, turn-taking, and social engagement. The researcher facilitated the activities while observing the participant’s behavioral responses throughout the intervention period

**Data collection and analysis**

Baseline observations and interviews were conducted before the intervention. Follow-up observations and interviews were performed after each therapy session to assess behavioral changes. Data were analyzed descriptively by comparing pre- and post-intervention findings, focusing on social interaction indicators, verbal communication, emotional responsiveness, participation in play activities, and daily gadget usage patterns.

**Result**

Prior to the intervention, the participant demonstrated behavioral characteristics associated with excessive gadget use and impaired social interaction. Daily screen time exceeded three hours, primarily for entertainment purposes. The child showed reluctance to engage in conversations with family members and peers, provided minimal verbal responses when addressed, and frequently preferred solitary gadget-based activities over social play. Parents reported that the participant often avoided outdoor activities and rarely initiated communication with others.

Following the implementation of two jump rope play therapy sessions over four consecutive days, several positive behavioral changes were observed. Daily gadget use decreased from more than three hours to approximately 1.5 hours per day. The participant demonstrated greater interest in outdoor activities and became more willing to engage in play with peers and family members. Improvements were also observed in verbal communication, including more spontaneous responses, increased participation in conversations, and greater emotional expressiveness during interactions.

Furthermore, the participant began initiating conversations, laughing during play sessions, and maintaining longer periods of eye contact with others. Parents reported noticeable improvements in sociability, mood, and overall responsiveness within the home environment. These findings suggest that jump rope play therapy contributed positively to the participant’s social engagement and reduced dependence on digital devices.

**Table 1. Changes in Social Interaction Before and After Jump Rope Play Therapy**

Indicator	Before Intervention	After Intervention
<b>Daily gadget use</b>	>3 hours/day	Approximately 1.5 hours/day
<b>Social interaction</b>	Avoided peer and family interaction	Actively engaged in social activities
<b>Verbal communication</b>	Minimal responses	More spontaneous and interactive responses
<b>Participation in play</b>	Refused to play with peers	Willingly participated in outdoor play

<b>Communication initiation</b>	Rarely initiated conversations	Frequently initiated conversations
<b>Emotional expression</b>	Limited emotional expression	Laughter and positive emotional responses observed
<b>Parent-reported sociability</b>	Low	Improved sociability and mood

Overall, the results indicate that jump rope play therapy was associated with meaningful improvements in social interaction, communication, and behavioral engagement in a school-age child experiencing gadget addiction.

## Discussion

The findings of this case study suggest that jump rope play therapy may contribute positively to improving social interaction among children experiencing excessive gadget use. Following the intervention, the participant demonstrated reduced screen time, increased willingness to engage in outdoor activities, improved verbal responsiveness, and greater participation in social interactions with family members and peers. These findings indicate that structured physical play can serve as a practical strategy for addressing social withdrawal associated with prolonged gadget use.

The observed improvements may be explained by the multidimensional nature of jump rope activities, which combine physical movement, communication, cooperation, and emotional engagement. Participation in jump rope play requires children to interact with others, follow rules, take turns, and respond to social cues. These activities promote the development of interpersonal skills while simultaneously reducing time spent on solitary digital activities. In pediatric nursing, play-based interventions are recognized as effective approaches for supporting psychosocial development, emotional expression, and social adaptation. The increase in eye contact, spontaneous communication, and social participation observed in this study reflects these therapeutic benefits.

The present findings are consistent with previous studies demonstrating the positive impact of traditional games on children's social and developmental outcomes. Andini et al. (2022) reported that jump rope activities enhance gross motor development while fostering cooperation and peer interaction. Similarly, Berliana et al. (2022) found that excessive gadget use negatively affects children's social communication and willingness to participate in cooperative play. The behavioral changes observed in the participant support these findings and suggest that traditional play activities may help counteract some of the adverse social effects of gadget dependency. Furthermore, Ausrianti and Andayani (2024) emphasized that play therapy provides opportunities for emotional expression and strengthens interpersonal relationships, which were also evident during the intervention sessions.

An important contribution of this study is its emphasis on culturally relevant and low-cost interventions. Jump rope is a traditional game that is widely recognized, easily implemented, and requires minimal resources. Consequently, it may represent a feasible therapeutic option for families, schools, and community health programs seeking to promote children's psychosocial well-being while reducing dependence on digital devices. The findings

also highlight the importance of parental involvement in monitoring gadget use and encouraging participation in physical and social activities.

Despite these promising results, several limitations should be acknowledged. The study involved only one participant, limiting the generalizability of the findings. The short intervention and observation period also prevented assessment of long-term behavioral changes. In addition, the absence of standardized psychometric instruments may have reduced measurement objectivity. Future studies should employ larger samples, longer follow-up periods, and validated social interaction assessment tools to strengthen the evidence base. Experimental or quasi-experimental designs may further clarify the effectiveness of jump rope play therapy in improving social interaction among children with excessive gadget use.

Overall, this study provides preliminary evidence that jump rope play therapy may serve as an effective, culturally appropriate, and accessible intervention for enhancing social interaction and reducing gadget dependency among school-age children.

### **Conclusion**

This case study demonstrated that jump rope play therapy contributed to improvements in social interaction among a school-age child experiencing excessive gadget use. Following the intervention, the participant showed reduced screen time, increased participation in outdoor activities, enhanced verbal communication, and greater willingness to engage with family members and peers. These findings suggest that jump rope play therapy may serve as a simple, culturally appropriate, and cost-effective intervention to support children's psychosocial development and reduce the negative social effects associated with excessive gadget use. The integration of traditional play activities into pediatric nursing practice and community-based health programs may provide valuable opportunities to promote healthy social development among children. Further research involving larger samples and longer follow-up periods is recommended to confirm and extend these findings.

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### **Conflict of Interest**

The authors declare that there are no conflicts of interest regarding the publication of this study. The research was conducted independently without any financial, commercial, institutional, or personal relationships that could have influenced the study design, data collection, analysis, interpretation, or reporting of the findings.

## Ethical Clearance

Ethical approval for this study was obtained from the Health Research Ethics Committee of STIKes Muhammadiyah Ciamis Approval No. 078/KEPK-MUCIS/IX/2025. Written informed consent was obtained from the participant's parents, and verbal assent was obtained from the child prior to participation. All procedures were conducted in accordance with ethical principles for research involving human participants.

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