



## Interventions to Improve Social Skills of Children with ADHD: A Systematic Review

Kinanti Ananda Arini Sugma<sup>1\*</sup>, Nadya Alawwiyah<sup>2</sup>, Nida Hasanati<sup>3</sup>  
University of Muhammadiyah Malang

**Corresponding Author:** Kinanti Ananda Arini Sugma [kinantiananda5@gmail.com](mailto:kinantiananda5@gmail.com)

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### ABSTRACT

Social skills are abilities that enable individuals to interact, communicate, and form positive relationships with other people. Limited social skills in children with ADHD can affect their interactions in various contexts, including family, school and community environments. There are 6 journals out of 11 international journals that use game media interventions to improve social skills in ADHD children. The results of this systematic review show that ADHD children aged 5-12 years can improve their social skills through game media intervention. With the media, children's games, School education, family, sport, and CBT (Cognitive Behavioral Therapy) can increase social interaction, offer interactive and fun experiences, and allow children to practice social skills in a safe and controlled environment. Using this intervention method children can learn while playing because children learn in fun conditions.

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## **INTRODUCTION**

*Attention Deficit Hyperactivity Disorder* (ADHD) is a common neurobiological disorder in children, characterized by inattention, hyperactivity, and impulsivity. Children with ADHD often have difficulty with social skills, such as reading social signals, understanding norms, and maintaining relationships with peers (American Psychiatric Association, 2022). Social skills, namely the ability to interact, communicate, and form positive relationships (Gresham et. al, 2010), play an important role in their daily lives.

These limitations affect the interactions of children with ADHD in the family, school, and community environments. They are more vulnerable to peer rejection and social isolation, which negatively impact emotional well-being and social development (Hoza, 2023). Impulsive behavior, impatience, and difficulties in managing conflict and working together in groups worsen this situation (Landau & Milich, 2023).

Research shows that 52%–82% of children with ADHD experience higher levels of peer rejection than other children, and about 30%–50% experience significant social isolation (Hoza, 2023). The main contributing factors are difficulties understanding social norms, impulsivity, and challenges in recognizing facial expressions and body language (Barkley, 2024; Pfiffner & Haack, 2024). In addition, they tend to show 2–3 times more aggressive behavior in conflict situations (Pelham & Fabiano, 2023), due to a lack of emotional control and problem-solving strategies (Mikami, 2023).

## **LITERATURE REVIEW**

The impact extends to academics and mental health. Around 60% have difficulty collaborating in school due to the inability to wait their turn or listen to others' ideas (Kavale & Forness, 2023). As a result, they are more susceptible to anxiety, depression (Thomas & Sanders, 2023), and have difficulty in relationships with teachers and peers (Pfiffner et al., 2022). Other areas of concern include emotional control and social awareness. The inability to manage frustration often causes children to withdraw or act aggressively (Cardillo, 2023). They also have less understanding of the impact of their actions on others, and have difficulty recognizing social needs such as taking turns (Hoza, 2007). Concentration is also a challenge, even though this is important for them to be able to absorb lessons and information from the environment (Iswinarti & Cahyasari, 2017).

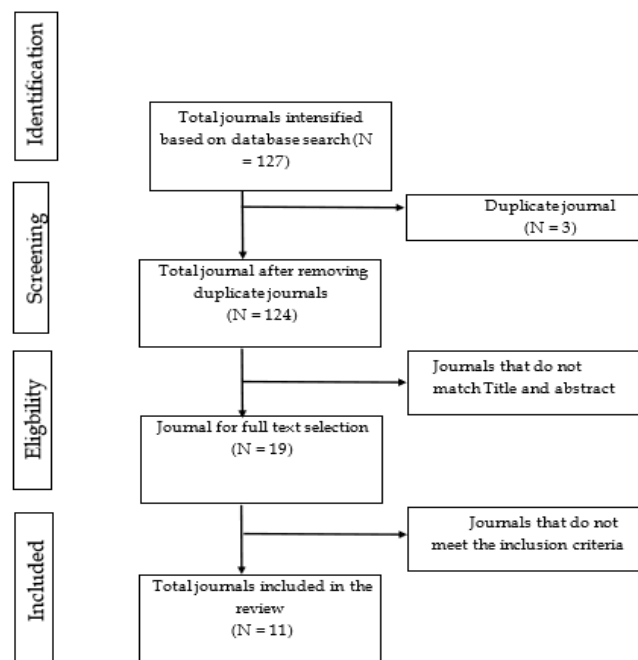
To address this issue, behavioral intervention approaches, such as social skills training, have been shown to be effective. These programs include behavioral modeling, role-play, and direct feedback (Kavale & Forness, 2023). Family involvement, especially parents, is essential through family therapy or parent training that supports the child's social environment (Pfiffner et al., 2022). By focusing on developing social skills, children with ADHD are more likely to be successful in social interactions, reduce stigma, and improve quality of life.

One way that can be used to determine the best intervention is through a *systematic review*, which is a research method to systematically identify, evaluate, and synthesize research results (Siswanto, 2010). This approach provides practical messages (*actionable messages*) that are useful in making evidence-based policies (Hidayati, 2014)

## METHODOLOGY

In the review process, the author begins by creating research questions. Using the SPIDER formulation (*Sample, Phenomenon of Interest, design, Evaluation, Research Type*) by referring to this systematic question, the author constructs research questions. The research question in this review is, what interventions can be used to improve the social skills of children with ADHD?. Furthermore, the author continues the process by designing search *keywords* in the database. After the author obtains the terms from the research questions, the author continues the search with the terms found, namely *Intervention*, *Social Skills* and *Attention Deficit Hyperactivity Disorder*. From several search terms, the author enters them into several *Scopus* and *Publish and Perish* databases. Furthermore, after several articles have been collected, the author performs a duplication check using *Rayyan*. The author filters the title and abstract, and continues with the entire manuscript. After selecting from 127 journals, there are 11 journals that meet the criteria, namely looking for interventions to improve the social skills of children with ADHD.

Figure 1. PRSIMA Chart for Journal Selection Flow



The journal selection flow can be seen through the prism graph in Figure 1. Researchers determine the limitations in the journal review by 1) Journal content discussing social skills by listing interventions to improve the social skills of children with ADHD, 2) Year of publication journals are limited from the last 15 years 3) English language journals, 3) Quantitative, qualitative and mix method research types. Some of the journal criteria that will not be selected are 1) Journals that discuss social skills but do not include interventions to improve the social skills of children with ADHD, 2) do not use English, 3) Articles in the form of books, meta-analyses, and research without methods that are not clearly described.

## **RESULTS AND DISCUSSION**

Social skills are abilities that allow individuals to interact, communicate, and form positive relationships with others (Gresham et al., 2010). Social skills are important abilities for children to interact effectively with their social environment. According to Gresham et al. (2010), social skills consist of aspects of cooperation, assertiveness, responsibility, empathy, self-control, and interpersonal skills. In children with Attention Deficit Hyperactivity Disorder (ADHD), social skills are often an impaired area, causing significant challenges in relationships with peers, teachers, and family. Children with ADHD often exhibit impulsive, hyperactive, and inattentive behavior, which affects their ability to adapt in social interactions (Rosita et al., 2020). Such as difficulty reading social cues such as facial expressions and tone of voice (Hoza, 2007). Failing to follow social rules, such as taking turns or waiting while speaking (Cardillo et al., 2023). Even acting impulsively, which often leads to conflict with peers (Pelham and Fabiano, 2023). Lack of these skills can result in social isolation, rejection from peer groups, and difficulty maintaining long-term relationships.

Social skills involve the ability to interact with others effectively, including speaking, listening, cooperating, controlling emotions, and understanding social cues (Ramadona et al., 2016). Poor social skills are a major obstacle faced by children with ADHD, which significantly affects their interpersonal relationships. Children with ADHD often have difficulties in several of the aspects described above, especially self-control and cooperation, due to their impulsive nature and difficulty in focusing attention (Aini, 2019).

Children with Attention Deficit Hyperactivity Disorder (ADHD) have behavioral characteristics that reflect difficulties in attention, impulsivity, and hyperactivity. Children with ADHD often have difficulty maintaining attention and focus, especially on tasks that require prolonged concentration. Impulsivity in children with ADHD reflects behavior that is thoughtless, often without considering the consequences. Hyperactivity in children with ADHD involves excessive physical behavior that is often inappropriate to the situation. Children with ADHD often have difficulty managing their emotions, which can affect

interpersonal relationships. If left untreated, the behavioral characteristics of ADHD can affect a child's academic achievement, social relationships, and emotional well-being. Interventions involving social skills training, behavioral therapy, and educational support are essential to helping children with ADHD reach their full potential (Retz et al., 2021).

Therefore, social skills interventions for children with ADHD often target these aspects to help them improve their social interactions (Storebø et al., 2022). With the right intervention, these children can learn to develop better social skills and improve their quality of life in the future.

This systematic review will highlight several interventions that can be delivered at varying ages and from different countries' perspectives.

Table 1. List of interventions that can improve Social Skills of children with ADHD

No	Writer	Subject	Intervention	Aspect or Type Social Skills	Country	Research Result
1	(Wong et al, 2024)	90 children (6-12 years) diagnosed with ADHD	Virtual Reality-Based Intervention*	Social Skills	Hong Kong	Effective
2	(Abdullah et al, 2024)	7 children (6-12 years) was diagnosed with ADHD	Employing Elements of Virtual Reality*	Social Skills	Saudi Arabia	Effective
3	(Amel et al, 2023)	30 children (7-11 years old) diagnosed with ADHD	Play Therapy and Storytelling*	Social Skills	Iran	Effective
4	(Peiying et al, 2023)	74 children (6-8 years) diagnosed with ADHD	The Program For The Education	Social Skills	China	Effective

5	(Daffner et al, 2020)	3 children (6-11 years old) diagnosed with ADHD have siblings aged 6-7 years	Effects of a Sibling-Mediated Intervention	Social Skills	Bethlehem	Effective
6	(Giannarakis et al, 2021)	Children aged 8-12 years are diagnosed with ADHD	A 3D Rhythm-based Serious Game*	Social Skills	Greece	Effective
7	(Abdeslem et al, 2019)	20 children (9-10 yrs) diagnosed with ADHD	Cognitive-Behavioral Therapy and Deep Relaxation	Functions and Social Competencies	Tunisia and Canada	Effective
7	(Wilkes-Gillan et al, 2016)	29 children (5-12 th) diagnosed with ADHD	A Randomized Controlled Trial of a Play-Based Intervention*	(Social Play Skill) Social Play Skill	Australia	Effective
9	(Wilkes-Gillan et al, 2016)	5 children diagnosed with ADHD	Video Modeling *	(Social Play Skill) Social Play Skill	Australia	Effective
10	(Kang et al, 2011)	13 children diagnosed with ADHD	Sports Therapy	Social Competence	Republic of Korea	Effective

11	(Corkum et al, 2010)	16 children (10 boys and 6 girls) were diagnosed with ADHD.	School-Based Social Skills Program	Social Skills	Canada	Effective
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The systematic review conducted attempts to answer the research question, namely to find out what interventions can be used to improve social skills in children with ADHD. Answering this question can be seen from the table that 6 out of 11 journals offer alternatives to improving social skills through game interventions, both digital and alternative. Several other journals provide interventions through behavioral therapy, sports, involving families and schools, etc. The interventions above have been proven by researchers that through these interventions they can improve the social skills of children with ADHD.

In addition, some of these interventions vary in improving 6 aspects of skills social namely cooperation, assertiveness, responsibility, empathy, self-control and interpersonal skills. From the consideration of research conducted from various countries so as to provide many choices of references and their accuracy. This is relevant to implement interventions to help improve the social skills of children with ADHD, such as social skills training, cognitive-behavioral therapy (CBT), or behavior modification, and game media, can be implemented in Indonesia with some adjustments to be relevant to cultural conditions, social, and available resources.

Children with Attention Deficit Hyperactivity Disorder (ADHD) often experience challenges in social skills, which include the ability to interact effectively with others. Their social behavior is affected by the core symptoms of ADHD, namely inattention, impulsivity, and hyperactivity. So with the interventions offered above such as social skills training, cognitive-behavioral therapy (CBT), or family and school-based behavior modification, and game media. With the right guidance and intervention, children with ADHD can learn to overcome challenges in social skills and build better relationships with peers.

Cognitive-behavioral therapy helps children with ADHD understand the relationship between their thoughts, feelings, and behaviors, and how these patterns can affect their social interactions. CBT teaches children to recognize and change negative thought patterns, as well as more effective coping strategies (Abdesslem et al., 2019). Support from parents and teachers is essential in improving the social skills of children with ADHD. Family-based interventions can help parents understand ADHD and provide consistent support at home. Teachers can also play a role in creating a supportive classroom environment for children with ADHD (Daffner et al., 2020). Modifying the school environment or

community, such as creating playgroups or structured group projects, can improve the social skills of children with ADHD (Corkum et al., 2010). Technology-based game training is increasingly recognized as an effective method for improving social skills in children, including children with ADHD. Virtual games, especially those designed to enhance social interaction, offer interactive and fun experiences and allow children to practice social skills in a safe and controlled environment (Giannaraki et al., 2021, Wong et al., 2024)

## **CONCLUSIONS AND RECOMMENDATIONS**

Social skills are an important component that every individual must have. However, children with attention deficit hyperactivity disorder (ADHD) often experience challenges in social skills, which include the ability to interact effectively with others. Their social behavior is influenced by the main symptoms of ADHD, namely inattention, impulsivity, and hyperactivity. With proper guidance and intervention, children with ADHD can learn to overcome challenges in social skills and build better relationships with peers. There are several aspects of social skills, namely cooperation, assertiveness, responsibility, empathy, self-control and interpersonal skills. There are several ways to improve the social skills of children with ADHD through social skills interventions, cognitive-behavioral therapy (CBT), or family and school-based behavior modification, as well as game media, etc. Of the 11 journals, there are 6 journals that state that through game media is a useful alternative to improve social skills in children with ADHD. The results of this systematic review obtained that from several interventions carried out in various countries, the results were many ways. Interventions can be used according to the problem and age. In this systematic review using children with a diagnosis of attention deficit hyperactivity disorder (ADHD) with an age range of 5-12 years, the appropriate intervention is through game media. By combining interesting game elements, positive reinforcement, and emotional management, alternative and virtual games can help children with ADHD to focus better, control impulses, interact with peers, and develop important social skills. However, it is important to choose game media that is designed with clear educational goals and supports the social development of children with ADHD.

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### *Conflict of Interest Statement*

The author declares no potential conflict of interest in this paper

## FURTHER STUDY

This study still has limitations so that further research is still needed on the topic “Interventions to Improve Social Skills of Children with ADHD: A Systematic Review”.

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