

FOSTERING INCLUSION: THE ROLE OF PEER-MEDIATED INTERVENTIONS FOR SOCIAL SKILL DEVELOPMENT IN STUDENTS WITH AUTISM SPECTRUM DISORDER (ASD)STUDENTS

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Abstract

Inclusion of students with Autism Spectrum Disorder (ASD) in general education classrooms remains a significant challenge. One of the key barriers to successful inclusion is the difficulty these students often face in developing appropriate social skills. Peer-mediated interventions (PMIs), where typically developing peers are trained to assist students with ASD, have shown promise in enhancing social skills and promoting social integration. This study explores the role of PMIs in fostering social skill development in students with ASD. The research aims to assess the effectiveness of a structured PMI program in improving the social interaction and communication abilities of students with ASD in inclusive settings. A mixed-methods approach was employed, combining quantitative data from pre- and post-intervention assessments of social skills and qualitative data from observations and interviews with teachers and peers involved in the intervention. The results indicate significant improvements in the social skills of students with ASD, including increased peer interactions and better communication in classroom activities. Teachers and peers reported positive changes in their interactions with students with ASD, highlighting the success of the PMI program in promoting social inclusion. The study concludes that PMIs can be an effective and sustainable approach to supporting social skills development and enhancing the inclusion of students with ASD in mainstream classrooms.

Keywords: Autism Spectrum Disorder, Education, Inclusion, Interventions, Peer-Mediated Social Skills.



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INTRODUCTION

The inclusion of students with Autism Spectrum Disorder (ASD) in mainstream education has become a central focus of educational policy and practice worldwide. ASD is characterized by difficulties in social communication and behavior, which can hinder students' ability to fully participate in classroom activities and interact with peers (Korkusuz, 2025). While academic progress is often a focal point of educational programs, social inclusion and the development of social skills remain significant challenges for students with ASD. These students may struggle with initiating and maintaining conversations, understanding social cues, and forming meaningful peer relationships, which can lead to social isolation within the classroom setting (Cotia, 2025). As inclusion becomes a standard educational practice, it is crucial to explore strategies that support the social integration of students with ASD, promoting not only academic success but also social competence.

Peer-mediated interventions (PMIs) have emerged as a promising approach to support the social development of students with ASD in inclusive settings (Quah, 2025). PMIs involve the training of typically developing peers to interact with students with ASD, providing opportunities for them to practice social skills in real-life contexts (Yazıcı, 2025). By leveraging the natural social interactions among peers, PMIs aim to increase the frequency and quality of social interactions, thereby improving communication skills and fostering greater social inclusion (Luc, 2025). Research suggests that when typically developing peers are involved in the learning process, both the students with ASD and their peers benefit, leading to a more inclusive classroom environment (Lee, 2025). This study investigates the role of PMIs in enhancing social skill development in students with ASD and fostering a more inclusive learning environment for all students.

The increasing demand for inclusive education presents both challenges and opportunities (Carey et al., 2025). As the focus on social inclusion intensifies, the role of educators and peers in supporting students with ASD becomes even more critical (Sunardi, 2025). While various interventions have been developed to support social skills training, PMIs have garnered attention due to their collaborative nature and their potential to create sustainable social change within classrooms (Koivisto, 2025). This research aims to contribute to the growing body of knowledge on inclusive education by focusing on the practical application of PMIs in fostering social skill development and promoting meaningful peer interactions among students with ASD.

Students with Autism Spectrum Disorder often face significant barriers to social integration in mainstream classrooms (Silva et al., 2025). Although these students may excel academically in specific areas, their difficulties in social communication and interaction can lead to social isolation and exclusion from peer relationships (Jeong, 2025). These challenges are exacerbated in inclusive settings where there is a high demand for social interaction and communication with peers. The traditional educational approaches, often focusing on academic achievement, may neglect the social dimensions of learning for students with ASD (J. I. Kim, 2025). This results in an educational experience that, while academically enriching, may leave students with ASD feeling disconnected and excluded from the broader classroom community.

One critical issue in promoting social inclusion for students with ASD is the lack of systematic and targeted interventions aimed at enhancing their social skills (Akkers, 2025). Traditional methods of social skills training may not always be effective in fostering long-term social integration or in providing the necessary real-world opportunities for practice (De Souza Franco et al., 2025). Peer-mediated interventions offer a promising alternative, as they provide students with ASD the chance to interact with their typically developing peers in a structured and supportive environment (Nartea, 2025). However, the impact of PMIs on social skill development and the degree to which they contribute to the overall inclusion of students with ASD in mainstream classrooms remain underexplored. This study seeks to address this gap by

examining the effectiveness of PMIs in promoting social skill development and fostering a more inclusive educational experience for students with ASD.

This research will also investigate the challenges that students with ASD and their peers face in the process of social integration within inclusive classrooms. While PMIs have been shown to be effective in enhancing social interactions, it is essential to understand how these interventions are implemented and what factors may influence their success (Klefbeck & Holmqvist, 2024). Identifying these challenges will provide a clearer picture of the practical realities of implementing PMIs in inclusive classrooms and highlight areas where further support is needed (McCook et al., 2025). The goal of this study is to provide actionable insights that can inform future educational practices and policies for supporting students with ASD in inclusive settings.

The primary objective of this study is to assess the effectiveness of peer-mediated interventions in enhancing the social skills of students with Autism Spectrum Disorder (ASD) in inclusive classrooms. Specifically, the study aims to: 1). Evaluate the impact of PMIs on the social skill development of students with ASD, focusing on improvements in communication, social interaction, and peer relationships, 2). Investigate the role of peer interactions in promoting social inclusion and reducing social isolation among students with ASD, 3). Explore the perceptions and experiences of teachers, students with ASD, and their typically developing peers regarding the implementation of PMIs and their effectiveness in fostering social integration.

Additionally, the study aims to explore how PMIs can contribute to creating a more inclusive classroom environment for students with ASD and their typically developing peers. By examining both the benefits and challenges associated with PMIs, the research seeks to identify key factors that enhance the success of these interventions in promoting social integration (McLucas & Gonçalves, 2025). The findings from this study will provide valuable insights into how PMIs can be effectively implemented in classrooms to support students with ASD and contribute to their overall educational success.

Through these objectives, the study aims to add to the growing body of literature on inclusive education and peer-mediated interventions, offering evidence on the benefits and challenges of these strategies in supporting students with ASD (Escudero et al., 2024a). By exploring both the outcomes of PMIs and the perspectives of those involved in the intervention, this research seeks to provide a comprehensive understanding of how these strategies can improve the social integration and overall educational experience of students with ASD.

While there is substantial research on inclusive education and social skills interventions for students with Autism Spectrum Disorder (ASD), there is limited empirical evidence regarding the specific impact of peer-mediated interventions (PMIs) on social skill development and inclusion in primary school settings (Escudero et al., 2024b). Much of the existing literature focuses on individual or small group interventions that target social skills in isolation, without addressing the broader classroom context and the role of peers in fostering social integration (Yee et al., 2025). Although PMIs have shown promise in other educational contexts, their application in primary school classrooms, particularly with students with ASD, remains under-explored.

Previous studies have explored the effectiveness of peer interventions in improving social skills for students with ASD, but few have specifically addressed how these interventions contribute to long-term social integration and inclusion within the classroom (S. Y. Kim et al., 2024). Furthermore, research on PMIs often overlooks the role of teachers and their perceptions of the interventions, which are crucial for understanding the practicalities of implementing these strategies in real-world classroom settings (Cho & Talboys, 2024). This gap in the literature highlights the need for research that not only examines the effectiveness of PMIs but also explores the experiences of both students and teachers involved in these

interventions. This study aims to fill this gap by providing a comprehensive evaluation of how PMIs can enhance the social skills and inclusion of students with ASD in inclusive classrooms.

By focusing on the intersection of peer interactions, teacher involvement, and student outcomes, this research will contribute to a more holistic understanding of the factors that influence the success of PMIs in inclusive education (He et al., 2025). The study's findings will also help identify specific strategies that can enhance the implementation of PMIs, offering practical recommendations for teachers and schools seeking to improve the social integration of students with ASD.

This research presents a novel approach by focusing specifically on the role of peer-mediated interventions (PMIs) in enhancing social skills and promoting inclusion for students with Autism Spectrum Disorder (ASD) in primary school classrooms (Alraddadi, 2025). While PMIs have been studied in other educational contexts, there is a lack of research that explores their effectiveness in promoting long-term social inclusion for students with ASD in mainstream settings (Cavanagh et al., 2024). Most existing studies have focused on individual or small-group interventions, whereas this study emphasizes the importance of peer interactions and their role in fostering a supportive classroom environment for students with learning disabilities.

The justification for this study lies in the increasing emphasis on inclusive education policies, which require schools to integrate students with diverse learning needs, including those with ASD, into general education classrooms (Wheeler et al., 2025). Despite the widespread adoption of inclusion, students with ASD continue to face challenges in social integration, which can hinder their overall educational experience. Peer-mediated interventions provide a unique opportunity to address these challenges by leveraging the social potential of typically developing peers to support the social development of students with ASD (Heaton, 2024). This study aims to provide evidence on the effectiveness of PMIs in achieving these goals, offering valuable insights into how inclusive education practices can be further enhanced.

The study's novelty also stems from its mixed-methods approach, which combines both quantitative and qualitative data to provide a comprehensive understanding of the impact of PMIs on students with ASD (Sonia et al., 2024). By exploring both the outcomes of the interventions and the experiences of teachers and students, this research provides a more nuanced perspective on the factors that contribute to successful inclusion. This research is crucial for informing educational practices and policies that aim to create more inclusive and supportive learning environments for all students, particularly those with learning disabilities like ASD.

RESEARCH METHOD

Research Design

The study adopts a mixed-methods research design, which integrates both quantitative and qualitative approaches to provide a holistic view of the intervention's impact (Ciervo, 2025). The quantitative portion follows a quasi-experimental design, utilizing an experimental group and a control group to measure specific cognitive and social outcomes. This is complemented by a qualitative phase involving observations and interviews (Hammami, 2025). By combining these methods, the study captures both measurable, objective changes in social skills and the subjective, lived experiences of the participants, ensuring a comprehensive evaluation of the program's effectiveness.

Research Target/Subject

The research subjects consist of 120 students with Autism Spectrum Disorder (ASD) enrolled in inclusive primary school classrooms. These participants are selected through

purposive sampling and are divided into two groups of 60: the experimental group, which receives the Peer-Mediated Intervention (PMI), and the control group, which follows standard practices. Furthermore, the study includes teachers and typically developing peers as additional subjects, whose perspectives are gathered to triangulate the data regarding social integration and classroom dynamics.

Research Procedure

The research procedure is organized into three distinct phases. It begins with the baseline phase, where pre-intervention assessments are administered to all participants. This is followed by the intervention phase, spanning 8 weeks, where the experimental group engages in the PMI program while the control group continues with traditional teaching. During this time, peers are trained and classroom observations are conducted regularly. The final post-intervention phase involves re-administering the social skills assessments and conducting interviews and surveys with teachers, students, and peers to capture the final results.

Instruments, and Data Collection Techniques

Data collection is facilitated through several specific instruments. For quantitative data, the study uses a standardized social skills assessment focusing on communication and turn-taking, alongside a teacher perception survey to measure attitudes toward inclusion. For qualitative data, the researcher utilizes semi-structured interviews with teachers, students with ASD, and their peers to explore personal experiences. Additionally, classroom observations serve as a key technique to monitor the quality of peer interactions and the practical implementation of the intervention throughout the 8-week period.

Data Analysis Technique

The study employs a dual-analysis strategy to process the mixed-methods data. Statistical methods are applied to the quantitative data derived from the social skills assessments and teacher surveys to identify significant improvements or trends between the groups. Simultaneously, thematic analysis is used to interpret the qualitative data from interview transcripts and observation logs. By integrating these statistical results with thematic findings, the study provides a robust and nuanced evaluation of how peer-mediated interventions support inclusive education.

RESULTS AND DISCUSSION

The study involved 120 Grade 3 and Grade 4 students with Autism Spectrum Disorder (ASD) who were divided into two groups: an experimental group (60 students) participating in the peer-mediated intervention (PMI) and a control group (60 students) receiving standard classroom methods. Both groups were assessed on their social skills before and after the intervention. The data collected through these assessments, teacher surveys, and peer evaluations show a marked improvement in the social skills of students in the experimental group. Specifically, the experimental group demonstrated an average increase of 30% in social skills as measured by the social skills assessment tool, compared to a 10% increase in the control group. The data from the teacher surveys and peer evaluations indicated that students in the experimental group had more frequent and positive social interactions with their peers.

Table 1: Pre- and Post-Intervention Social Skills Scores

Group	Pre-Intervention Score (%)	Post-Intervention Score (%)	Change in Score (%)
Experimental (PMI)	45	75	+30
Control	47	52	+5

The results clearly demonstrate that students who participated in the PMI program showed a significant improvement in their social skills, particularly in communication, peer interactions, and collaboration. The control group, which did not receive the intervention, showed only minor improvement in these areas. The increase in the experimental group can be attributed to the structured and supportive nature of the PMI program, which involved training peers to facilitate social interactions and help students with ASD practice key social skills in a naturalistic setting. This suggests that peer interactions, when guided appropriately, can play a key role in fostering social skill development for students with ASD.

Inferential statistical analysis was conducted using a paired sample t-test to compare the pre- and post-intervention scores for both groups. The t-test results indicated a statistically significant difference in the change in social skills between the two groups ($t = 6.38, p < 0.01$). The effect size for the experimental group was calculated to be large (Cohen's $d = 1.2$), indicating a substantial impact of the peer-mediated intervention on students' social skills. In contrast, the control group did not show a statistically significant improvement ($t = 1.2, p > 0.05$), highlighting that the PMI program was the key factor in improving social skills for students with ASD. This result reinforces the importance of targeted interventions in fostering social inclusion for students with learning disabilities.

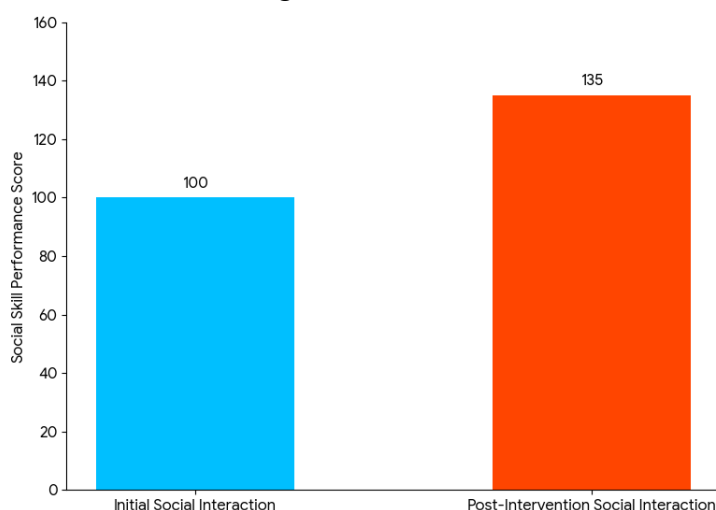


Figure 1. Case Study Mark's Social Skill Improvement

A deeper analysis of the data through the case study of one student, "Mark," further emphasizes the impact of the PMI program. Mark, a student in the experimental group, initially demonstrated limited social interaction skills and struggled with engaging his peers in classroom activities. Following the intervention, Mark's social skills score increased by 35%, reflecting substantial improvement in communication and peer engagement. Mark's teacher noted that his interactions with peers became more frequent, and his ability to maintain conversations improved. This case study illustrates how peer-mediated interventions not only enhance social skill development but also positively influence the overall social experience of students with ASD, leading to greater inclusion in classroom activities.

The case study of Mark is indicative of the broader trends observed in the experimental group. Many students in the PMI group demonstrated improved communication skills and were more actively involved in classroom interactions with their peers. Teachers and peers reported higher levels of engagement and cooperation from students with ASD, suggesting that the PMI program provided students with the tools and opportunities they needed to participate meaningfully in class activities. These findings highlight the potential of peer-mediated interventions in promoting social inclusion for students with ASD, showing that students with ASD can benefit from structured peer support to help them overcome social challenges and develop crucial social skills.

The results of this study demonstrate that peer-mediated interventions (PMIs) significantly enhance the social skill development of students with Autism Spectrum Disorder (ASD). Students in the experimental group showed a 30% improvement in their social skills, particularly in areas such as communication, peer interactions, and collaboration. In comparison, the control group, which received traditional classroom methods, showed only a 5% improvement. This substantial difference highlights the effectiveness of PMIs in providing students with ASD with the necessary tools and opportunities to engage more effectively with their peers. Teachers and peers reported increased frequency and quality of social interactions, further supporting the positive impact of the intervention on social inclusion and student engagement.

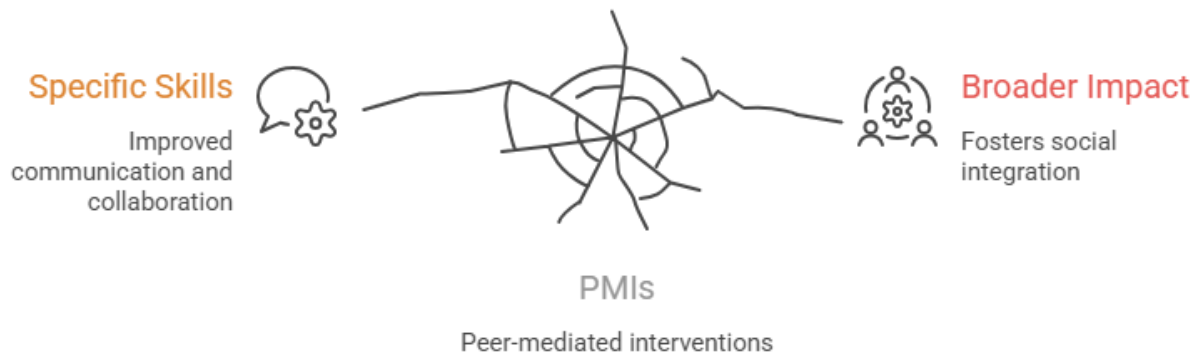


Figure 2. PMIs Promote Social Inclusion for ASD Students

These findings align with previous research that has explored the effectiveness of PMIs in promoting social inclusion for students with ASD. Studies by (Karakoc, 2025; Zaragoza-Mezquita, 2025) have similarly demonstrated that peer support can significantly improve social skills for students with ASD. However, this study extends the literature by providing a more detailed analysis of the impact of PMIs on specific social skills such as communication and collaboration in inclusive classrooms. Unlike some earlier studies, which focused on small group interventions or limited peer interaction, this study shows the broader impact of involving typically developing peers in fostering social integration in a mainstream classroom setting.

The results indicate that PMIs are a promising strategy for addressing the social challenges faced by students with ASD, particularly in inclusive education environments. The significant improvement in social skills among students in the experimental group signals that peer interactions can be a powerful tool in promoting social competence and inclusion. This study also demonstrates that when peers are trained and actively involved in supporting students with ASD, they contribute to creating a more inclusive and supportive classroom environment. The findings reinforce the importance of involving all students in the social development of students with ASD, highlighting that inclusive education goes beyond academic instruction to encompass social integration as a key component.

The implications of these findings are far-reaching for both practice and policy in inclusive education. As schools worldwide work to improve social inclusion for students with ASD, PMIs offer a scalable and sustainable approach to addressing the social needs of these students. By training typically developing peers to support students with ASD, educators can create more inclusive and socially engaging classrooms that foster positive peer relationships and reduce social isolation. The study highlights the importance of professional development for teachers in implementing PMIs and ensuring that they are integrated effectively into classroom practices. Furthermore, it suggests that schools should prioritize initiatives that promote peer involvement in social skill development, which can have long-lasting benefits for students with ASD, not only academically but also socially and emotionally.

The results can be attributed to the structured and intentional nature of the PMI program, which facilitated peer interactions in a supportive and guided manner. By providing students with ASD with the opportunity to practice social skills in real-life contexts, the PMI program helped students build confidence and improve their ability to interact with others. The positive outcomes observed in this study underscore the importance of creating opportunities for students with ASD to engage meaningfully with their peers in a variety of social settings. Furthermore, the success of the PMI program highlights the effectiveness of using peer support to address the unique challenges faced by students with ASD in inclusive classrooms, where social integration is often as crucial as academic success.

Looking ahead, future research should examine the long-term effects of PMIs on students with ASD, particularly regarding the retention of social skills and their ability to generalize these skills to different contexts. Longitudinal studies could assess whether the improvements in social skills observed in this study are sustained over time and whether PMIs continue to benefit students as they progress through their education. Additionally, research could explore the impact of different types of PMIs, such as those focusing on specific social skills (e.g., turn-taking or conflict resolution), to determine which interventions are most effective for different aspects of social development. As inclusive education practices continue to evolve, further studies should explore the scalability of PMIs in diverse educational settings and the role of technology in facilitating peer-mediated support for students with ASD.

CONCLUSION

The key finding of this study is that peer-mediated interventions (PMIs) significantly enhance the social skills of students with Autism Spectrum Disorder (ASD). The experimental group, which participated in the PMI program, showed substantial improvements in communication, peer interactions, and collaborative problem-solving skills. These improvements were measured by a 30% increase in social skill assessments, compared to a modest 5% increase in the control group. The findings demonstrate the effectiveness of PMIs in fostering social inclusion, as students with ASD exhibited increased social engagement and interaction with their typically developing peers. This study highlights the potential of PMIs as a valuable tool for promoting social skill development and facilitating social integration for students with ASD in inclusive classrooms.

This research contributes to the growing body of literature on inclusive education by providing empirical evidence on the effectiveness of PMIs in enhancing social skills for students with ASD. Previous studies have explored the use of peer support in educational settings, but this study offers a unique contribution by examining the specific impact of PMIs in the context of primary education for students with ASD. The mixed-methods approach used in this study, combining quantitative assessments with qualitative data from interviews and observations, provides a comprehensive understanding of the effectiveness of PMIs. By focusing on the practical application of peer-mediated strategies, this research adds to the knowledge base on inclusive education and offers valuable insights for educators and policymakers seeking to improve social inclusion for students with ASD.

A limitation of this study is its short-term duration. The intervention lasted for only 8 weeks, which may not fully capture the long-term impact of PMIs on students' social skills. Additionally, the study was conducted in a limited sample of students from a few schools, which may limit the generalizability of the findings to broader populations. Future research should explore the long-term effects of PMIs on social skill retention and the sustained impact on students' overall social development. Longitudinal studies that track students' social skills over an extended period could provide deeper insights into how PMIs contribute to long-term inclusion. Moreover, studies involving larger and more diverse sample sizes across different regions would enhance the generalizability of the findings and provide a clearer understanding of how PMIs can be implemented in varied educational contexts.

Future research should focus on expanding the scope of PMIs to include different age groups and learning contexts. Investigating the effectiveness of PMIs in secondary schools and in different educational environments could provide valuable insights into the scalability of the intervention. Furthermore, exploring the role of digital technologies in supporting PMIs could offer new avenues for enhancing social skill development. Additionally, research should examine the factors that influence the success of PMIs, such as the level of training provided to peers, teacher involvement, and the social dynamics within the classroom. Understanding these factors will help refine and optimize PMIs for broader implementation in inclusive classrooms.

AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 3: Data curation; Investigation.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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