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## The effect of pre-school education on first-grade students' social skill improvement

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### Abstract

Social skills are fundamental to children's successful adaptation within society, and the educational system plays a key role in their development. Despite widespread recognition of this importance, limited research has empirically examined the specific impact of early childhood education on social skill formation. This study investigates the influence of pre-school education on the development of social skills among first-grade students. Employing an applied causal-comparative design, the study involved 239 participants selected through random cluster sampling. Data were gathered using standardized instruments measuring social skills and social intelligence, supplemented by demographic items. The findings reveal significant differences in social development indicators between children with and without pre-school education. Specifically, children who attended pre-school exhibited higher levels of social skill improvement and social awareness, and demonstrated fewer behavioral problems. The results also suggest a positive relationship between early education and social skill acquisition, and a negative relationship with behavioral difficulties. These outcomes underscore the critical role of pre-school education in fostering children's social competence and highlight the value of incorporating such programs as a foundational component of formal education systems.

**Keywords:** Behavioral problems; early education; social awareness; social skills; socialization

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## 1. INTRODUCTION

Education constitutes a foundational element of national development and holds particular significance during early childhood. Consequently, elementary and pre-elementary education represents a highly sensitive domain. Experiences during these stages exert a profound influence on subsequent developmental trajectories. As one of the principal functions of any educational system, the development and education of children has garnered substantial scholarly and institutional attention.

Theoretical and practical contributions from prominent educators such as Rousseau, Pestalozzi, Montessori, Piaget, Dewey, and Froebel underscore the critical impact of early childhood experiences on developmental outcomes and personality formation. Preparing children for participation in social life is recognized as a core responsibility of key social institutions, including the family, the educational system, and cultural organizations (Ha et al., 2025). Within this context, social skills are widely acknowledged as essential to social adaptation, given that effective participation in social interactions depends on the mastery of appropriate interpersonal competencies (Brill et al., 2025). Social skills serve as a fundamental determinant of successful functioning within a social system characterized by relational structures, value frameworks, and behavioral norms (Müller, 2024). These skills facilitate the formation and maintenance of social relationships and support individual adaptation to broader societal contexts (Adebisi et al., 2014).

Social skills are acquired through socialization processes in which childhood and educational systems play prominent roles (Conceição et al., 2025). Empirical studies have highlighted the influence of enriched and developmentally appropriate educational programs on children's later success in elementary education. Although prior research has predominantly emphasized cognitive outcomes, David and Ozmun (2011) identified motor activities as instrumental in enhancing social development. Participation in such activities fosters improved social interaction, emotional regulation, appropriate emotional expression, and moral understanding. In the emotional and social domain, preschool education has been shown to positively affect social and emotional adjustment in early elementary school (Perera, 2005).

Findings from Rossetti-Ferreira (2010) and Hank and Huber (2024) support these conclusions, revealing that attendance at preschool centers is associated with reduced adjustment difficulties, enhanced academic performance through peer interaction, and superior language skills. Nonoyama-Tarumi and Bredenberg (2009) assessed the effectiveness of school readiness interventions and reported that participating children demonstrated greater proficiency in preparatory skills for formal education. Perera (2005), in a study involving four to five-year-old children from low-income urban families in Sri Lanka, found that those attending preschool centers displayed significantly better social skill development compared to their non-attending peers.

Conger et al. (2019) observed that participation in preschool programs was correlated with higher promotion rates to first grade and increased school stability between kindergarten and first grade. Blair et al. (2018) evaluated the impact of the Tools of the Mind kindergarten program and documented reductions in teacher-reported behavioral problems and aggression, along with improved self-regulation, socioemotional competence, and teacher-child relationship quality. Longitudinal investigations by Jones et al. (2015) and Moffitt et al. (2011) further emphasized that indicators of childhood socioemotional well-being are strong predictors of adult life outcomes. Camilli et al. (2010), in a meta-analysis of 123 comparative studies, reported that preschool programs yield significant benefits across multiple developmental domains. While cognitive gains were most prominent, the analysis also revealed positive effects on social skills and academic progression. Similarly, Cooper et al. (2010) found that full-day kindergarten attendance, as opposed to half-day programs, was positively associated with academic achievement.

Notably, contrasting perspectives regarding preschool education persist within the scholarly discourse. Canning and Lyon (1991) argued against uncritical enrollment in preschool programs, citing concerns about

environments that may not support optimal developmental progress. Conversely, Lefrancois (1996) maintained that early preschool experiences contribute positively to skill acquisition and long-term developmental outcomes.

### 1.1. Purpose of study

This study investigated the role of preschool education in social skills through a comparison of the social skills of children who had and who had not attended preschool centers. This study is very important both theoretically and practically. It tested whether designed and organized education during childhood, on the one hand, and unplanned preschool experiences at preschool centers, on the other, could develop social skills.

## 2. METHODS AND MATERIALS

### 2.1. Data collection tool

The instrument used for data collection was the Iranian Scale of Children's Social Skills, developed by Shamim (2001) and adapted from the Social Skills and Behavioral Problems Scale created by Gresham and Elliott (1990). This scale assesses children's social skills through four subscales: responsibility, cooperation, assertiveness, and self-control, measured by a total of 40 items. In addition, behavioral problems are evaluated using two subscales, internalizing and externalizing problems, measured by 12 items.

### 2.2. Participants

The statistical population included all elementary school students in urban areas of Hamadan Province. Due to the large population size, a multi-stage cluster sampling method was employed to select participants. The final sample size was 239, determined using Cochran's sample size formula.

### 2.3. Data analysis technique

This study is applied in terms of purpose and follows a causal-comparative research design for data collection. The causal-comparative method is particularly valuable when experimental manipulation is challenging or impossible, as it enables the exploration of cause-and-effect relationships (Gall et al., 1996).

## 3. RESULTS

### 3.1. Hypothesis 1: Social skills in first-grade elementary school children in the group that received preschool education are significantly different from those of the group that did not receive preschool education.

Results (Table 1) indicate that, in general, there are significant differences between the groups of first-grade elementary school students who had and had not received preschool education in their mean scores for social skills ( $t=2.017$ ;  $p<0.05$ ). A comparison of the mean scores demonstrated that the mean score for social skills in the group that had received preschool education was higher than that which had not. This difference, however, was not observed in all components of social skills. There was a difference between the two groups only in Assertiveness and Responsibility skills, but there were no significant differences between them in Self-control or Cooperation.

**Table 1**

*A comparison of social skills between those who receive and do not receive preschool education*

		Mean	Std. Deviation	Std. Error Mean	t	df	Sig
<b>Social skills</b>	Experienced	56.30	11.44	1.40	2.017	236	0.046
	Not experienced	50.83	13.85	2.53			
Assertion	Experienced	12.19	2.65	0.32	2.69	236	0.008
	Not experienced	11.10	3.11	0.56			
Self-control	Experienced	11.96	3.05	0.37	1.50	236	0.134
	Not experienced	10.64	3.73	0.67			
Cooperation	Experienced	13.07	4.19	0.51	0.161	236	0.872
	Not experienced	12.54	4.30	0.77			

responsibility	Experienced	10.55	2.78	0.30	2.07	236	0.040
	Not experienced	9.32	2.48	0.50			

### 3.2. Hypothesis 2: Students attending preschool have fewer behavioral problems than others

The results (Table 2) revealed that there were significant differences in behavioral problems between the groups of first-grade elementary school students who had and had not received preschool education. In other words, behavioral problems were less frequently observed in students who had received preschool education. This difference was significant concerning both internalizing problems ( $t=2.53$ ; Sig = 0.014) and externalizing problems ( $t=2.27$ ; Sig = 0.028).

**Table 2**

*A comparison of the frequency of observed behavioral problems between students attending and not attending preschool*

		Mean	Std. Deviation	Std. Error Mean	t	df	Sig
Externalizing	Experienced	2.15	2.34	0.16	2.27	236	0.028
	Not experienced	3.68	3.13	0.50			
Internalizing	Experienced	3.22	2.85	0.20	2.53	236	0.014
	Not experienced	4.44	2.63	0.43			
total	Experienced	5.37	4.55	0.32	2.81	236	0.007
	Not experienced	7.88	5.01	0.83			

### 3.3. Other results

In addition to comparing the social skills of students who received preschool education with those who did not, the present study examined students' social skills about various social variables. A detailed analysis of these findings contributes to a clearer understanding of the effects of preschool education on social development. Numerous personal, family, and social environmental variables exert influence on the development of social skills.

Analysis of variance (ANOVA) and Scheffé's post hoc test results regarding differences in social skills based on parental education levels indicated that higher parental education levels were associated with enhanced social skills and reduced behavioral problems among children. The influence of maternal education was more pronounced than that of paternal education in shaping children's social skill development.

ANOVA results comparing mean social skills scores based on family economic status revealed a relationship between socioeconomic background and social skill development. Students from low-income families demonstrated higher levels of self-control and responsibility and exhibited fewer internalizing behavioral problems compared to peers from higher-income families.

Significant differences were also observed in students' social skills based on the type of elementary school attended. Students enrolled in private elementary schools attained higher mean scores in assertiveness, self-control, and responsibility than those attending public schools. Moreover, the private school group demonstrated significantly lower mean scores in internalized behavioral problems.

In addition to social variables, demographic factors were also examined about social skills. Results showed a significant difference in social skills between male and female students. Female students in elementary schools attained higher scores in social skills and exhibited fewer behavioral problems. No significant differences in social skills or behavioral issues were found across different blood groups.

#### 4. DISCUSSION

Results indicated significant differences in the mean scores for social skills—including responsibility, cooperation, assertiveness, and self-control, between first-grade elementary school students who had received preschool education and those who had not. These findings are consistent with those reported by Perera (2005), Kontopoulou (2003), Blair et al. (2018), Camilli et al. (2010), and Cooper et al. (2010). Similarly, the study by Nonoyama-Tarumi and Bredenberg (2009) demonstrated that children who participated in school readiness programs exhibited superior social skills compared to peers who had not. Perera (2005) also observed significantly better performance among children attending preschool centers.

However, multiple overt and covert variables influence the development of social skills in children, and various moderating factors must be considered. Parental education level represents one such factor. Findings from the present study revealed that preschool attendance did not significantly enhance the social skills of first-grade students whose parents were illiterate or had low educational attainment. Notably, this subgroup included a smaller proportion of children with preschool education experience. Additionally, a significant relationship was found between students' social skills and family socioeconomic status. However, this relationship appears to be mediated by parental education, household income, type of elementary school, and the broader social environment in which students are situated. Findings also indicated that non-profit elementary schools provide more favorable conditions for the acquisition of social skills compared to public schools, aligning with previous studies.

Parental occupation was found to correlate with the social skills of elementary school students who did not receive preschool education. A statistically significant relationship was also observed between social skills and parental education level. Educational context and quality of life within preschool settings are recognized as critical contributors to social development. Pedagogical language use and instructional strategies further influence these developmental outcomes. For example, Chang et al. (2007) found that bilingual (Spanish English) children demonstrated enhanced social development in classrooms where both languages were used for instruction and interaction.

Concerning demographic variables, female students in elementary schools obtained higher mean scores in social skills and exhibited fewer behavioral problems than male students. These results are consistent with findings reported by Stormshak et al. (1999) and Winsler and Wallace (2002), although Li et al. (2016) did not observe statistically significant gender based differences in social development.

A major limitation of the present study relates to its methodology. Experimental research was not feasible due to ethical and practical constraints, and numerous confounding variables influence the development of social skills. Even studies that attempt to use matched peer groups have encountered serious criticisms. Substantial differences in the socioeconomic backgrounds of children attending and not attending preschool programs, as well as variation in the quality of preschool institutions, limit the feasibility of establishing comparable groups. Furthermore, the interactional effects of developmental history and maturation complicate the isolation of preschool education as a sole contributing factor. Despite these limitations, theoretical justification for the study's findings can be supported by the argument that enriched preschool environments, when aligned with consistent educational experiences and supportive contextual factors, can facilitate the development of social skills. Nevertheless, certain preschool centers, particularly those in the private sector, may exploit findings of this nature for promotional purposes without adequately acknowledging the limitations of the underlying research.

#### 5. CONCLUSIONS

Social skills represent a fundamental dimension of child development, exerting a significant influence on academic achievement, peer relationships, emotional well-being, and long-term social integration. The findings of the present study affirm the central role of preschool education in fostering social competencies such as

responsibility, cooperation, assertiveness, and self-control. These competencies are critical not only for educational success but also for adaptation to broader social environments.

Preschool education, when delivered within a supportive and enriched learning context, has the potential to lay the foundation for effective social functioning. The structured interactions, guided socialization, and targeted developmental activities characteristic of quality preschool programs contribute to improved behavioral regulation and interpersonal engagement. As demonstrated in this study and consistent with previous research, students with preschool experience exhibited significantly higher levels of social skills and fewer behavioral problems than their peers who had not attended preschool.

However, the effects of preschool education cannot be viewed in isolation. The data revealed that the benefits of early educational experiences are moderated by a range of demographic and social variables, including parental education level, socioeconomic status, school type, and gender. In particular, higher levels of maternal education were associated with stronger social skills in children, and non-profit elementary schools appeared to provide more favorable environments for social development than public schools. Furthermore, female students consistently outperformed male students in social skill measures and behavioral adjustment, highlighting the need for gender sensitive approaches in early childhood education.

Despite the positive outcomes associated with preschool attendance, methodological limitations restrict the ability to draw causal inferences. Differences in home environments, parental involvement, the quality and philosophy of preschool institutions, and other unmeasured factors introduce complexity into the interpretation of results. The inability to implement experimental controls or establish fully comparable peer groups further complicates efforts to isolate the impact of preschool education on social skills. Future studies employing longitudinal designs, mixed methods approaches, and larger, more diverse samples may help clarify these relationships.

The findings suggest that preschool education can serve as a powerful intervention in promoting equitable developmental outcomes, particularly when integrated within a broader system of social and educational supports. Policymakers, educators, and curriculum developers are therefore encouraged to consider not only access to preschool education but also the quality of instructional practices, teacher preparation, and the alignment of preschool objectives with broader educational goals.

Finally, care must be taken in the public dissemination of such research. The potential for misinterpretation or misuse of findings, especially in promotional contexts by private educational institutions, necessitates a transparent discussion of the limitations and contextual factors influencing the results. A nuanced understanding of the interplay between early education and child development will enable the design of more inclusive, effective, and evidence-based interventions aimed at enhancing the social competencies of all learners.

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