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The Effectiveness of Social-Emotional Competence Training on Social Skills and Empathy of Preschool Children

Narjes Khaton Farjam[1], Kobra Emamirizi*[2]

1.MA Student, Department of Educational Sciences, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran.
2.Assistant Professor, Educational Sciences Department, Izeh Branch, Islamic Azad University, Izeh, Iran (Corresponding author).

*** Corresponding author email address**: Emami3053@gmail.com

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A B S T R A C T

Purpose: This study aimed to examine the effectiveness of social-emotional competence training on social skills and empathy among preschool children in Shahreza.
Methods and Materials: The research employed a quasi-experimental design with an experimental group and a control group, using a pre-test and post-test approach. The sample consisted of 30 preschool children selected through non-random convenience sampling and divided equally into the experimental (n = 15) and control (n = 15) groups. The experimental group received social-emotional competence training across eight sessions, each lasting 45 minutes. Data were collected using the Empathy Questionnaire (Yong et al., 2009) and the Social Skills Rating System—Teacher Form (Gresham & Elliott, 1990). Analysis was conducted using analysis of covariance (ANCOVA).
Findings: The results of the analysis of covariance (ANCOVA) demonstrated that social-emotional competence training had a significant effect on social skills and empathy in the experimental group compared to the control group. Specifically, for total social skills, there was a significant difference between the experimental and control groups in the post-test, $F(1, 27) = 47.09$, $p < .001$, $\eta^2 = .636$, indicating a large effect size. Significant improvements were also observed in the individual components: self-control, $F(1, 27) = 77.02$, $p < .001$, $\eta^2 = .740$; cooperation and empathy, $F(1, 27) = 58.08$, $p < .001$, $\eta^2 = .683$; assertiveness, $F(1, 27) = 69.22$, $p < .001$, $\eta^2 = .719$; and responsibility, $F(1, 27) = 4.03$, $p = .045$, $\eta^2 = .430$. Additionally, for empathy, the experimental group showed a significant increase in post-test scores, $F(1, 27) = 22.43$, $p < .001$, $\eta^2 = .454$, demonstrating a medium to large effect. These findings confirm the efficacy of the training program in enhancing social and emotional competencies.
Conclusion: Social-emotional competence training is effective in improving social skills and empathy among preschool children. The results support the integration of structured social-emotional training programs in early childhood education to promote social and emotional development. Early interventions may yield lasting benefits, equipping children with essential skills for academic and social success.

Keywords: *Social-Emotional Competence Training, Social Skills, Empathy, Preschool Children*

1. Introduction

The primary role of the education system in any society is to provide suitable learning opportunities and environments to nurture and develop students' latent talents. This becomes particularly important during elementary school years, given that students are at an age when their personalities are forming, necessitating proper educational and developmental planning to address the fundamental needs for holistic growth—physically, emotionally, and more (Enayati Shabkolai et al., 2023; Omale, 2024; Wang et al., 2024).

Social skills are behaviors through which individuals express their ideas, emotions, opinions, and desires, maintain or improve their relationships with others, and manage social situations effectively (Mendo-Lázaro et al., 2018). Most children learn social skills through interactions with peers, friends, and family members. If these skills align with socially acceptable norms, they help children receive positive feedback from their social environment and prevent negative feedback, thereby facilitating interpersonal relationships (Tompkins & Villaruel, 2022). Thus, social interaction involves practical, spontaneous communication, emotional expression, and secure, trusting relationships with both children and adults. Children with adequate social skills are more successful in learning environments and peer interactions compared to those lacking these skills (Bernardini et al., 2014).

Empathy is a crucial component of social interactions as it enhances prosocial behaviors and reduces aggressive behaviors toward others (Butovskaya et al., 2021). Researchers have shown links between empathy and various outcomes, including well-being, mental health, positive social interactions, increased interpersonal conflicts, and even behavioral issues during adolescence (Segura et al., 2020). Empathy is defined as the ability to recognize, feel, and appropriately respond to others' emotions (MacDonald & Price, 2019). It involves understanding, sharing, and creating an accepting space for others, helping them feel they are not alone and are understood (Cunico et al., 2012). Empathetic individuals share three key traits: (1) they feel concern for others, (2) they can put themselves in others' shoes, and (3) they exhibit empathetic emotions through timely and acceptable behaviors (van Vliet et al., 2017).

Empathy comprises cognitive and emotional components: cognitive empathy refers to the ability to understand others' emotions, thoughts, perceptions, and intentions, while emotional empathy involves sharing others' feelings, empathizing with their situation, and caring about their well-being (Öztop et al., 2024; Zayia et al., 2021). Social-emotional competence appears to be related to social skills and empathy and may influence them. Social and emotional competencies help children recognize and manage emotions, solve problems effectively, and form positive relationships, and these competencies should be integrated into the curriculum (Llorente et al., 2020). Social-emotional competence includes emotional knowledge and skills such as expressing, understanding, and managing emotions, enabling appropriate social and emotional responses in various interactions and situations. These skills are influenced by emotional development during childhood (Gómez-Ortiza et al., 2017).

However, emotional development largely depends on children's access to social environments, which provide opportunities for social and emotional learning (Rieffe et al., 2015). Emotional functioning also plays a vital role in children's and adolescents' social development (Rieffe et al., 2018). Children require social opportunities to develop emotional learning (Rieffe et al., 2015); for example, nonverbal emotional recognition, assessed by comparing and selecting various facial emotional expressions, is learned within a social context (Wiefferink et al., 2013). Social-emotional competence consists of four main dimensions: self-awareness, the ability to recognize emotions, self-management, motivation, and skills for regulating and managing emotions to achieve goals (Zych et al., 2018). Improving these competencies is a promising approach to enhancing academic success (Zins & Elias, 2006). Several studies have shown that high levels of social and emotional competencies act as protective factors against problematic behaviors (Nasaescu et al., 2018). Social and emotional competencies are typically associated with empathy, a key factor in understanding and relating to others (Allemand et al., 2015). Many researchers have demonstrated empirical relationships between various forms of social behavior and empathy (Eisenberg et al., 2006), and empathy is essential for promoting positive behaviors and facilitating social interactions (McDonald & Messinger, 2011).

Schools can play a significant role in enhancing children's social-emotional development by implementing intervention programs focused on increasing social-emotional competence. Social-emotional competence affects academic growth and achievement because children who feel competent, autonomous, and happy generally perform better academically (Harniss et al., 1999). Clearly, early childhood social and emotional development is crucial.

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Interventions must start early to optimize outcomes by promoting resilience and social-emotional skills. Research indicates that preschool years (ages 4 to 6) are critical for developing social-emotional competence, and severe emotional disorders can manifest before age six, potentially interfering with essential emotional, cognitive, and physical development, predicting lifelong school and home problems (Pahl & Barrett, 2007).

Hakimi Farimani et al. (2022) found no significant differences between the experimental and control groups in terms of empathy and social competence during the pre-test phase. However, there were significant differences between the groups in both variables during the post-test and follow-up phases. Other findings showed that an intervention using educational games based on social-emotional learning significantly increased empathy and social competence in preschool children, with effects maintained at follow-up (Hakimi Firoumani et al., 2021). Hashemi et al. (2017) demonstrated significant differences between the experimental and control groups' scores on anxiety, constructive problem-solving, and working memory in children during the post-test. Their study indicated that social-emotional competence training effectively reduced anxiety and enhanced children's constructive problem-solving abilities and working memory (Hashemi et al., 2017). This study examines the effectiveness of social-emotional competence on social skills and empathy in preschool children in Shahreza.

2. Methods and Materials

2.1. Study Design and Participants

The present research design is a quasi-experimental study with an experimental group and a control group, utilizing a pre-test and post-test approach. The statistical population of this study included all preschool students in the city of Shahreza during the 2023-2024 academic year, totaling 275 individuals. From this total, 30 students were selected based on the lowest scores obtained from the Social Skills and Empathy Questionnaires using non-random convenience sampling and divided into two groups: 15 students in the control group and 15 students in the experimental group. It is noteworthy that the two groups were approximately matched in terms of age, social and economic conditions, cultural level, and place of education to strengthen the research outcomes. The sample size for this study was chosen based on the minimum number recommended for comparative experimental studies, including quasi-experimental research.

Initially, schools were assessed based on variables such as parents' education level, social-cultural conditions, and age, and a relatively homogeneous school was selected. Two equivalent and matched preschool classes were chosen from this school, and the selected students were randomly divided into the control and experimental groups. The teachers of both groups completed the Empathy and Social Skills Questionnaires as a pre-test. The experimental group then received social-emotional competence training over two months. After the training sessions, the Empathy and Social Skills Questionnaires were completed again as a post-test.

2.2. Measures

2.2.1. Empathy

The Empathy Questionnaire by Yong et al. (2009) was used to collect data on empathy measurement. It consists of 11 items rated on a four-point Likert scale (completely false, somewhat false, somewhat true, completely true). The reliability coefficient of this questionnaire, determined by Cronbach's alpha, was 0.85 (Hakimi Firoumani et al., 2021).

2.2.2. Social Skills

To measure students' social skills, the standard Social Skills Rating System—Teacher Form by Gresham and Elliott (1990) was used, comprising 33 items rated on a five-point Likert scale (strongly disagree, disagree, neutral, agree, strongly agree). The questionnaire encompasses five dimensions: social skills, self-control, cooperation and empathy, assertiveness, and responsibility. The reliability coefficient of this questionnaire, determined by Cronbach's alpha, was 0.90 (Sayedie et al., 2021).

2.3. Intervention

2.3.1. Social-Emotional Competence Training

The social-emotional competence training was based on the Second Step program developed by the Committee for Children in Seattle, finalized and adapted by Ahmadpour-Torki and Hakim Jowadi (2017). The sessions were conducted over eight 45-minute educational sessions spanning two and a half months, with one session per week. The ninth session (substance use prevention) was omitted in this study. A brief description of the sessions is provided below (Ahmadpour-Torki et al., 2017).

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Session One: Teaching Empathy

The first session focuses on developing empathy skills. Participants are taught the importance of empathy through activities that promote teamwork, leadership, and unity. Interactive exercises are used to enhance the ability to understand and share the feelings of others, fostering a sense of group solidarity.

Session Two: Teaching Empathy

In the second session, the emphasis is on handling complaints, negotiation, compromise, and assertiveness skills. Participants learn how to provide constructive feedback and are guided through problem-solving techniques. These activities aim to strengthen assertive communication and foster a collaborative approach to resolving conflicts.

Session Three: Bullying Prevention

The third session addresses recognizing bullying in friendships and understanding the role of bystanders. Participants are educated on the impact of empathetic concern and learn to identify bullying behaviors. The session highlights how witnessing bullying can affect individuals and emphasizes the importance of empathetic responses.

Session Four: Bullying Prevention

In the fourth session, participants are taught to recognize labeling, stereotypes, and biases. The session continues to focus on building empathy skills by helping participants become more aware of the harm caused by prejudiced attitudes and the benefits of inclusive and compassionate behavior.

Session Five: Bullying Prevention

The fifth session focuses on identifying bullying in everyday relationships and assessing risks associated with bullying situations. Participants learn strategies for safely avoiding bullying and are encouraged to practice risk assessment to ensure personal safety and well-being in challenging social scenarios.

Session Six: Emotion Management

The sixth session explores techniques for gradually reducing tension and understanding the effects of emotions on the brain and body. Participants learn strategies to remain calm and manage anger effectively. The session includes relaxation exercises and practical methods to handle intense emotions constructively.

Session Seven: Emotion Management

In the seventh session, the focus shifts to identifying personal stress management styles and strategies. Participants are encouraged to explore different approaches to coping with stress, selecting methods that suit their individual needs. The session aims to equip participants with effective stress-reduction techniques.

Session Eight: Goal Setting

The final session centers on planning and evaluating goals. Participants are guided through the process of setting realistic objectives and creating actionable plans. They learn how to monitor and assess their progress, ensuring they have the skills to achieve their goals and make necessary adjustments for future success.

2.4. Data Analysis

For data analysis, both descriptive and inferential statistics were employed. At the descriptive level, frequency tables and charts, frequency percentages, means, and standard deviations were used. At the inferential level, to test the research hypotheses, which focused on comparing the experimental and control groups, analysis of covariance (ANCOVA) was conducted using SPSS software version 23.

3. Findings and Results

Table 1 presents the means (M) and standard deviations (SD) for all variables, including the total social skills score, which is the sum of self-control, cooperation and empathy, assertiveness, and responsibility. The scores are presented separately for the experimental and control groups, as well as for the pre-test and post-test stages.

Table 1

Means (M) and Standard Deviations (SD) for Social Skills and Empathy Variables by Group and Stage

Variable	Experimental Group Pre-test	Experimental Group Post-test	Control Group Pre-test	Control Group Post-test
Total Social Skills	82.81 (2.36)	128.09 (3.04)	85.29 (2.67)	90.36 (2.17)
Self-Control	20.84 (2.80)	30.77 (2.80)	20.39 (2.80)	24.25 (2.80)
Cooperation and Empathy	20.01 (2.31)	31.85 (2.31)	21.57 (2.31)	24.99 (2.31)
Assertiveness	21.09 (3.15)	31.82 (3.15)	21.18 (3.15)	20.24 (3.15)
Responsibility	20.87 (3.21)	33.65 (3.21)	22.15 (3.21)	20.88 (3.21)
Empathy	20.80 (2.52)	30.91 (2.52)	23.17 (2.52)	22.07 (2.52)

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The experimental group showed a substantial increase in total social skills from pre-test (M = 82.81, SD = 2.36) to post-test (M = 128.09, SD = 3.04). Each component of social skills also improved significantly. For instance, self-control increased from M = 20.84 (SD = 2.80) to M = 30.77 (SD = 2.80), and cooperation and empathy improved from M = 20.01 (SD = 2.31) to M = 31.85 (SD = 2.31). Conversely, the control group showed only minor changes in total social skills, from M = 85.29 (SD = 2.67) to M = 90.36 (SD = 2.17), with the components reflecting similarly limited differences.

Table 2

Covariance Analysis Results for Social Skills and Its Components in the Post-test After Controlling for the Pre-test

Variable	Source of Variation	SS	df	MS	F	p	η^2	Power
Total Social Skills Score	Pre-test Effect	0.025	1	0.025	0.001	.978	.003	.501
	Group Membership	1453.339	1	1453.339	47.09	.000	.636	.999
	Error	833.309	27	30.863				
	Total	2317.367	29	-				
Self-Control Component	Pre-test Effect	2.248	1	2.248	0.234	.632	.009	.353
	Group Membership	739.447	1	739.447	77.02	.000	.740	.999
	Error	259.219	27	9.601				
	Total	1011.467	29	-				
Cooperation and Empathy	Pre-test Effect	3.699	1	3.699	0.580	.453	.021	.114
	Group Membership	370.361	1	370.361	58.081	.000	.683	.999
	Error	172.168	27	6.377				
	Total	543.367	29	-				
Assertiveness Component	Pre-test Effect	0.544	1	0.544	0.134	.717	.005	.264
	Group Membership	280.598	1	280.598	69.217	.000	.719	.999
	Error	109.456	27	4.054				
	Total	398.30	29	-				
Responsibility Component	Pre-test Effect	0.847	1	0.847	0.197	.660	.007	.271
	Group Membership	17.292	1	17.292	4.031	.045	.430	.491
	Error	115.820	27	4.290				
	Total	135.867	29	-				

In the test for social skills and its components, the null hypothesis states: "Social-emotional competence does not affect social skills among preschool children in Shahreza." Since the significance level (group membership) for social skills and all four components is less than 0.05, the null hypothesis is rejected, and the alternative hypothesis is accepted. Thus, social-emotional competence effectively enhances social skills among preschool children in Shahreza. As seen in Table 2, there is a significant difference between the experimental and control groups in social skills and its components in the post-test after controlling for the pre-test effect. The effect size (eta squared) for the total social skills score is 0.636 with a power of 0.999, indicating that 63.6% of the variance (with 99.9% power) in the experimental group compared to the control group is attributed to social-emotional competence. Additionally, the effect size for the self-control component is 0.740 with a power of 0.999, meaning that 74% of the variance (with 99.9% power) is related to social-emotional competence. For the cooperation and empathy component, the effect size is 0.683 with a power of 0.999, accounting for 68.3% of the variance (with 99.9% power). The effect size for assertiveness is 0.719 with a power of 0.999, indicating 71.9% of the variance (with 99.9% power). The effect size for responsibility is 0.430 with a power of 0.491, indicating 43% of the variance (with 49.1% power).

Table 3

Covariance Analysis Results for Empathy in the Post-test After Controlling for the Pre-test

Source of Variation	SS	df	MS	F	p	η^2	Power
Pre-test Effect	3.920	1	3.920	1.806	.190	.063	.254
Group Membership	47.70	1	47.70	22.434	.000	.454	.995
Error	58.613	27	-				
Total	108.167	29	-				

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The null hypothesis in this analysis states: "Social-emotional competence does not affect empathy among preschool children in Shahreza." The significance level (group membership) for empathy is calculated as zero, which is less than 0.05, leading to the rejection of the null hypothesis and acceptance of the alternative hypothesis. Thus, social-emotional competence effectively enhances empathy among preschool children in Shahreza. As shown in Table 3, there is a significant difference between the experimental and control groups in empathy in the post-test after controlling for the pre-test effect. The effect size (eta squared) for empathy is 0.454 with a power of 0.995, indicating that 45.4% of the variance (with 99.5% power) in the experimental group compared to the control group is attributed to social-emotional competence.

4. Discussion and Conclusion

The findings of the present study indicate that social-emotional competence training significantly influences social skills and empathy in preschool children in Shahreza. The main hypothesis, which posited that social-emotional competence training affects both social skills and empathy, was confirmed. This result underscores the effectiveness of structured interventions aimed at developing social-emotional skills in early childhood education. These findings align with the broader literature that emphasizes the critical role of social-emotional learning (SEL) in promoting interpersonal skills and emotional understanding among young children (Gómez-Ortiza et al., 2017).

The significant improvements in social skills observed in the experimental group compared to the control group can be attributed to the comprehensive design of the social-emotional competence training program. Specifically, the intervention's focus on self-control, cooperation and empathy, assertiveness, and responsibility provided children with practical strategies to interact positively with peers and manage social situations effectively. This is consistent with the work of Zins and Elias (2006), who highlighted that SEL programs are promising initiatives for academic success and social development (Zins & Elias, 2006). The observed effect for social skills suggests that integrating these training components into preschool curricula could lead to notable gains in children's ability to engage with others constructively. Additionally, previous research by Ahmad et al. (2020) demonstrated that students participating in SEL programs exhibited significantly higher social and emotional competencies compared to peers in traditional settings, reinforcing the current findings (Ahmed et al., 2020).

When examining the individual components of social skills, significant differences were noted in self-control, cooperation and empathy, assertiveness, and responsibility between the experimental and control groups. For the self-control component, the effect size was 74%, indicating a robust impact of the training. The sessions focusing on emotion regulation strategies likely contributed to this outcome, as they emphasized managing emotions in various contexts. This is supported by Nasasco et al. (2018), who found that high levels of emotional regulation and self-control act as protective factors against problem behaviors (Nasaescu et al., 2018). Similarly, the cooperation and empathy component showed an effect size of 68.3%, which aligns with the findings of Butovskaya et al. (2021), who emphasized empathy as a key factor in fostering prosocial behavior and reducing aggression (Butovskaya et al., 2021). The significant impact of the assertiveness component, with an effect size of 71.9%, underscores the importance of teaching children to communicate their needs and boundaries effectively, as highlighted by research on assertive behavior's role in healthy interpersonal relationships (Mendo-Lázaro et al., 2018). The responsibility component also showed significant improvement, with an effect size of 43%, suggesting that even foundational SEL training can instill a sense of accountability in young children.

The training's impact on empathy was also significant, with an effect size of 45.4%, indicating that the program successfully enhanced the children's capacity to understand and share the feelings of others. Empathy, being a multifaceted construct involving both cognitive and emotional components, plays a critical role in children's social interactions (Zayia et al., 2021). The empathy-related outcomes of this study are consistent with findings by Eisenberg et al. (2006), who demonstrated the empirical link between social behaviors and empathetic responses (Eisenberg et al., 2006). Furthermore, McDonald and Messinger (2011) argued that empathy facilitates positive social interactions and is essential for promoting prosocial behavior, which aligns with the current results (McDonald & Messinger, 2011). The findings are also supported by Allmand et al. (2015), who observed that social-emotional training programs are typically associated with improved empathy and better understanding of others' emotions (Allemand et al., 2015). The sessions designed to foster

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empathy through role-playing and understanding diverse perspectives likely contributed to these outcomes.

One of the most compelling aspects of these results is the evidence that structured social-emotional training can have long-lasting effects. The current study builds on existing research by suggesting that social-emotional development must be prioritized in early childhood education. Pahl and Barrett (2007) emphasized that early interventions are crucial for emotional, cognitive, and physical development, which is echoed in this study's significant post-test results (Pahl & Barrett, 2007). The long-term maintenance of these skills, as reported in similar studies, further supports the implementation of SEL programs in early educational settings (Hakimi Firoumani et al., 2021).

Despite the promising findings, this study has several limitations. First, the use of a non-random convenience sampling method may limit the generalizability of the results. The participants were selected from a single city, and the social-economic and cultural context of Shahreza might not reflect the diversity found in broader populations. Second, the relatively small sample size, although statistically sufficient, reduces the power to detect smaller effects and may not capture the full variability of children's responses to the intervention. Additionally, the reliance on teacher-reported measures for social skills and empathy may introduce bias, as teachers might unconsciously rate the children differently based on their awareness of the intervention. Finally, the study did not include long-term follow-up assessments, making it difficult to determine the lasting impact of the training on children's social and emotional development.

Future research should address these limitations by employing larger and more diverse samples to enhance the external validity of the findings. Randomized controlled trials across different regions and cultures could provide a more comprehensive understanding of the effectiveness of social-emotional competence training. Longitudinal studies are also recommended to assess the long-term effects of the intervention and determine whether the benefits are sustained over time. Additionally, incorporating objective measures, such as behavioral observations or physiological indicators of emotion regulation, could complement teacher-reported data and provide a more well-rounded assessment of social-emotional development. Future research could also explore the potential mediators and moderators of the intervention's effects, such as the role of family environment, parental involvement, or children's baseline emotional intelligence.

Educators and policymakers should consider integrating social-emotional competence training into preschool curricula to promote children's social and emotional well-being. Schools can adopt structured programs that focus on developing self-control, cooperation, empathy, assertiveness, and responsibility, as these skills have been shown to enhance peer relationships and academic success. Teachers should receive adequate training and resources to effectively deliver these programs and monitor children's progress. Moreover, collaboration with parents could be beneficial, as reinforcing social-emotional skills at home may amplify the intervention's impact. Finally, creating a supportive and emotionally safe classroom environment where children feel understood and valued can foster a positive atmosphere for learning and personal growth.

Authors' Contributions

All authors significantly contributed to this study.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

In this study, to observe ethical considerations, participants were informed about the goals and importance of the research before the start of the interview and participated in the research with informed consent.

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