



Effectiveness of Quinn's early program on readiness to enter elementary school and social-emotional competence of preschool children

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ABSTRACT

Objective: Preschool years, a sensitive period of transformation in all dimensions, which is associated with flexibility, learning experience and providing environmental stimuli, is very important. The purpose of this research was to investigate the effectiveness of Quinn's early program on the readiness to enter elementary school and social-emotional competence of preschool children.

Method: The current study was quasi-experimental with a pre-test, post-test and follow-up stages with a control group design. The statistical population of the research was made up of preschool children in areas 1 to 5 of Tehran in 2021; for each sample group, 15 individuals (30 people in total) were selected as a sample by random sampling and were assigned to two experimental and control groups. The research tools included the Zhu and Ee's (2012) emotional competence scale and Lils' school readiness scale (2009). SPSS statistical software and multivariate analysis of variance with repeated measurements were used to analyze the data. Finally, Bonferroni's post hoc test was used to measure the stability of the effects.

Results: The results of the statistical analysis of the data show that Quinn's early program significantly increased the readiness to enter elementary school and the social-emotional competence of preschool children upon entering elementary school in the experimental group, and this effect was stable in the follow-up phase.

Conclusion: It can be concluded that Quinn's program is effective on the readiness to enter elementary school and social-emotional competence of preschool children; therefore, this program can be used for this purpose in kindergartens and preschools.

Keywords: *Quinn's Early Childhood Program, elementary school readiness, social-emotional competence, preschool*

1. Introduction

Preschool years, a sensitive period of transformation in all dimensions associated with cognitive flexibility, learning experience, and providing environmental stimuli, is

very important (Schertz et al., 2013). Preschool years can be considered the most important stage of a child's life; Because half of a child's learning happens in the first five years of his life, and most of the important connections that result from the development of the nervous system are made in these

years. In addition, the foundation of a person's personality and self-confidence grows under the influence of his ability to face the challenges of life and learning. Today's life has made awareness and knowledge of child education an absolute and serious necessity, especially since the public has become aware of the importance of the early years and their positive impact on the child's future (Sepah Pour et al., 2021).

Experts have proposed the concept of *readiness* to enter primary school as one of the indicators of children's educational success. Children ready to enter primary school are trusted people and establish wide and friendly relationships with teachers and peers. In addition, they are focused on doing their homework, responsive to instructions and aware of their emotions, experience better academic and career progress in life, and work in jobs with higher salaries and benefits. Moreover, they are less likely to commit crimes. In contrast, less prepared children to enter school are more likely to experience childbearing at a young age, participation in criminal activities, and low-end jobs (Abedini & Yarmohammadian, 2016). In order to prepare for entering elementary school and perform well in intelligence and elementary school preparation tests, children must master seven basic skills. These skills include language skills, knowledge/comprehension, memory, math, visual-spatial, cognitive, and fine motor skills. In the preschool years, young children must learn these skills through play. These skills are the prelude to school and academic learning that children need in elementary school to learn the basic skills of reading, writing, math, and even social learning (Quinn, 2010). Others have identified five dimensions or areas of development for the child's readiness to go to school: physical health, motor development, emotional and social development, learning approach, language use, and general and cognitive information (Zill, 1995). Despite the attention given in the last decade to improving educational readiness in decentralized plans, educational readiness still has complications (Shalmaani, 2017).

Social-emotional competence derived from the concept of social-emotional learning believes that learners can self-monitor their behaviors through learning (Wilson, Gottfredson, & Najaka, 2001). For this reason, curriculum designers and researchers are interested in developing intervention programs to promote social-emotional competence (Imamgholivand, Kadivar, & Sharifi, 2018). According to the theory of the Center for Educational Cooperation and Social-Emotional Competence (2008), the sum of the skills of recognizing and managing our emotions,

developing interest and concern for others, creating positive relationships, making responsible decisions, and facing challenging and moral situations, make a person's social-emotional competence. This model considers social-emotional competence at two levels: the personal level and the other is the interpersonal level. The personal level includes the skills of understanding and regulating individual emotions. The interpersonal level includes understanding the emotions of others, as well as responsible decision-making. According to Kassel (2008), social-emotional competence comprises the components of self-awareness, social awareness, self-management, relationship management, and responsible decision-making (Mantz et al., 2018). Self-awareness includes knowledge skills, identifying one's strengths and weaknesses, and how these points affect one's performance. These points are cognitive abilities considered an important step in a person's growth. Students who are aware of the strengths and weaknesses of their emotions are more likely to recognize their emotional states and know the cause of their emotions. In addition, if students are metacognitively aware of their emotions, it is more likely that they will have control over their emotions and thus take responsibility for making decisions in life. Self-management is the ability to manage individual motivations and emotions. Self-regulation of individual emotions is important for having close relationships, success in career, and maintaining physical health. Empirical evidence shows that students who have the ability to manage their emotions are more successful than their peers in situations with a high level of impulsivity. On the other hand, students with high emotional excitability without emotion control skills often exhibit inappropriate social behaviors and are at greater risk. Students who cannot control their emotions are less likely to think well and perform well in school (Domitrovich et al., 2017). Social awareness, the ability to read other people's signs and understand and respond appropriately to their feelings, is closely related to empathy, the ability to share one's emotional states with others. Empathy, combined with the ability to understand another's point of view in interpreting thoughts and feelings, showing awareness of the sensitivity of complex issues and trying to clarify ambiguities, leads to harmonious functioning between people. Research has shown that children's empathy leads to greater attention, perceptual sensitivity and control skills. A collection of research acknowledge that peers play an important role in educational engagement. Studies show that people who are rejected by peers, who experience more loneliness and social isolation

and are less influenced by peers, are more likely to not be involved in school activities and drop out. In other words, the 7th and 8th grade students who felt more secure with their peers had a more unified identity and more self-confidence. The important and noteworthy point is that the relationship with peers is a factor that directly affects educational performance. Responsible decision-making refers to the ability to consider ethics, safety, and social factors. Such people are responsible in school and social situations and contribute to the well-being of their school and community. There is a significant relationship between metacognition and decision-making styles and how to make decisions in professional tasks. Responsible decision-making requires teaching decision-making styles, creating a sense of social responsibility towards others (Imamgholivand, Kadivar, & Sharifi, 2018). Social-emotional competence is a very important factor to target with universal preventive interventions that take place in schools; Because this structure (a) is related to social, emotional, and educational consequences that are important for healthy growth; (b) predicts important life outcomes in adulthood; (c) it can be improved with practical and cost-effective interventions; (d) they play a very important role in the process of behavior change (Domitrovich et al., 2017).

Early intervention programs require the use of all educational and rehabilitation activities aimed at the child and parental guidance; as soon as the child's problem is identified, these activities are implemented (Saniei Abadeh & Abedi, 2019). One intervention program for preschool children is the *Quinn's early program*. Quinn's program is a comprehensive, efficient, and interactive educational program between parents and children for cognitive empowerment and improving their intelligence, which intelligence tests are designed to measure (Bazoolnejad et al., 2021). This program is based on strengthening the abilities measured in intelligence tests, which include seven perceptive language skills, knowledge-reception, memory, mathematics, visual-spatial reasoning, cognitive and movement. In fact, these skills are the key to progress in adulthood (Quinn, 2010). In this program, in addition to these skills, five characteristics of young children, including curiosity, following their interests, perseverance, failure tolerance, and self-control are also cultivated (Quinn, 2010). QEP is a game-based program; games undeniably affect the children's intelligent behavior and the physiological structure of their brain. Also, the game can positively affect the child's sensory-motor, cognitive, and basic skills development (Malekpour & Nesai Moghadam, 2014).

Therefore, this study aimed to investigate the effectiveness of QEP on the readiness to enter elementary school and the social-emotional competence of preschool children.

2. Methods

2.1. Study design and Participant

The current study was quasi-experimental with a pre-test, post-test and follow-up stages with a control group design. The statistical population of the research was made up of preschool children in areas 1 to 5 of Tehran in 2021; for each sample group, 15 individuals (30 people in total) were selected as a sample by random sampling and were assigned to two experimental and control groups. The inclusion criteria were no psychiatric diagnosis, including learning disorders and obtaining parental consent. The exclusion criteria were not participating in multiple treatment sessions or parents not consenting to continue the sessions. After assigning the control and experimental groups, the members of both groups responded to the research tools, including Zhou & Ee's (2012) emotional competence questionnaire and Lils' (2009) school readiness scale. Then the treatment sessions were performed on the experimental group and again, the members of both groups answered the questionnaires. Also, after two months from the last session, all participants answered the questionnaire again and finally, according to the ethics, Quinn's intervention sessions were also implemented for the control group.

2.2. Measurements

The measurements tools includes Zhou & Ee's (2012) emotional competence questionnaire and Lils' (2009) school readiness scale.

2.2.1. Socio-emotional competence

This questionnaire was created by Zhou & Ee (2012) to measure how children and teenagers are aware of themselves and others and how their personal, social, and moral responses to family, school, and social issues. This questionnaire consists of 25 items and measures 5 dimensions of social-emotional competence, which are: Self-awareness (items 1 to 5), social awareness (items 6 to 10), self-management (items 11 to 15), communication skills (items 16 to 20) and responsible decision-making (items 21 to 25). The scoring of this questionnaire is based on a 5-option Likert scale (Zhou & Ee, 2012). Imamgholivand, Kadivar & Sharifi (2018) used this questionnaire for the first

time in Iran. They used Cronbach's alpha coefficient and test-retest method to measure the reliability of this questionnaire and the confirmatory factor analysis method to determine its factorial validity. The results indicated the appropriate validity and reliability of this questionnaire. In the present study, Cronbach's alpha for the overall scale was 0.77, and for the subscales of self-awareness, social awareness, self-management, communication skills, and responsible decision-making were 0.71, 0.81, 0.80, 0.68, and 0.72, respectively. It indicates the good reliability of the questionnaire.

2.2.2. School Readiness

This scale was prepared and adjusted for the first time in 2009 by Lils and his colleagues to check the level of school readiness of children before entering elementary school,

which includes 13 items; Seven items measure the child's readiness at the social-emotional level and 6 items measure the child's readiness to enter school at the cognitive level. In Iran, the content validity of this scale was confirmed by asking professors and experts, and its reliability was confirmed by Cronbach's alpha method. In the current study, Cronbach's alpha value for the whole scale was 0.89 and for the social-emotional and cognitive subscales, respectively, 0.81 and 0.93, which shows the very good reliability of this scale (Abedini & Yarmohammadian, 2016).

2.3. Intervention

2.3.1. QEP

QEP was as the intervention in this study. The Table 1 shows a summary of the content of QEP sessions based on Quinn's (2010) protocol (Quinn, 2010).

Table 1

Brief summary of QEP sessions

Session	Content
1	Acquaintance and introduction of the group members with the therapist and each other, introducing the Quinn project and stating the rules that must be followed in the group.
2	Training to raise the level of curiosity and games related to it
3	Training to raise the level of dedication to your interests and related games
4	Training to increase the level of perseverance and games related to it
5	Training to raise the level of self-control and games related to it
6	Training to raise the level of tolerance of failure and games related to it.
7	Looking for unresolved issues in group members, appreciating and thanking group members for attending meetings

2.4. Data Analysis

SPSS statistical software and multivariate analysis of variance with repeated measurements were used to analyse the data. Finally, Bonferroni's post hoc test was used to measure the stability of the effects.

3. Findings and Results

In terms of demographic characteristics, the mean of the experimental group members age was 4.52 and it was 4.82 for the control group. Also, 20 participants were girls and 10 were boys. The Table 2 shows the obtained descriptive findings.

Table 2

Descriptive findings of experimental and control groups

Variable	Stage	Experimental group		Control group	
		Mean	Standard deviation	Mean	Standard deviation
Social-emotional competence	Pre-test	73.71	7.81	74.91	7.56
	Post-test	91.05	8.43	75.23	8.50
	Follow-up	90.11	7.99	74.17	8.01
School readiness	Pre-test	33.33	3.09	32.01	2.81
	Post-test	44.40	2.80	33.32	2.93
	Follow-up	43.73	3.00	32.92	2.70

As reported in the Table 2, the average variables of social-emotional competence and school readiness in the experimental group after the intervention in the post-test and follow-up phases are higher than the pre-test phase, but it has not changed in the control group. To use the analysis of variance with repeated measurements test, the assumption of

normality of the data was confirmed through the Shapiro-Wilk test. Also, the assumption of sphericity was verified according to Mauchly's test, and the assumption of

homogeneity of variances was verified through Levene's test. Therefore, the mentioned test can be used by fulfilling the required assumptions.

Table 3

Results of analysis of variance with repeated measures for QEP in the three phases of pre-test, post-test and follow-up

Variable		Sum of squares	Df	Mean square	F	P	Effect size
Social-emotional competence	Stage	740.15	2	650.51	40.41	0.0001	0.65
	Stages* group	1210.21	2	1103.39	67.69	0.0001	0.69
	error	487.20	26	449.20			
School readiness	Stage	480.21	2	464.16	38.38		0.62
	Stages* group	910.41	2	874.37	54.11	0.0001	0.67
	error	319.03	26	301.44			

In the [Table 3](#), the analysis results of variance analysis with repeated measurements are reported. Based on the obtained F-value, it can be concluded that the effect of the group membership factor, or in other words, QEP, has led to a significant increase in social-emotional competence variables ($p < 0.001$). This means that the research variables in the experimental group due to the Quinn program have increased significantly compared to the control group in the post-test and follow-up phases, and this increase is due to the intervention. The effect coefficients for both variables are between 0.50 and 0.80, indicating this program's average effect. Bonferroni's post hoc test was used to check the stability of this effect.

Table 4

The results of Bonferroni's post-hoc test in the three stages of pre-test, post-test and follow-up by groups

Variable	Stage	QEP		
			Mean dif.	Sig.
Social-emotional competence	Post-test	Pre-test	11.07	0.00
	Follow-up	Pre-test	10.14	0.00
	Follow-up	Post-test	0.76	1.00
School readiness	Post-test	Pre-test	17.34	0.00
	Follow-up	Pre-test	16.40	0.00
	Follow-up	Post-test	0.94	1.00

As shown in the [Table 4](#), the results of Bonferroni's post-hoc test indicate that the effect of QEP on children's social-

emotional competence and school readiness upon entering elementary school has been stable in the follow-up phase.

4. Discussion and Conclusion

This research aimed to investigate the effectiveness of QEP on the readiness to enter elementary school and the social-emotional competence of preschool children. The results of the present study were similar to the results of the studies of [Badri Gargari \(2019\)](#); [Bazoolnejad et al. \(2021\)](#); [Behrad \(2019\)](#); [Saniei Abadeh and Abedi \(2019\)](#); [Sepah Pour et al. \(2021\)](#).

The results of data analysis showed that QEP significantly affects preschool children's readiness to enter elementary school. In explaining this finding, QEP has the same skills in its infrastructure that are necessary for preschool children and their success in elementary school and in future life; That is, the same seven main skills. Therefore, it is expected that by strengthening and emphasizing the mentioned skills, preschool children will gain higher academic preparation for entering elementary school.

Additionally, it should be noted that QEP is game-based so that it leads preschool children to show interest in it and not leave the meetings in the middle of work; Secondly, the game's attractiveness for children makes them not resist the intervention and the treatment can have its desired effect. This feature is a general reason for the effectiveness of this approach. In fact, the presence of the game element in QEP paves the way for influencing minors and children.

Also, the results of the present study indicate that the QEP has significantly increased the social-emotional competence of preschool children who were at the beginning of elementary school. In explaining this finding, in addition to

the 7 main skills targeted in the QEP, five characteristics of young children including curiosity, following their interests, perseverance, failure tolerance and self-control, are also cultivated (Quinn, 2010). On the other hand, according to Kassel (2008), social-emotional competence consists of 5 components: self-awareness, social awareness, self-management, relationship management, and responsible decision-making. The five sub-goals of QEP promote the components of emotional competence. A child who learns to follow his interests gains self-awareness; A child whose curiosity is nurtured will take a step towards achieving better social awareness; Strengthening the persistence of the child improves his self-management and makes him able to move towards his goals correctly and with a real and serious vision with high self-awareness; Tolerance of failure has a clear relationship with responsible decision-making so that only a person can tolerate failure and accept that he has accepted the responsibility for his decision, and this relationship is two-way, that is, if the child learns to tolerate failure, he has actually accepted the responsibility for his decisions; Finally, self-control also increases self-management and self-awareness, and of course, relationship management (Mantz et al., 2018). This means that the sub-goals of the QEP can be the reason for the second result of the research, which is the increase in children's socio-emotional competence due to the early QEP.

5. Limitations

This research, like any other research, has limitations. Among these limitations, we can mention the research method, which makes it impossible to get a definite result.

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Therefore, caution should be observed in generalizing the findings of this research.

6. Suggestions and Applications

It is suggested that experts be used in kindergartens and preschools to implement QEP to increase the readiness of children to start school. Also, since this program has been effective in the social-emotional competence of these children, the implementation of this program has long-term benefits because the increase in social-emotional competence means more success in older ages. It is also suggested that workshops be held for parents and jointly with their children on the eve of their going to school, in which the techniques and content of QEP will be used and parents will be taught how to implement it. Finally, due to the lack of research in this field and the high potential of QEP, researchers are suggested to organize other research in relation to other variables and comparison with other programs.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethics principles

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were observed.

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