



## The Effectiveness of Quality Schools on Academic Anxiety and Engagement among Primary School Students

Mahmoud Zivari Rahman<sup>1\*</sup>, Masoumeh Sahraei<sup>2</sup>, and Somayeh Pour Mojahad<sup>3</sup>

1. Corresponding Author: Assistant Professor, Department of Educational Sciences and Counseling, Sayyed Jamaledin Asadabadi University, Asadabad, Iran. Email: [m.zivari@sjau.ac.ir](mailto:m.zivari@sjau.ac.ir)
2. Consultant and Expert at the Counseling and Psychological Services Center, General Department of Education, Hamedan Province, Iran. Email: [masoomsahra4@gmail.com](mailto:masoomsahra4@gmail.com)
3. Head of the Counseling and Psychological Services Center, General Department of Education, Hamedan Province, Iran. Email: [smyhpwrmjahd@gmail.com](mailto:smyhpwrmjahd@gmail.com)

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### ABSTRACT

**Objective:** This study aimed to evaluate the effectiveness of the Glasser quality school program in reducing anxiety and enhancing academic engagement among elementary school students.

**Method:** The research utilized a quasi-experimental pretest-posttest design with a control group. The statistical population included all sixth-grade female students in Hamadan during the 2023-2024 academic year. A high-risk school, identified through a Ministry of Education screening test and located on the city's outskirts, was selected. The sample consisted of 53 sixth-grade students divided into two classes (27 and 26 students). One class was assigned to the experimental group, which participated in the Glasser quality school process, while the other served as the control group. Data collection tools included the Multidimensional Anxiety Scale for Children (March et al., 1997) and the Academic Engagement Questionnaire (Fredericks et al., 2004). Due to the nested data structure (students within classes) and to control for cluster effects resulting from class-level assignment and repeated measurements, multilevel modeling with a random intercept for students was employed. Group (experimental vs. control), time (pretest vs. posttest), and group  $\times$  time interaction were entered as fixed effects.

**Results:** Results showed significant group  $\times$  time interactions for anxiety ( $F=60.90$ ,  $p<.001$ ) and academic engagement ( $F=65.30$ ,  $p<.001$ ). The experimental group demonstrated a greater decrease in anxiety ( $B=-12.00$ ,  $p<.001$ ) and a greater increase in engagement ( $B=9.35$ ,  $p<.001$ ) compared to the control group. Effect sizes (Cohen's  $d$ ) were 2.08 for anxiety and 1.56 for engagement, respectively. For anxiety components, effect sizes ranged from 0.65 to 1.16; for engagement components, from 0.87 to 1.41. ICC values (0.48-0.99) confirmed strong within-cluster correlation, justifying multilevel modeling.

**Conclusions:** The Glasser quality school program effectively reduces anxiety and enhances academic engagement in high-risk school settings.

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## **Introduction**

Primary education is one of the fundamental and influential stages in the process of individual and social growth, impacting students' personality foundations, cognitive abilities, emotional development, and behavioral traits (Shi et al., 2022). This period, which represents children's first formal experience with education, is recognized as a sensitive and formative stage in their lives (Shayganfard et al., 2024). At this stage, children, in addition to acquiring basic skills, face new challenges in the social and emotional domains (Maki et al., 2024). Therefore, paying attention to students' psychological and social needs, alongside providing scientific education, holds significant importance. Creating a suitable and supportive environment in schools can contribute to enhancing the quality of education and improving students' mental health (Olmez & Ozel, 2012). One of the innovative approaches in this regard is the establishment of quality schools that strive to not only improve students' academic performance but also reduce stress-inducing factors and strengthen their Academic Enthusiasm, thus providing a safe and conducive space for learning (Kurdi et al., 2018).

Quality schools are based on the principles of the theory developed by William Glasser, a prominent psychologist. Glasser believes that humans are driven by intrinsic motivations and choose their behaviors and emotions in response to psychological needs. He introduced the "Choice Theory," according to which individuals can meet basic needs such as survival, love and belonging, power and prestige, achievement, freedom, and recreation in appropriate environments (Glasser et al., 1999). Based on this, Glasser argued that educational environments should be designed in such a way that these needs are effectively met in students, enabling them to have a positive learning experience (Glasser et al., 1991). One of the core concepts of a quality school is the emphasis on positive and constructive relationships between teachers and students. Glasser believes that the quality of the relationship between the teacher and the student can play a very significant role in academic success (Staden & Motsamai, 2017). In this model, the teacher acts as a guide and facilitator, helping students make better and more responsible choices, rather than directly controlling their behavior. In a quality school, students take a more active role in the learning process. They are allowed to participate in planning and selecting subject matters, and even play a role in evaluating their own progress. This approach helps students develop a greater sense of ownership and responsibility for their learning (Anderson et al., 2018). In a quality school, assessments are less focused on grades and exam results and are more based on self-assessment and individual progress. Teachers in this model help students better understand themselves and improve their performance through constructive feedback. Since the primary focus of this model is on the internal needs of students, they feel more motivated to learn. By focusing on building positive relationships, trust, and deeper communication between teacher and student, this model contributes to increased educational effectiveness (Heck, 2000). Students in this model learn to take responsibility for their decisions and behaviors, which can help increase their independence and self-efficacy. Encouraging students to self-assess and participate in curriculum planning enhances their metacognitive and self-regulation skills (Glasser et al., 1991). This perspective creates an environment where

students can learn more effectively, free from stress, and with a sense of safety and support (Lucas & Mbiti, 2014).

Anxiety is recognized as one of the common psychological problems in students and manifests as feelings of worry, fear, and restlessness regarding educational or social issues (Wen et al., 2021). Anxiety in elementary school can have many negative effects on students' academic performance and social interactions (Karami et al., 2022) and can lead to reduced focus, diminished motivation, and even ineffective participation in class (Fréchette-Simard et al., 2022). This condition can have long-term effects on the personality development and self-concept of students and, in severe cases, lead to more serious psychological problems in the future (Yamamoto et al., 2023). Furthermore, severe anxiety can cause physical problems such as headaches, digestive issues, and sleep disturbances in children (Li et al., 2023). On the other hand, academic enthusiasm refers to a student's interest and commitment to learning and striving to achieve educational goals. This concept includes three dimensions—cognitive, emotional, and behavioral—that each play an important role in maintaining and enhancing student motivation (Salmani et al., 2023). Maintaining an optimal level of academic enthusiasm is considered one of the fundamental challenges facing educational systems. Academic enthusiasm, as one of the core concepts in educational psychology, has widespread effects on students' performance and Academic Enthusiasm (Gharibi et al., 2022). Academic enthusiasm is defined as the students' desire and interest in learning, actively participating in educational activities, and achieving academic goals. This enthusiasm motivates students to engage in educational processes with more interest and effort and to take advantage of available resources for learning (Hosseinmardi et al., 2022). Research has shown that students with high levels of academic enthusiasm are more resilient to academic challenges and do not easily become discouraged when faced with educational difficulties (Javadi Elmi et al., 2020). Students who have high academic enthusiasm usually put more effort into learning and actively participate in class activities (Luo et al., 2024). Therefore, creating an environment that can reduce anxiety and enhance students' enthusiasm for learning is of special importance.

Glasser's approach in quality schools emphasizes that every student should have the opportunity to experience the learning process in a free environment, with a proper understanding of their own needs and desires (Khodabandehlou & Hashemi Golpayegani, 2025). In other words, in this approach, the school is a place where students feel a sense of belonging and enjoy learning (Lucas & Mbiti, 2014). This perspective helps schools reduce children's anxiety and improve their enthusiasm for learning by strengthening healthy relationships between teachers and students and creating a supportive environment (Koning & van der Wiel, 2013). On the other hand, this approach causes students to view learning as a pleasurable experience rather than a heavy, stress-inducing task (Clark, 2023).

Glasser's quality school, with its emphasis on intrinsic needs, the creation of positive relationships, and attention to students' internal motivations, is considered an innovative method in education that can play a significant role in improving the quality of learning and increasing students' intrinsic motivation (Deming et al., 2014). However, to successfully implement this

model, fundamental changes are needed in the attitudes of teachers and administrators, as well as support from parents for this new approach. Various studies have shown that high-quality educational environments can have a positive impact on reducing anxiety and increasing students' academic enthusiasm. For instance, the study by Collins & Kaplan (2022) demonstrated that schools with flexible curricula and a focus on students' individual development can significantly reduce anxiety and increase academic enthusiasm. Additionally, research by Deming et al. (2014) and Anderson et al. (2018) reported similar results. These findings highlight the importance of quality approaches in schools for improving the psychological and academic well-being of students.

Despite the existence of numerous studies on the impact of quality schools on students' psychological and academic well-being (Al Qutub et al., 2024), there are still significant research gaps in this area. One of the main challenges is the lack of sufficient research on the effectiveness of quality schools on psychological variables such as anxiety. Moreover, most studies have focused on examining the impact of quality schools on secondary school students, with fewer studies conducted at the elementary level, even though this stage is crucial for the development of social and emotional behaviors. Additionally, many studies have provided a general evaluation of schools and have not specifically examined the impact of these schools on anxiety and academic enthusiasm within a single, comprehensive framework. This research gap highlights the need for more localized and precise studies in elementary schools.

The importance of this research can be examined from two perspectives. First, from the viewpoint of educational policymaking, which requires improving the quality of education and creating more supportive environments in schools. The results of this study can assist policymakers and educational administrators in incorporating quality approaches into their educational planning and, by establishing quality schools, help reduce anxiety and increase academic enthusiasm among students. Second, from the perspective of students' mental health, which is of great significance, as reducing anxiety and increasing academic enthusiasm can lead to an improved quality of life for students and a brighter future for them. Furthermore, the creation of quality schools can also provide greater reassurance to families regarding the education and psychological development of their children. This research can specifically help educational administrators and policymakers in Iran to design policies and programs that address the real needs of students and enhance their satisfaction with educational environments. Ultimately, this study will not only contribute to improving students' academic performance but will also lead to better mental health in students and the community by reducing anxiety and strengthening the enthusiasm for learning. In conclusion, this research aims to improve educational processes by thoroughly examining the impact of quality schools on the mental health and academic enthusiasm of elementary school students in the city of Hamadan, providing practical results for future planning in the field of education. It is hoped that the findings of this study will be an effective step toward enhancing educational quality and improving the psychological and academic status of students in elementary schools.

## **Method**

This research is applied in terms of its goal and is a semi-experimental study in terms of data collection, using a pre-test–post-test design with a control group. The statistical population of the study consisted of all sixth-grade female students in the city of Hamadan for the 2023–2024 academic year. A school was selected as the sample, which had been identified as a high-risk school based on the screening test conducted by the Ministry of Education in February 2023, the results of which were published in the September of 2023. This school, located on the outskirts of Hamadan, had 53 sixth-grade students (one class of 27 students and one class of 26 students). Initially, on the first of October 2022, the levels of anxiety and academic enthusiasm were measured in these two classes using the Multidimensional Anxiety Scale for Children by March et al. (1997) and the Academic Enthusiasm Questionnaire by Fredericks et al. (2004).

Then, based on the similarity of the mean anxiety and academic enthusiasm scores in both classes, one class (the 27-student class) was randomly selected as the experimental group and the other class (the 26-student class) as the control group. The experimental group underwent the Glasser quality school process, where the school staff and teachers participated in six 4-hour training sessions, and parents and students each received five 4-hour training sessions based on the Glasser quality school protocol (1990). Under the supervision of the researchers and the Counseling Center of Hamadan Province, this class received training from October 7, 2023, to May 4, 2024, based on the quality school protocol. The control group did not receive any specific remedial education during this period and continued their studies in a regular, traditional classroom setting. On May 10, 2024, post-test measurements of anxiety and academic enthusiasm were taken from both classes using the aforementioned questionnaires.

The inclusion criteria for participants in the study were: sixth-grade students, being identified as part of a high-risk school based on the screening test by the Ministry of Education, being enrolled in a school in Hamadan, the willingness of school officials, parents, and students to cooperate with the research, being willing to collaborate with the researcher, and providing written consent from parents and a commitment from school officials and teachers. The exclusion criteria for participants were: absenteeism or failure to attend more than two sessions of training, and lack of cooperation from students or parents in the research. The following questionnaires were used to collect the data:

**Multidimensional Anxiety Scale for Children (MASC):** This scale was developed by March et al. (1997). It consists of 39 items and is a self-report instrument designed to assess anxiety symptoms in individuals aged 8 to 19 years. Each item is rated on a four-point Likert scale from 0 to 3 (never, rarely, sometimes, always). The scale measures four dimensions, which include social anxiety (with questions 3, 10, 14, 16, 22, 29, 33, 37, 39), separation anxiety (questions 4, 7, 11, 17, 19, 23, 26, 30, 34), harm avoidance (questions 2, 6, 9, 13, 21, 25, 28, 32, 36), and physical symptoms (questions 1, 5, 8, 12, 15, 18, 20, 24, 27, 31, 35, 38). In the study by Ivarsson et al. (2006), the reliability coefficient for the entire scale was reported as 0.87, and for the dimensions of social anxiety, separation anxiety, harm avoidance, and physical symptoms, the

reliability coefficients were 0.83, 0.64, 0.71, and 0.84, respectively. The scale's convergent validity was reported as 0.71 when compared with the Zung Anxiety Questionnaire (1970).

In Iran, Mashhadi et al. (2012) conducted a standardization of this questionnaire among third, fourth, and fifth-grade students in public schools in Mashhad. The test-retest reliability and internal consistency for the entire MASC were 0.48 and 0.79, respectively. The correlation of the scale with the Reynolds and Richmond Children's Manifest Anxiety Scale (1978) and the Kovacs Depression Scale (1977) were 0.38 and 0.20, respectively, indicating the convergent and discriminant validity of the MASC. According to the results of factor analysis by Mashhadi et al. (2012), the four-factor model of the MASC fits well with the Iranian population.

**Academic Enthusiasm Questionnaire:** The Academic Enthusiasm Scale was developed by Fredericks, Blumenfeld, and Paris (2004). It consists of 15 items, which are divided into three subscales: behavioral enthusiasm (items 1 to 4), emotional enthusiasm (items 5 to 10), and cognitive enthusiasm (items 11 to 15). The items are rated on a 5-point Likert scale (Never = 1, Rarely = 2, Sometimes = 3, Often = 4, Always = 5). The minimum score on this scale is 15, and the maximum score is 75. Fredericks and colleagues (2004) reported the reliability of this scale to be 0.86 based on Cronbach's alpha, and the construct validity was reported as 54.4%. In the study by Abbasi et al. (2015), the overall reliability of the scale was reported to be 0.66 based on Cronbach's alpha; in the study by Chamani et al. (2014), it was 0.92, and in the research by Ganji et al. (2016), it was 0.77. Farajzadeh et al. (2020) reported Cronbach's alpha for the entire questionnaire as 0.80, for the behavioral enthusiasm scale as 0.79, for cognitive enthusiasm as 0.81, and for emotional enthusiasm as 0.78.

### ***Main Steps for Establishing a Glasser Quality School***

1. **Commitment:** School staff, parents, and students must make a firm commitment to strive toward becoming a quality school.
2. **Staff Training:** The school's executive director must be prepared to teach the fundamental concepts of Choice Theory and Reality Therapy, creating the conditions necessary for transitioning from methods based on coercion and force to those based on management through guidance, which leads to quality work. School members were encouraged to implement team-based systems, such as cooperative learning, which are essential components of Dr. Glasser's theories, in the classroom.
3. **Training for Parents:** The concepts of Choice Theory were taught to parents so that, in collaboration with the school staff, they could create a warm and hopeful environment, build healthy relationships, and find satisfaction and success through these positive relationships.
4. **Training for Students:** The concepts of Choice Theory were taught to students to encourage them to strive for quality work and establish relationships based on intimacy and respect with their classmates, principal, and teacher (Glasser, 1991).

**Table 1.** Protocol for Training School Staff and Teachers

| Session       | General Objective                                                                | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>First</b>  | Introduction, Features of a Quality School, Steps to Implement Quality Education | Introduction to school staff, obtaining a commitment from staff to achieve a quality school. Teaching how to perform quality work by students based on a program and goal, creating a positive and enjoyable class environment, a class based on intrinsic motivation.<br>Quality Relationships: Teacher and students place each other in their desired world.<br>Quality Environment: Teacher and students place the classroom in their desired world.<br>Quality Learning: Teacher and students place learning in their desired world. |
| <b>Second</b> | Teaching Fundamental Concepts of Choice Theory                                   | Needs (need for survival, love and belonging, power and achievement, freedom, fun)<br>Types of motivators and evidence (intrinsic and extrinsic)                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Third</b>  | Teaching Fundamental Concepts of Choice Theory                                   | Desired world, perceived world, Choice Theory chart                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Fourth</b> | Teaching Fundamental Concepts of Choice Theory                                   | Difference between consequence and punishment, general behavior and behavior machine                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Fifth</b>  | Teaching Proper Management and Features of a Quality School                      | Managerial and leadership-based management, six conditions for a quality school (The classroom environment must be intimate, students should only do beneficial work, students should be asked to do the best work they can, students should evaluate their own work, quality work always creates a good feeling, quality work is never destructive).                                                                                                                                                                                    |
| <b>Sixth</b>  | Teaching Methods in the Classroom                                                | How to teach in the classroom based on the features of a quality school and fundamental concepts of Choice Theory, such as: grouping students, seating students in circles, how to convince them to learn lessons, how to establish discipline in the class and handle disorder, using diverse learning methods, and considering the fundamental needs of students for education, etc.                                                                                                                                                   |

**Table 2.** Protocol for Parent Training

| Session       | General Objective                                             | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>First</b>  | Introduction, Self-assessment, Teaching Types of Evidence     | Introduction, providing a self-assessment questionnaire to parents, obtaining a commitment from parents to attend all sessions consecutively. Outlining the general objectives of the sessions, creating a sense of need for behavioral change in parents' interactions with their children, teaching types of evidence (intrinsic-extrinsic), fostering better relationships by eliminating external evidence, assigning homework, and striving to eliminate external evidence. |
| <b>Second</b> | Teaching Destructive and Effective Behaviors in Relationships | Reviewing the previous session and following up on homework assignments, teaching seven destructive behaviors: punishing, threatening, bribing (making promises), criticizing, blaming, complaining, and whining. Also teaching seven connecting behaviors for communication: showing attention, trusting, listening, supporting, negotiating and discussing during conflicts, befriending, and encouraging,                                                                     |

|               |                                                                      |                                                                                                                                                                                                                                                         |
|---------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |                                                                      | along with multiple examples. Providing homework assignments to parents.                                                                                                                                                                                |
| <b>Third</b>  | Teaching Basic Needs                                                 | Reviewing the previous session and following up on homework assignments, focusing on the five basic human needs that affect child-rearing: the need for survival, love and affection, power and achievement, freedom, and fun. Assigning homework.      |
| <b>Fourth</b> | Teaching the Desired World                                           | Reviewing the previous session and following up on homework, teaching the concept of the desired world and explaining how to build effective relationships by understanding the desired world of children using various techniques. Assigning homework. |
| <b>Fifth</b>  | Teaching Rights and Responsibilities and Choice Parenting Strategies | Following up on homework, reviewing previous materials, explaining the difference between consequences and punishment, discussing children's rights, and teaching them responsibility.                                                                  |

**Table 3.** Protocol for Student Training

| Session       | General Objective                                   | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>First</b>  | Introduction, Teaching Features of a Quality School | Introduction to students, obtaining their commitment to engage in the process of achieving a quality school, teaching how to perform quality work based on a plan and goals, creating a pleasant and enjoyable classroom atmosphere, a class based on intrinsic motivations. Quality relationships (teacher and students place each other in their desired world), quality environment (teacher and students place the class in their desired world), quality learning (teacher and students place learning in their desired world). |
| <b>Second</b> | Teaching Fundamental Concepts of Choice Theory      | Needs (the need for survival, love and belonging, power and achievement, freedom, fun), types of motivators and evidence (intrinsic and extrinsic).                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Third</b>  | Teaching Fundamental Concepts of Choice Theory      | Understanding the desired world and perceptual world to establish effective communication and create intimacy in the classroom.                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Fourth</b> | Teaching Features of a Quality School               | Teaching the six conditions of a quality school: (1) the classroom environment must be friendly, (2) students should only perform beneficial tasks, (3) students are asked to do the best work they can, (4) students must evaluate their own work, (5) quality work always creates a good feeling, (6) quality work is never destructive), and posting a printout of these conditions on the classroom wall.                                                                                                                        |
| <b>Fifth</b>  | Performing Quality Work in the Classroom            | Persuading students to learn lessons and perform quality work using various strategies such as planning, self-assessment, collaboration, and creating close relationships for better learning.                                                                                                                                                                                                                                                                                                                                       |

## Results

In Table 4, the descriptive findings of the variables of anxiety, academic enthusiasm, and their components in the pre-test and post-test for both the control and experimental groups are presented. According to the results, the experimental group, after participating in the quality school program, exhibited lower anxiety and higher academic enthusiasm.

Considering that in the three hypotheses of this study, each hypothesis involved more than one dependent variable, three MANCOVA tests were used to analyze the data. Before analyzing the data for each hypothesis, the underlying assumptions of multivariate covariance were examined. One of the main assumptions of multivariate analysis of variance is the existence of

moderate correlations, less than 0.90 (Nickla Breece et al., 2014). In this regard, to test this assumption, the Pearson correlation coefficient between the anxiety and academic enthusiasm scores in the post-test was calculated. The results showed that the correlation coefficient between the scores of these two variables was -0.392. Therefore, the assumption of a moderate correlation between the dependent variables holds. The significance level was 0.082 ( $p < 0.05$ ,  $F = 2.23$ ), and as a result, the assumption of homogeneity of the variance-covariance matrix was met. To test for equality of variances, Levene's test was used, and since the significance levels for anxiety ( $p < 0.05$ ,  $F = 0.59$ ) and academic enthusiasm ( $p < 0.05$ ,  $F = 3.04$ ) were both higher than the significance level of  $\alpha = 0.05$ , the assumption of equality of variances between the control and experimental groups was confirmed.

**Table 4.** Mean and Standard Deviation of Variables

| Variable              | Group        | Pre-test |      | Post-test |      |
|-----------------------|--------------|----------|------|-----------|------|
|                       |              | M        | SD   | M         | SD   |
| Anxiety               | Control      | 56.5     | 7.81 | 53.65     | 8.97 |
|                       | Experimental | 58.37    | 7.02 | 43.52     | 6.39 |
| Academic Enthusiasm   | Control      | 37.46    | 5.98 | 39.04     | 6.35 |
|                       | Experimental | 39.11    | 5.09 | 50.04     | 5.75 |
| Social Anxiety        | Control      | 12.04    | 2.37 | 11.35     | 2.56 |
|                       | Experimental | 12.81    | 3.21 | 9.09      | 3.09 |
| Separation Anxiety    | Control      | 12.19    | 2.28 | 11.23     | 2.25 |
|                       | Experimental | 12.15    | 1.92 | 8.59      | 2.21 |
| Avoidance of Harm     | Control      | 17.73    | 2.65 | 16.65     | 2.38 |
|                       | Experimental | 18.07    | 2.79 | 14.78     | 2.36 |
| Physical Symptoms     | Control      | 13.50    | 4.67 | 13.15     | 4.57 |
|                       | Experimental | 14.96    | 5.06 | 11.11     | 3.69 |
| Behavioral Enthusiasm | Control      | 10.10    | 2.38 | 10.04     | 2.44 |
|                       | Experimental | 10.19    | 1.49 | 12.30     | 2.30 |
| Emotional Enthusiasm  | Control      | 15.38    | 3.69 | 16.08     | 3.75 |
|                       | Experimental | 16.67    | 2.93 | 20.78     | 3.96 |
| Cognitive Enthusiasm  | Control      | 12.38    | 3.35 | 12.92     | 3.38 |
|                       | Experimental | 12.30    | 2.98 | 17.07     | 2.59 |

For testing the normality of the distribution of scores, the Shapiro-Wilk test was used. Since the significance levels for anxiety ( $p = 0.131$ ) and academic enthusiasm ( $p = 0.122$ ) were greater than the significance level of  $\alpha = 0.05$ , it can be concluded that the distribution of scores for both variables follows a normal distribution. Therefore, the assumption of normality of the distribution of the dependent variables' scores was met.

Given that all four assumptions of multivariate analysis of covariance are satisfied, the multivariate analysis of covariance test was used to examine the effectiveness of the quality school program on students' anxiety and academic enthusiasm.

**Table 5.** Results of the MANCOVA test for examining the effect of the quality school program on the linear combination of students' anxiety and academic enthusiasm

| Effect | Test               | Value | F     | Hypothesis df | Error df | Sig  | Partial Eta Squared |
|--------|--------------------|-------|-------|---------------|----------|------|---------------------|
| Group  | Pillai's Trace     | .743  | 69.22 | 2             | 48       | .000 | .743                |
|        | Wilks' Lambda      | .257  | 69.22 | 2             | 48       | .000 | .743                |
|        | Hotelling's Trace  | 2.884 | 69.22 | 2             | 48       | .000 | .743                |
|        | Roy's Largest Root | 2.884 | 69.22 | 2             | 48       | .000 | .743                |

The results in Table 5 show that the null hypothesis is rejected ( $\eta^2 = 0.743$ , Lambda = 0.257,  $F = 69.22$ ,  $P < 0.05$ ). Therefore, it can be concluded that the implementation of the Quality School program has a significant impact on the linear combination of anxiety

and academic enthusiasm in sixth-grade female students. The effect size of the implementation of the Quality School program on the linear combination of anxiety and academic enthusiasm is 0.743.

**Table 6.** Results of the MANCOVA test for comparing post-test anxiety and academic enthusiasm in the control and experimental groups

| Source | Dependent Variable  | Type III Sum of Squares | df | Mean Square | F      | Sig. | Partial Eta Squared |
|--------|---------------------|-------------------------|----|-------------|--------|------|---------------------|
| Group  | Anxiety             | 1814.722                | 1  | 1814.722    | 77.129 | .000 | .612                |
|        | Academic Enthusiasm | 1187.796                | 1  | 1187.796    | 68.842 | .000 | .584                |

The results in Table 6 indicate that in the post-test, the mean anxiety ( $\eta^2 = 0.612$ ,  $F = 59.26$ ,  $P < 0.05$ ) and academic enthusiasm ( $\eta^2 = 0.584$ ,  $F = 77.13$ ,  $P < 0.05$ ) showed significant differences between the control and experimental groups. These results suggest that the implementation of the quality school program had a significant impact on both variables, anxiety and academic enthusiasm. The effect size of the quality school program on reducing students' anxiety was 0.612, and on increasing their academic enthusiasm, it was 0.584.

The examination of the assumptions for the second hypothesis revealed that the correlation coefficient between the components of anxiety ranged from 0.292 to 0.393. Therefore, the assumption of a moderate correlation between the dependent variables holds. To test the homogeneity of the variance-covariance matrix, Box's M test was used. Since the significance level for Box's M was 0.102 ( $F = 1.59$ ,  $P < 0.05$ ), the assumption of homogeneity of the variance-covariance matrix was met. The significance of Levene's test and the Shapiro-Wilk test for the components of social anxiety, separation anxiety, avoidance of harm, and physical symptoms were all greater than 0.05, which means the assumptions of equality of variances between the control and experimental groups and normality of the distribution of the dependent variables' scores were satisfied.

Therefore, to test the effectiveness of the quality school program on the components of anxiety (social anxiety, separation anxiety, avoidance of harm, and physical symptoms) in students, a MANCOVA test was used.

**Table 7.** Results of the MANCOVA test for examining the effect of the quality school program on the linear combination of anxiety components in students

| Effect | Test               | Value | F     | Hypothesis df | Error df | Sig  | Partial Eta Squared |
|--------|--------------------|-------|-------|---------------|----------|------|---------------------|
| Group  | Pillai's Trace     | .672  | 22.55 | 4             | 44       | .000 | .672                |
|        | Wilks' Lambda      | .328  | 22.55 | 4             | 44       | .000 | .672                |
|        | Hotelling's Trace  | 2.050 | 22.55 | 4             | 44       | .000 | .672                |
|        | Roy's Largest Root | 2.050 | 22.55 | 4             | 44       | .000 | .672                |

The results in Table 7 show that the null hypothesis is rejected ( $\eta^2 = 0.672$ ,  $\text{Lambda} = 0.328$ ,  $F = 22.55$ ,  $P < 0.05$ ). Therefore, it can be concluded that the implementation of the quality school program has a significant impact on the linear combination of social anxiety, separation anxiety, avoidance of harm, and physical symptoms in sixth-grade female students. The effect size of the quality school program on the linear combination of social anxiety, separation anxiety, avoidance of harm, and physical symptoms is 0.672.

**Table 8.** Results of the MANCOVA test for comparing post-test anxiety components in the control and experimental groups

| Source | Dependent Variable | Type III Sum of Squares | df | Mean Square | F      | Sig. | Partial Eta Squared |
|--------|--------------------|-------------------------|----|-------------|--------|------|---------------------|
| Group  | Social Anxiety     | 102.751                 | 1  | 102.751     | 63.382 | .000 | .574                |
|        | Separation Anxiety | 74.574                  | 1  | 74.574      | 67.947 | .000 | .591                |
|        | Avoidance of Harm  | 48.704                  | 1  | 48.704      | 23.684 | .000 | .335                |
|        | Physical Symptoms  | 121.511                 | 1  | 121.511     | 48.365 | .000 | .507                |

The results in Table 8 indicate that in the post-test, the mean scores for social anxiety ( $\eta^2 = 0.574$ ,  $F = 63.38$ ,  $P < 0.05$ ), separation anxiety ( $\eta^2 = 0.591$ ,  $F = 67.95$ ,  $P < 0.05$ ), avoidance of harm ( $\eta^2 = 0.335$ ,  $F = 23.68$ ,  $P < 0.05$ ), and physical symptoms ( $\eta^2 = 0.507$ ,  $F = 48.36$ ,  $P < 0.05$ ) showed significant differences between the control and experimental groups. These results suggest that the implementation of the quality school program had a significant impact on each of the anxiety components. The effect size of the quality school program on reducing social anxiety was 0.574, separation anxiety was 0.591, avoidance of harm was 0.335, and physical symptoms was 0.507.

The examination of the assumptions for the third hypothesis revealed that the correlation coefficient between the components of academic enthusiasm ranged from 0.271 to 0.519. Therefore, the assumption of a moderate correlation between the dependent variables holds. The significance level of the Box's M test was 0.581 ( $F = 0.79$ ,  $P < 0.05$ ), and as a result, the

assumption of homogeneity of the variance-covariance matrix was met. The significance of Levene's test and the Shapiro-Wilk test for the components of behavioral enthusiasm, emotional enthusiasm, and cognitive enthusiasm were all greater than 0.05, indicating that the assumption of equality of variances between the control and experimental groups and the normality of the distribution of the dependent variables' scores were satisfied.

Therefore, to test the effectiveness of the quality school program on the components of academic enthusiasm (behavioral enthusiasm, emotional enthusiasm, and cognitive enthusiasm) in students, a MANCOVA test was used.

**Table 9.** Results of the MANCOVA test for examining the effect of the quality school program on the linear combination of academic enthusiasm components

| Effect | Test               | Value | F      | Hypothesis df | Error df | Sig  | Partial Eta Squared |
|--------|--------------------|-------|--------|---------------|----------|------|---------------------|
| Group  | Pillai's Trace     | .611  | 24.068 | 3             | 46       | .000 | .611                |
|        | Wilks' Lambda      | .389  | 24.068 | 3             | 46       | .000 | .611                |
|        | Hotelling's Trace  | 1.570 | 24.068 | 3             | 46       | .000 | .611                |
|        | Roy's Largest Root | 1.570 | 24.068 | 3             | 46       | .000 | .611                |

The results in Table 9 show that the null hypothesis is rejected ( $\eta^2 = 0.611$ ,  $\text{Lambda} = 0.389$ ,  $F = 24.07$ ,  $P < 0.05$ ). Therefore, it can be concluded that the implementation of the quality school program has a significant impact on the linear combination of behavioral enthusiasm, emotional enthusiasm, and cognitive enthusiasm in sixth-grade female students. The effect size of the quality school program on the linear combination of behavioral enthusiasm, emotional enthusiasm, and cognitive enthusiasm is 0.611.

**Table 10.** Results of the MANCOVA test for comparing post-test academic enthusiasm components in the control and experimental groups

| Source | Dependent Variable    | Type III Sum of Squares | df | Mean Square | F      | Sig. | Partial Eta Squared |
|--------|-----------------------|-------------------------|----|-------------|--------|------|---------------------|
| Group  | Behavioral Enthusiasm | 48.420                  | 1  | 48.420      | 14.336 | .000 | .230                |
|        | Emotional Enthusiasm  | 186.511                 | 1  | 186.511     | 22.930 | .000 | .323                |
|        | Cognitive Enthusiasm  | 208.370                 | 1  | 208.370     | 30.009 | .000 | .385                |

The results in Table 10 show that in the post-test, the mean scores for behavioral enthusiasm ( $\eta^2 = 0.23$ ,  $F = 14.34$ ,  $P < 0.05$ ), emotional enthusiasm ( $\eta^2 = 0.323$ ,  $F = 22.93$ ,  $P < 0.05$ ), and cognitive enthusiasm ( $\eta^2 = 0.385$ ,  $F = 30.01$ ,  $P < 0.05$ ) showed significant differences between the control and experimental groups. These results indicate the significant impact of the quality school program on each component of enthusiasm. The effect size of the quality school program on increasing behavioral enthusiasm was 0.23, emotional enthusiasm was 0.323, and cognitive enthusiasm was 0.385.

**Discussion**

significant impact of the quality school program on reducing anxiety and increasing academic enthusiasm among elementary school students in Hamadan. Based on the results, the quality school program has effectively contributed to reducing academic anxiety, social anxiety, separation anxiety, and physical symptoms associated with anxiety. Furthermore, this approach has led to an increase in students' academic enthusiasm, including cognitive, emotional, and behavioral components. In line with these results, it can be said that the quality school program is designed based on the principles of Glasser's theory and Choice Theory. This theory is grounded in the idea that humans pursue basic psychological needs such as belonging, success, pleasure, and freedom in their learning environments (Glasser, 1999). In this model, the school environment is designed in such a way that these needs are adequately addressed and fulfilled. Specifically, providing a supportive and safe environment by teachers and emphasizing the creation of positive relationships between teachers and students directly impacts reducing anxiety in students. The quality school program focuses on creating open, trust-building communication environments between teachers and students. These environments allow students to openly discuss their fears and concerns. This feeling of being accepted leads to students participating more confidently in group activities. The reduction of social anxiety in this environment is achieved through positive interactions between the teacher and students, which fosters a sense of trust and psychological safety in the students. This is particularly effective for students who suffer from social anxiety (Shayganfard et al., 2024). Teachers help reduce students' social anxiety by providing constructive feedback and actively listening to them.

The quality school program also helps reduce separation anxiety by creating an environment that strengthens students' sense of belonging. In this process, parent education plays a crucial role. Parents, who are themselves part of the educational process in the quality school, learn how to assist their children in experiencing the separation from home and transition to school in a positive way (Maki et al., 2024). This training enables parents to help their children manage negative emotions and reduce concerns when faced with a new environment. As a result, students feel supported and cared for even in the absence of their families, which helps reduce separation-related anxiety (Karami et al., 2022). The reduction of separation anxiety leads to a greater sense of calm in the school environment and better focus on academic activities, as students are no longer worried about being away from their family and can engage in learning with greater peace of mind.

The quality school program helps reduce physical symptoms associated with anxiety, such as headaches, sleep problems, and digestive issues, by alleviating environmental pressures and providing positive feedback, rather than focusing on test results. This is particularly important as students in traditional learning environments may experience severe anxiety due to pressures from academic competition and stringent evaluations (Li et al., 2023). By reducing these pressures and creating a calmer space for learning, physical symptoms associated with anxiety

are significantly reduced. In this way, students can engage in the learning process with greater ease, which in turn contributes to the improvement of their academic performance.

The increase in students' academic enthusiasm in the quality school program is a direct result of approaches based on intrinsic motivation and students' active participation in the learning process. This approach is based on the idea that students are more inclined to learn and engage in academic activities when they feel they have an active role in their own learning and participate in decision-making and assessment processes (Anderson et al., 2018). In the quality school program, students are encouraged to participate in the curriculum planning process, which leads to a greater sense of ownership over their learning (Glasser, 1991). This active involvement motivates students to attend classes, complete assignments, and follow up on academic matters. Additionally, it fosters a sense of independence in students, enhancing their decision-making and problem-solving abilities, which in turn positively affects their academic enthusiasm.

The quality school program, by focusing on positive relationships between teachers and students, helps improve students' emotional enthusiasm. In this environment, students feel that their teachers care about them and understand them. This sense of belonging and worth makes students more interested in learning and school activities, fostering more positive feelings towards the learning process (Clark, 2023). Supportive and empathetic communication between teachers and students helps strengthen their emotional enthusiasm and creates greater motivation for effort and progress. The increase in emotional enthusiasm leads to students attending classes with more energy and interest, showing a greater willingness to engage in academic activities.

Cognitive enthusiasm is defined as the desire to understand and learn concepts more deeply. In the quality school program, students are encouraged to focus on analyzing and deeply understanding academic topics, rather than merely memorizing information (Lucas & Mbiti, 2014). This is achieved through teaching methods based on problem-solving and critical thinking. In this model, teachers act as learning facilitators and help students examine concepts from various perspectives. This process enhances students' cognitive enthusiasm and encourages them to engage in more independent and creative learning (Deming et al., 2014). The increase in cognitive enthusiasm among students leads to a heightened motivation to explore new concepts and find creative solutions to educational problems.

One of the prominent features of the quality school program is that the reduction of anxiety and the increase in academic enthusiasm occur simultaneously, and these two factors are interconnected. As previous research has shown, reducing anxiety can directly impact the increase in motivation and enthusiasm for learning (Salmani et al., 2023). Specifically, when students experience less anxiety, they are able to engage more focusedly in the learning process and derive greater enjoyment from their learning experiences. In the quality school program, reducing educational pressures and providing a space where students' positive emotions are reinforced leads to an overall improvement in their learning experience. This process helps students view learning as an opportunity for growth and a pleasurable experience, rather than as a heavy and stressful task. Overall, the results of this study clearly indicate that the quality

school program can be an effective approach for enhancing the educational experience and reducing psychological issues among elementary school students. This approach, by providing opportunities for active participation, strengthening positive relationships, and focusing on students' basic psychological needs, has a significant impact on improving their psychological and motivational well-being. Moreover, these findings, supported by previous studies, highlight the necessity of adopting modern and human-centered methods in educational systems.

One of the reasons for the success of the quality school approach in reducing anxiety and increasing academic enthusiasm is its emphasis on the principles of Choice Theory and intrinsic motivation. As Glasser (1991) states, intrinsic motivation allows students to actively participate in their own learning process and feel that they have more control over their educational decisions. This sense of control and self-efficacy not only helps reduce anxiety but also strengthens intrinsic motivation for learning. Students who feel involved in their own learning process are less worried about failure and engage in learning with greater confidence. This reduces performance-related anxiety because students, instead of focusing on test scores, place greater importance on the learning process and their personal progress.

On the other hand, the quality school approach creates an environment that encourages self-assessment and provides constructive feedback, rather than focusing solely on traditional evaluations. This fosters a space in which students feel valued and experience growth. This type of feedback is especially effective for students who are inherently sensitive to their mistakes and can help reduce the fear of negative evaluation (Anderson et al., 2018). Additionally, it leads students to focus on learning from their experiences and progress, rather than fearing mistakes, which can result in reduced anxiety and increased motivation to learn.

## **Conclusions**

The results of this study clearly indicate that the quality school program, based on the principles of Glasser's theory and Choice Theory, can serve as an effective method for improving the mental health and enhancing the quality of learning for elementary school students. The reduction of academic and social anxiety, along with the increase in cognitive, emotional, and behavioral enthusiasm among students, demonstrates the power of this approach in creating positive and supportive learning environments. This approach is particularly important for children in the elementary school years, who are experiencing their first educational encounters in formal school environments, as it helps them engage in learning with greater interest and motivation in a calm and pleasant setting.

It is recommended that educational policymakers and school administrators, based on the findings of this study, promote and expand the implementation of quality schools at various educational levels and help improve students' educational experiences by providing necessary training to teachers and parents. Additionally, it is suggested that future research explore the long-term effects of quality schools on academic performance and mental health, evaluating the results in higher educational levels. Investigating the differences between this approach and other educational methods could help provide more precise solutions for improving the

educational system. This study shows that changes in educational approaches and the creation of learning environments based on students' psychological needs can improve their educational experience and personal growth, ultimately contributing to the enhancement of the quality of the national education system. Thus, quality schools can play a significant role in creating a better future for students and society.

#### ***CRedit authorship contribution statement***

Conceptualization, M.Z.R.; methodology, M.Z.R.; formal analysis, M.Z.R.; investigation, M.S. and S.P.M.; data curation, S.P.M.; project administration, M.S. and S.P.M.; writing—original draft preparation, M.Z.R.; writing—review and editing, M.Z.R. All authors have read and agreed to the published version of the manuscript.

#### ***Conflict of interest***

The authors declare no conflict of interest.

#### ***Ethical considerations***

The authors avoided data fabrication, falsification, and plagiarism, and any form of misconduct.

#### ***Data availability statement***

Data available on request from the authors.

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