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Comparing the effectiveness of self-efficacy education and education based on acceptance and commitment on test anxiety and belonging to school in the second high school boys of Birjand city

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ABSTRACT

Background and Aim: Nowadays, education and learning are the most basic activities of life in progressive societies, and the survival and durability of any society depends on acquiring information and applying it in life. The purpose of this research was to compare the effectiveness of self-efficacy education and education based on acceptance and commitment on test anxiety and belonging to school in second secondary school boys in Birjand city. **Methods:** The current research was a quasi-experimental type that was implemented with a pre-test-post-test design and a 3-month follow-up. Among the second secondary schools in Birjand city, one school was randomly selected and using G Power software, a sample size of 78 students was considered and the students were randomly divided into three groups (26 students in each group) Self-efficacy test, 26 people were included in the ACT intervention group and 26 people were in the control group. The data were analyzed with repeated measures analysis of variance. **Results:** The findings of the present study showed that self-efficacy training and training based on acceptance and commitment reduce test anxiety and increase the level of belonging to the school of students compared to the control group ($p<0.001$). The results of the Bonferroni test showed that there was no significant difference between the influence of self-efficacy training compared to training based on acceptance and commitment on test anxiety and belonging to school ($p<0.05$). **Conclusion:** Considering the influence of self-efficacy training and education based on acceptance and commitment on test anxiety and belonging to school in students, counselors and therapists can use these approaches to reduce test anxiety and also increase the level of belonging to school.

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Introduction

Today, education and learning are considered among the most fundamental activities in advanced societies, and the survival and endurance of any society depend on acquiring information and its application in life (Haj-Bagheri, Arabi-Matin-Abadi, Ghadirzadeh, Mojoudi, & Ansari-Pour, 2016). Students in any society, as the intellectual, efficient, and future builders of the nation, form a group that allocates a major portion of a country's planning and budget. They represent the most intelligent and capable segments of society (Aghili, Mehrvarz, & Sadeghi Gandomani, 2016). Therefore, focusing on their academic performance is of special importance.

One of the unpleasant emotional states that can occur for students, preventing them from optimal performance and learning, is test anxiety (Schunk & Pinttrich, 2014; cited in Alaei, Alaei Kharayim & Ghadampour, 2016). Sarason (1975) defines test anxiety as a preoccupation with oneself, characterized by self-deprecation and doubt about one's abilities (Dianat et al., 2016). Elsewhere, test anxiety is defined as a state of distress experienced by an individual when perceiving an evaluative situation as threatening (Krysan, Albulescu, & Copaci, 2014). The prevalence of test anxiety among learners is reported to be 10 to 20 percent (Lutz & Sparfeldt, 2017), and among Iranian students, it ranges from 10 to 30 percent (Sabzeharay Langarudi, Mohammadi, Mehri & Talei, 2013).

Research indicates that students with test anxiety have different cognitive beliefs and more pathological worry compared to normal students (Birami, Mouhedi, Mohammadzadegan & Sepahvand, 2014). High test anxiety can potentially reduce well-being and academic performance directly through worries about failing tests and exams, and indirectly by damaging positive aspects of school life (e.g., reduced confidence in abilities and positive attitudes towards school) (Putwain, Gallard, Beaumont, Loderer, & Vanderhams, 2021). Researchers also emphasize the importance of a caring school environment that facilitates a sense of community and belonging among students (Korpershoek, Kuyper, van der Werf, & de Boer, 2020).

Given that schools are among the largest social environments where students start their early interactions from the ages of six or seven, these educational environments play a significant role in the socialization process, education, and training of students. When individuals categorize themselves as members of a group or social class, a sense of belonging arises (Farooqi, Pourshalchi & Esmkhani Akbari-Nejad, 2019). School belonging is a feeling that students have towards their peers, teachers, and school staff (Bohn et al., 2014; cited in Hosseini Iraj et al., 2019). This sense of belonging leads to students' interest in school, enhances internal values, pursuit of goals, and improves educational behaviors, while its absence can lead to behavioral, emotional, and academic problems (Faste, Anis & Hughes, 2014).

School belonging is influenced by contextual factors such as teacher support, peer relationships, guidance and counseling activities, school disciplinary rules, and opportunities for growth in abilities and talents (Hosseini Iraj et al., 2019). Karcher and colleagues (2008) identify three factors that enhance the sense of belonging to school: 1- Acceptance by others, 2- Interpersonal support, 3- Experienced sense of belonging (Farooqi et al., 2019).

In controlling educational environments, students do not feel a sense of agency, which affects their psychological needs and impacts their intrinsic motivation, self-regulation, autonomy, and performance (Hosseini-Iraj, Mahdian & Jajarmi, 2019). Therefore, it is necessary to seek psychological training to improve these characteristics, such as self-efficacy training and training based on acceptance and commitment.

The concept of self-efficacy was first introduced by Bandura as a cognitive construct that moderates the environment and behavior relationship (Darbani & Parsakia, 2022). Although the therapeutic aspect of this concept was less considered, its educational aspect has been widely discussed through facilitating self-efficacy resources, as various sources influence the creation, growth, and development of self-efficacy, and facilitating these resources can have positive psychological outcomes (Samadi et al., 2019). Self-efficacy refers to an individual's mental perception of their ability to perform in a specific environment or achieve desirable outcomes, and is considered a primary determinant of emotional states, motivational

states, and behavioral changes (VandenBos, 2015; cited in Samadi, Mousavi, Akbari & Rezaei, 2019).

On the other hand, among the third-wave psychological approaches, ACT (Acceptance and Commitment Therapy) is effective in controlling attitudes and perceptions against stressful life events. The fundamental construct and concept in ACT is that psychological pains and sufferings are caused by avoiding experiences, cognitive fusion, failure to meet behavioral needs, and misalignment with fundamental values. ACT changes the relationship between problematic thoughts and feelings so that individuals do not perceive them as pathological symptoms and even learn to regard them as harmless (even if they are upsetting and unpleasant) (Woodnick, 2012).

Acceptance and Commitment Therapy is a form of cognitive-behavioral therapy based on functional contextualism and rooted in a new theory about language and cognition called Relational Frame Theory. In Acceptance and Commitment Therapy, it is assumed that humans find many of their internal feelings, emotions, or thoughts distressing and continuously try to change or escape from these internal experiences. These control efforts are ineffective and paradoxically lead to the intensification of the feelings, emotions, and thoughts that the individual initially tried to avoid (Hayes, Pistorello & Levin, 2012). Acceptance and Commitment Therapy has six core processes that lead to psychological flexibility. These six processes are: acceptance versus avoidance, disentanglement versus cognitive fusion, self-as-context versus self-as-conceptualized, connection with the present versus dominance of the past and future conceptualized, articulation of values versus lack of clarity of values and connection with them, and commitment versus passivity (Hayes, Pistorello & Levin, 2012).

Given the significant role of these variables (test anxiety and school belonging) in the academic advancement of students, the necessity of examining the effectiveness of psychological trainings and interventions is evident. The methods used for intervention, in terms of focusing on beliefs and perceptions for effectively dealing with life events, can also be considered as preventive methods (Hayes & Strosahl, 2010; Kooshki, Karamati & Hasani, 2017). Therefore, the present research aims to compare the effectiveness of self-efficacy training and training based on acceptance and commitment on test anxiety and school belonging among male high school students in Birjand. It seeks to answer whether self-efficacy training and training based on acceptance and commitment are effective on test anxiety and school belonging among male high school students in Birjand, and which of these training methods (self-efficacy, acceptance and commitment) is more effective on these variables compared to each other.

Method

The present research utilized a quasi-experimental method, conducted with a pre-test, post-test, and 3-month follow-up design. From the secondary schools in Birjand city during the academic year of 2019-2020, one school was randomly selected. Using G Power software, the sample size was determined to be 78 individuals, and sampling was done through a convenience method.

Materials

1. Test Anxiety Questionnaire: This questionnaire was developed by Abolghasemi, Asadi-Moghadam, Najarain, and Shakarkan (1996). It consists of 25 items constructed to measure test anxiety symptoms in a student sample using factor analysis (Mehrabizadeh Honarmand, Allameh, & Shahni Yeylagh, 2007). Participants respond to each item based on a four-point scale ranging from "never" to "often," scoring 0, 1, 2, and 3 respectively. The score range of this test is 0 to 75, with higher scores indicating higher test anxiety. Abolghasemi and colleagues observed the test-retest reliability of the test anxiety scale for all participants, female and male participants as 0.78, 0.88, and 0.67, respectively. For validity assessment, they used the Coopersmith Self-Esteem Inventory. The correlation coefficients of the total scores of all participants, female and male participants on the self-esteem scale with the test anxiety scale were -0.57, -0.68, and -0.43, respectively, with p=0.001. The test's reliability in the final implementation was estimated at 0.92 using Cronbach's alpha. The correlation coefficient of each question with the total test score ranged from 0.45 to 0.72, indicating significant internal consistency (Ghaffari & Arfaee Baluchi, 2011). In the current study, Cronbach's alpha was 0.92, indicating desirable reliability of the instrument.

2. School Belonging Questionnaire: This questionnaire was designed by Bari, Betty, and Watt (2004) with 27 positive statements on a Likert scale (from strongly agree to strongly disagree). The questionnaire was revised by Betty and Bari (2005) and includes 6 subscales: 1. Feeling of belonging to peers, 2. Teacher support, 3. Feeling of respect and justice in school, 4. Participation in the community, 5. Individual connection with school, and 6. Academic participation. The reliability coefficient of the questionnaire through Cronbach's alpha for the entire questionnaire was 0.75, and for the components of feeling belonging to peers 0.73, teacher support 0.89, feeling of respect and justice in school 0.75, participation in the community 0.84, individual connection with school 0.69, and academic participation 0.78 (Bari, Betty, & Watt, 2005). In the research by Makian and Kalantarkousheh (2015), Cronbach's alpha for the entire scale was 0.88, indicating the desirable reliability of this scale. In the present study, Cronbach's alpha was 0.92, indicating the desirable reliability of the scale.

3. Self-Efficacy Training Protocol: The self-efficacy training program was derived from the self-efficacy intervention by Erovani, Sobhi Gharamaleki, and Mehrafzoon (2013) and was slightly modified and implemented by the researcher. The trainings were conducted in 8 sessions of 60 minutes each over four weeks (two sessions per week).

Table 1. Self-efficacy training sessions

Session	Objectives	Content
1	Getting to know the students, stating the objectives and rules of the group.	Administering the pre-test, stating the rules and regulations of the group and sessions, explaining the objectives of the sessions.
2	The concept of self-efficacy.	Familiarizing students with the concept of self-efficacy and the characteristics of individuals with high self-efficacy.
3	Strengthening self-efficacy.	Introducing students to the process of developing self-efficacy, ways to strengthen self-efficacy, and recognizing their own positive attributes and competencies.
4	Setting goals and characteristics of appropriate goals.	Educating students about the importance and necessity of setting goals, characteristics of appropriate goals, and empowerment in setting suitable goals.
5	Examples of success.	Introducing a successful individual.
6	Stress and coping strategies for its control.	Informing students about the concept of stress and coping factors, educating students about various coping strategies for stress control, empowering students in the area of self-relaxation.
7	Mental imagery and self-relaxation.	Familiarizing students with mental imagery and its importance, empowering in self-relaxation and mental imagery for problem-solving and enhancing self-efficacy.
8	Negative mood and depression, administering the post-test.	Educating students about the signs of negative mood and depression, empowering in combating negative self-directed thoughts, administering the post-test, and expressing gratitude and appreciation to the students.

4. Acceptance and Commitment-Based Intervention Protocol: This intervention was based on the treatment session protocol of Acceptance and Commitment Therapy by Hayes, Strosahl, and Wilson (2000), conducted in 8 sessions of 45 minutes each over four weeks (two sessions per week).

Table 2. Acceptance and commitment therapy sessions

Session	Ojbectives	Content
1	Getting to know the students, stating the objectives, introducing creative helplessness.	Introduction and acquaintance with students, introducing group rules including confidentiality and punctuality in class, administering the pre-test, discussion on the concept of creative helplessness. Task: Identifying the main reasons for test anxiety from their perspective and factors that reduce school belonging.
2	Creating insight in students about the problem and challenging control,	Review of the previous session's task and determining the effectiveness or ineffectiveness of the identified factors, recognizing

	introducing willingness as another response.	the ineffectiveness of control strategies using metaphors, such as tug-of-war with a monster.
3	Familiarizing with cognitive fusion.	Explaining cognitive fusion and expressing the common relationship between emotions, cognitive functions, and observable behavior.
4	Introducing the concept of defusion from depressing thoughts and anxiety-provoking feelings.	Teaching cognitive defusion and distancing from thoughts, observing thoughts without judgment. Task: Practice cognitive defusion throughout the week and examine its impact on anxiety and sense of belonging.
5	Familiarizing with the concept of acceptance.	Review of the last session's task. Realizing the root of conflicts that arise from thoughts, feelings, and unpleasant memories of the past and understanding that they should not react conflictually to these internal experiences; instead, they should experience these thoughts and feelings.
6	Understanding the concept of connection with the present moment, identifying and refining values.	Discussion on the impact of observance in life, explaining the concept of values, identifying and prioritizing values.
7	Introducing the concept of the observing self.	Recognizing the hidden characteristics of language and mind, the gap between internal and external realities, understanding types of fusion, and moving towards a valuable life with an accepting and observant self.
8	Addressing committed action.	Creating motivation for change and empowering the individual for a better life, moving wholeheartedly towards values without regard to thoughts, feelings, and past memories. Administering the post-test.

Implementation

Students were randomly assigned into three groups (26 in the self-efficacy training group, 26 in the ACT intervention group, and 26 in the control group), considering sample attrition. Inclusion criteria included: students studying in grades 10, 11, and 12; voluntary participation in the research; ability to communicate with peers and the session instructor. Exclusion criteria included: absence in more than one session; lack of consent and cooperation in training sessions; experiencing bereavement during the research; transfer to another school during the research.

In this study, descriptive statistics such as mean and standard deviation were used for descriptive analysis, and repeated measures analysis of variance and SPSS software were utilized for inferential analysis.

Results

The distribution of participants was 26 individuals each in the self-efficacy training group, the acceptance and commitment training group, and the control group. In the self-efficacy training group, 38.5% were in 10th grade, 30.8% in 11th grade, and 30.8% in 12th grade. Of these, 34.62% were 16 years old, 34.62% were 17 years old, 26.92% were 18 years old, and 3.84% were 19 years old. Over 60% of the participants had a suitable economic status. In the acceptance and commitment training group, 34.6% were in 10th grade, 38.5% in 11th grade, and 26.9% in 12th grade. Of these, 34.62% were 16 years old, 34.62% were 17 years old, and 30.76% were 18 years old. Over 50% of the participants had a suitable economic status. In the control group, 30.8% were in 10th grade, 34.6% in 11th grade, and 34.6% in 12th grade. As Table 3 indicates, the results show that the mean and standard deviation of the test anxiety variable in the self-efficacy training and acceptance and commitment training groups decreased in the post-test and follow-up compared to the pre-test. However, in the control group, no noticeable change was observed. The results also indicated that the mean and standard deviation of the school belonging variable in the self-efficacy training and acceptance and commitment training groups increased in the post-test and follow-up compared to the pre-test. However, no noticeable change was observed in the control group. To assess the significance of these differences and compare the means of the groups in the pre-test, post-test, and follow-up stages, repeated measures analysis of variance was used.

Table 3. The results mean a standard deviation of the variables

Variable	Group	N	Pre-test		Post-test		Follow-up	
			M	SD	M	SD	M	SD
Exam anxiety	Self-efficacy	26	72.769	13.203	53.615	15.049	57.346	13.139
	ACT	26	72.577	10.992	53.769	13.381	53.846	15.275
	Control	26	75.115	8.746	74.845	9.619	74.076	10.461
Belonging to school	Self-efficacy	26	66.653	12.036	85.000	12.454	76.692	11.512
	ACT	26	54.076	9.238	85.769	10.940	82.961	10.421
	Control	26	60.961	15.968	61.884	14.881	60.653	15.110

In Table 3, the mean and standard deviation of each research variable are reported separately for each of the training and control groups in the pre-test, post-test, and follow-up stages. As observed, the mean test anxiety score in the self-efficacy training group was 72.769 in the pre-test, 53.615 in the post-test, and 57.346 in the follow-up, indicating a decrease in the mean test anxiety score. Also, the mean test anxiety score in the acceptance and commitment training group was 72.577 in the pre-test, 53.769 in the post-test, and 53.864 in the follow-up, indicating a decrease in the mean test anxiety score. In the control group, the mean test anxiety score was 75.115 in the pre-test, 74.845 in the post-test, and 74.076 in the follow-up, indicating no significant change. The mean school belonging score in the self-efficacy training group was 66.653 in the pre-test, 85 in the post-test, and 76.692 in the follow-up, indicating an increase in the school belonging score. In the acceptance and commitment training group, the mean school belonging score was 54.076 in the pre-test, 85.769 in the post-test, and 82.961 in the follow-up, indicating an increase in the school belonging score. In the control group, the mean school belonging score was 60.961 in the pre-test, 61.884 in the post-test, and 60.653 in the follow-up, indicating no significant change.

Before the inferential statistical analysis, the assumptions of analysis of variance were examined. The Shapiro-Wilk test for the variables of test anxiety and feeling of belonging to school was not significant ($p>0.05$), indicating that these variables have a normal distribution and parametric analyses can be used for them.

Table 4. The results of Pillai's trace test

	Pillai's trace	F	Df hyp.	Df err.	p
Exam anxiety	0.437	28.704	2	74	0.000
Belonging to school	0.770	123.655	2	74	0.000

As Table 4 shows, the Pillai's Trace statistic for test anxiety (0.437) and school belonging (0.770) is statistically significant at the 0.01 level ($p\leq0.000$). This means there is a significant difference between the training and control groups in both test anxiety and school belonging variables.

Table 5. The results of within group effects

Independent variable	Source	SS	df	SS	F	p
Exam anxiety	Time	7827.317	1.207	6384.504	52.243	0.000
	Time*Group	3656.400	2.415	1514.330	12.202	0.000
	Error	11236.979	90.545	124.104		
Belonging to school	Time	12250.778	1.089	10912.393	129.042	0.000
	Time*Group	8163.017	2.179	3746.461	42.992	0.000
	Error	7120.205	81.707	87.143		

Given that the Mauchly's Test indicates the assumption of sphericity has been violated ($p>0.05$), the Greenhouse-Geisser correction was used for the variables of test anxiety and school belonging. The results indicate that for the test anxiety variable, the main effect of the stage is significant; meaning there is at least a significant difference between the means of two

of the measurements (p<0.001). Also, the results showed that the interaction effect of stage with group is also significant in the test anxiety variable (p<0.001). This means there is at least a significant difference between the means of the training and control groups in one of the three repeated measurements. For the school belonging variable, the stage effect is significant (p<0.001). According to the results, the interaction effect of stage with group is also significant in the school belonging variable; meaning there is at least a significant difference between the means of the training and control groups in one of the three repeated measurements (p<0.001).

The Levene's Test for equality of error variances for the variables of test anxiety and school belonging in the pre-test, post-test, and follow-up showed that the differences in error variances of the mentioned variables are not significant (p>0.05).

Table 6. The results of between-group effects

Variable	Source	SS	Df	MS	F	p
Exam anxiety	Group	10283.360	2	5141.680	16.485	0.000
	Error	23392.334	75	311.898		
Belonging to school	Group	10362.291	2	5181.145	13.329	0.000
	Error	29154.141	75	388.722		

Table 6 shows that the F statistic for examining the difference between the training and control groups in terms of the test anxiety variable (16.485) and school belonging (13.329) is statistically significant (p<0.001).

Table 7. The results of Bonferroni posthoc test to compare the adjusted means between stages

Variables	Group 1	Group 2	Mean diff.	SE	p
Exam anxiety	Self-efficacy	ACT	-0.153	3.57	1.000
		Control	-21.230	3.57	0.000
	ACT	Control	-21.07	3.57	0.000
Belonging to school	Self-efficacy	ACT	-0.769	3.567	1.000
		Control	23.115	3.567	0.000
	ACT	Control	23.884	3.567	0.000

According to Table 7, the Bonferroni test for comparing the means of the experimental and control groups shows that the difference in the means of the self-efficacy training group and the acceptance and commitment training group compared to the control group in the post-test stage of test anxiety and school belonging is significant (p<0.001). This result indicates that the effectiveness of both the self-efficacy training and acceptance and commitment training on test anxiety and school belonging in students is significant. However, there was no significant difference between the effects of the self-efficacy training and acceptance and commitment training groups on the research variables (p>0.05).

Table 8. The results of Bonferroni posthoc test to compare the adjusted means between groups

Variables	Group 1	Group 2	Mean diff.	SE	p
Exam anxiety	Self-efficacy	ACT	3.50	3.635	1.000
		Control	-16.730	3.635	0.000
	ACT	Control	-20.230	3.635	0.000
Belonging to school	Self-efficacy	ACT	-6.269	3.469	0.224
		Control	16.038	3.469	0.000
	ACT	Control	22.307	3.469	0.000

As Table 8 shows, the Bonferroni test for comparing the means of the experimental and control groups indicates that the difference in the means of the self-efficacy training group and the acceptance and commitment training group compared to the control group in the

follow-up stage of test anxiety and school belonging is significant ($p<0.001$). This result indicates that the effectiveness of both the self-efficacy training and acceptance and commitment training on test anxiety and school belonging in students is significant. However, there was no significant difference between the effects of the self-efficacy training and acceptance and commitment training groups on the research variables ($p>0.05$).

Conclusion

The present research aimed to compare the effectiveness of self-efficacy training and acceptance and commitment-based training on test anxiety and school belonging among students. The results indicated that the effectiveness of both training methods (self-efficacy and acceptance and commitment) was significant in reducing test anxiety and increasing school belonging in the post-test and follow-up stages compared to the control group ($p<0.05$). However, no significant difference was found between the self-efficacy training and acceptance and commitment-based training in terms of their impact on these research variables ($p>0.05$).

It is noteworthy that in the literature searches conducted by the researcher, both in Iran and internationally, no study was found that directly compared the effectiveness of both self-efficacy training and acceptance and commitment training simultaneously in students for reducing test anxiety and increasing school belonging. According to the results obtained, both self-efficacy and acceptance and commitment training impacted the reduction of students' test anxiety. In other words, the average scores of the training groups in test anxiety decreased in the post-test stage compared to the pre-test. Furthermore, other results of this research showed that there was no significant difference between the post-test and follow-up test anxiety scores in the acceptance and commitment training group, indicating the lasting effect of the training. These findings are consistent with the research of Hassanzadeh (2018); Zettle (2017); Abdali, Golmohammadian, and Rashidi (2018); Bozorgi, Bayat, and Esfahani-Asl (2019); Habibollahi et al. (2018); Sanafikhani et al. (2019); Miri and Mansouri (2017); Taheri-Sadegh et al. (2022). Since one of the main factors in experiencing test anxiety is the individual's feeling of incapability to cope with the exam and control the situation, it is expected that individuals with low self-efficacy would experience more anxiety in situations where their competence is evaluated (Birami & Pourfaraj, 2013). Asayesh et al. (2018) investigated the relationship between self-efficacy and test anxiety among paramedical students, finding that students with higher self-efficacy experienced less test anxiety. Therefore, strengthening this personal trait in students can reduce test anxiety and lead to better performance in exams. A person's perception of their abilities is one of the most critical factors in dealing with anxiety-inducing situations. Students with high self-efficacy are confident in their abilities and show more willingness, effort, and persistence in their tasks (cited in Asayesh et al., 2018). Individuals with high self-efficacy believe that they can effectively deal with events and situations they encounter. Expecting success in overcoming difficulties, they persist in their tasks and often perform at a high level. Research has shown that when a person is more competent, there is a higher likelihood of starting a task, exerting more effort, and showing more persistence in the face of difficulty or failure. In explaining the findings on the impact of acceptance and commitment-based training on reducing test anxiety, it can be said that this training focuses on fully experiencing negative emotions (anxiety) instead of suppressing them, and creates a context for directing the individual towards personal values despite having negative emotions.

Also, the results showed that self-efficacy training and acceptance and commitment training increased the sense of school belonging among students. In other words, the average scores of school belonging feeling in both training groups (self-efficacy and acceptance and commitment) in the post-test and follow-up stages increased significantly compared to the pre-test, which is consistent with part of the results of Hosseini Iraj et al. (2020), Tavasoli Nia et al. (2019). No research was found that directly investigated the effectiveness of acceptance and commitment training on school belonging, but Samadi, Hassanzadeh, and Dousti (2018) determined the effectiveness of acceptance and commitment-based training on students' achievement motivation and quality of life in school, showing that it enhanced students'

motivation and quality of life in school. Since there is a significant relationship between quality of life in school and school belonging, and based on the definitions, there is considerable overlap between these two constructs (Rokach, Finn, 1998; cited in Zahed Babolan, Karimianpour & Dashti, 2017), it is conceivable to align the findings of this study with the current research. Acceptance and commitment intervention, as a new and effective approach in treating psychological problems, initially tries to increase an individual's psychological acceptance of mental experiences (thoughts, feelings) and reduce ineffective control actions, ultimately enhancing academic performance (Hassanzadeh, 2018). Furthermore, better performance in school elicits more support from teachers, thereby enhancing school belonging; students who feel a sense of belonging to school experience care, lovability, self-esteem, and value (Farooqi et al., 2019).

Self-efficacy, as a cognitive construct indicating an individual's perception of their ability to perform a behavior and achieve a desired outcome, has been introduced. According to Bandura, self-efficacy means that an individual believes they can organize phenomena through appropriate behavior to achieve a desirable state (Jin & Dawson, 2009; cited in Mohammadi & Daftari Akbatan, 2017). It is also considered a primary determinant of emotional states, motivational states, and behavioral changes (VandenBos, 2015; cited in Samadi et al., 2019). On the other hand, school belonging depends on the feelings and thoughts a student has about relationships with peers, teachers, and school staff (Farooqi, Pourshalchi & Esmkhani Akbari-Nejad, 2019). Self-efficacy training can have positive psychological consequences and brings about changes in an individual's self-efficacy beliefs (Bandura, 2004; cited in Samadi et al., 2019). As self-efficacy beliefs are strengthened, an individual perceives greater competence in performing appropriate behaviors in specific situations. Given that school belonging is an emotional and motivational state towards a specific situation and relationships, increasing self-efficacy beliefs can lead to higher perceived success and better performance in school, consequently increasing the sense of school belonging (Farooqi et al., 2019).

Overall, the findings of this study showed that both self-efficacy training and acceptance and commitment-based training are effective in reducing test anxiety and increasing school belonging among students; reducing test anxiety and enhancing school belonging in students.

Given that the sample of the present study consisted only of boys, caution should be exercised in generalizing the results. Other limitations of this study include the potential influence of the type of training due to the COVID-19 pandemic, which could have interfered with the results obtained. It is recommended that future research compares the impact of trainings on both girls and boys. Also, a qualitative study could identify factors affecting test anxiety and school belonging among the student population in Iran.

Conflict of Interest

According to the authors, this article has no financial sponsor or conflict of interest.

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