



Comparison the Effectiveness of Cognitive Behavior Training and Educational Perfectionism Schema-based Strategies Training on Academic Buoyancy of High School Female Students

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Background and Aim: Academic buoyancy is an important variable for high school students succession. The present study was conducted with the aim of comparing the effectiveness of cognitive-behavioral training and educational perfectionism schema-based strategies training on academic buoyancy of high school female students. **Methods:** The study method was quasi-experimental with pre-test-post-test and control group with two-month follow-up. The statistical population of the research includes female high school students in Jiroft province during Fall of year 2021. In the first stage, 48 female high school students were selected as the statistical sample of the study based on the convenience sampling method, and in the next stage, they were divided into three groups through a simple random sampling method (16 students in each group). For data collection, Hosseinchari & Dehghanizadeh 's academic buoyancy (2012) were completed in three stages: pre-test, post-test and follow up. Cognitive-behavioral training and educational perfectionism schema-based strategies training was performed in 8 sessions (one session per week) for 90 minutes. To analyze the data, repeated measure analysis of variance and Bonferroni post-hoc test was used by SPSS.26. **Results:** The results of the research indicated that there was a significant difference between cognitive-behavioral training and educational perfectionism schema-based strategies training with control group in academic buoyancy ($p < 0/001$, $F = 26.11$). There is no significant difference between cognitive-behavioral training and educational perfectionism schema-based strategies training in academic buoyancy. **Conclusion:** It can be concluded that, cognitive-behavioral training and educational perfectionism schema-based strategies training were effective in increasing the academic buoyancy, therefore these training can be used for high school female students.



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Introduction

Humans are inherently perfectionist creatures and want the best and most desirable in different areas of their lives. Despite this generalized perfectionism, compared to the general population, a group of people put perfectionism to an extreme and problematic level in their work and affairs and gradually create problems for themselves and others (Tan, 2022). Perfectionism is not a negative phenomenon by its nature and in itself, but when in the heart of this extreme perfectionism, a person confronts himself and others with obvious and hidden problems, we can undoubtedly talk about negative and maladaptive perfectionism. (Weiss Wallingham et al., 2022). Although in the course of historical development, perfectionism was first proposed and studied as a general personality and functional characteristic regardless of the situation and situation, but over time, it has also entered into specific areas of life, such as work and education. In particular, academic perfectionism focuses on determining and following high-level standards in education and academic success (Liu & Berzensky, 2022). The objective and behavioral examples of this phenomenon in the field of education can be seen as a great desire and insistence and, as a result, a great and exhausting effort to get an excellent grade and a superior position in various tests in school and university studies. (Liu & Berzensky, 2022). The fact that should be paid more attention to in academic perfectionism for students is that achieving perfectionist criteria, demands and results, especially in very close academic competitions in today's highly competitive world, requires a lot of effort. (Zao et al., 2022). This great effort and the fatigue and exhaustion caused by it, in many cases, have a hidden aspect for others who witness the desired results and efforts of the perfectionist (Tan, 2022). Therefore, it can bring various consequences for students, including depression, fatigue, exhaustion, procrastination, frustration, and a decrease in the feeling of cheerfulness and buoyancy, which are vital for an efficient and meaningful life. (Rauf, Khademi Ashkazari, and Naqsh, 2019; Yaqoubi, Fathi, and Fathi Chegini, 2019; Lee & Choi, 2014). In Iran, official statistics about the exact prevalence of academic perfectionism in male and female students are not available. However, a wide range of studies in which one of the

variables is perfectionism or academic perfectionism. At the same time, some reported weak relationships between dimensions of perfectionism and gender (Sand et al., 2021) indirectly indicate the significant prevalence of this phenomenon, especially among female students. Beyond the prevalence and gender ratios, as briefly mentioned, engaging in perfectionistic academic standards is associated with a decrease and damage to more energetic academic indicators such as a sense of academic buoyancy. This highlights the importance of continuing to study in the field of perfectionism (Chyo & Chen, 2022). According to the studies conducted, academic buoyancy is one of the indicators related to academic success and perfectionism (Yagoubi et al., 2019). Conceptually and theoretically, academic buoyancy is defined as the ability to successfully face and manage educational obstacles and challenges, and also as an indicator of psychological well-being, positive, constructive and adaptive response to all kinds of current and ongoing challenges and obstacles. (Khabaz Shirazi, Golparvar, and Yousefi, 2021). Academic buoyancy is related to a wide range of variables, including a sense of self-efficacy in education, which is a motivational, behavioral and cognitive factor for successful education (Ismailzadeh Ashini et al., 2019; Melai et al., 2020). Despite the positive and significant roles and connections of academic buoyancy with positive and constructive variables in the field of education, perfectionism in its inconsistent and negative dimensions is able to gradually adjust the level of this important variable and consequently weaken its roles and functions. (Fazli & Fouladchang, 2021). The weakening roles and functions of extreme perfectionism for variables such as buoyancy have played the most important and main role in researchers' attention to therapeutic and educational approaches that moderate the level of perfectionism. Two approaches proposed in the field of modern intervention studies to change and reduce negative and maladaptive perfectionism, due to the prominent role of beliefs, attitudes, thoughts and imaginations in perfectionism (Tan, 2022), one is a cognitive-behavioral approach and the other is a schema-oriented approach. The cognitive-behavioral approach searches for the foundations of various psychological and behavioral issues and problems in illogical

beliefs, ineffective attitudes, generalized and defective thoughts, as well as behaviors that people undertake in following their ineffective and defective beliefs and cognitions. (Kalan et al., 2022). Especially from the perspective of the cognitive-behavioral approach, perfectionistic thoughts in people originate from absolutist beliefs, imaginations and thoughts about themselves and the events of life and the world around them, and they are constantly strengthened and continued in this context. (Guderzi et al., 2021). Therefore, it is natural that perfectionist people need to correct their ineffective beliefs, perceptions, attitudes and cognitions that lead to behaviors aligned with them, and in this way free themselves from the destructive effects of these thoughts and tendencies. (Ong et al., 2022; Grayo et al., 2022). In support of cognitive-behavioral approach and etiological explanations and therapeutic and educational guidelines. Zinali, Guzel, and Orang (2016) showed the effectiveness of cognitive-behavioral therapy on students' academic buoyancy. Abbasi et al. (2017) showed the effectiveness of cognitive-behavioral therapy on students' academic enthusiasm (which is related to buoyancy). Bashartlou et al. (2017) showed the effectiveness of cognitive-behavioral training on academic buoyancy in students. Kiamarathi et al. (2018) have shown the effectiveness of cognitive-behavioral therapy on psychological well-being in perfectionist students.

In a parallel way with the view and emphasis of the cognitive-behavioral approach, the schema-based approach, which is often known as schema therapy, introduces powerful structures with behavioral, cognitive, emotional and emotional load at the same time, known as maladaptive schemas, as the foundations of many human problems. (Ghanbari et al., 2021). Inconsistent schemas are considered inconsistent because they do not match many realities of the human world at the objective and subjective level (Wisniewska & Mechik, 2016). The function of maladaptive schemas is that they impose a form of systematic and fixed pattern of viewing, interpretation and different behaviors on the individual and in this way they add to various problems and issues in humans. (Sohrabi, Borjali, and Momeni, 2020; Mohammad Hosseini et al., 2020; Moghadam, Ebrahimi Moghadam, and Jahangir, 2021). As

an example of the role of maladaptive schemas in human behavior, perfectionist people may be suffering from the schema of incompatibility known as the schema of defect and shame, and to overcome this feeling of weakness and shame dictated by this schema, they turn to perfectionist tendencies and tendencies. (Abbasi & Khademlou, 2018). In practice, in such a process, in order to get rid of the suffering of maladaptive schemas of defect and shame, the person turns to maladaptive and negative perfectionism, which can impose various sufferings on the person (Wisniewska & Mechik, 2016). Such a vicious cycle between maladaptive schemas and its subordinate behaviors, schema therapy aims to treat these maladaptive schemas by challenging, weakening, modifying and replacing them with more compatible and realistic forms. (Ghanbari and colleagues, 2021). The study of Ai, Mahdinjad and Janabadi (2021) showed the effectiveness of schema therapy on academic buoyancy. Ghanbari and colleagues (2021) showed the effectiveness of schema therapy on flexibility that is related to buoyancy. The study of Shafiei, Sajjadian and Nadi (2020) showed the effectiveness of schema therapy on students' academic buoyancy. Rahmani, Seddiqi Arfai and Rahmani (2021) showed the effectiveness of group schema therapy on academic enthusiasm which is related to buoyancy.

By reviewing the available researches, there was no research that compared the schema-oriented approach with the cognitive-behavioral approach in the field of education and on students. Overall, a review of the theoretical and research background indicates that perfectionist students, especially perfectionist female students, have different educational needs, including the need for training to control and manage their perfectionism and its consequences. Paying attention to this need is one of the main bases of the importance of studies such as the present study. So far, efforts have been made by thinkers and researchers to help perfectionist students. However, there is a serious lack of evidence aimed at developing new educational and treatment packages tailored to the challenges and needs of perfectionist students, along with determining the most effective approaches. In this regard, conducting new and original interventional studies, especially for secondary school female students,

which in some ways, considering the increasing number of girls in order to be more successful in education and academic success, is one of the necessities of the present studies. According to the mentioned cases, this research was carried out in order to answer the question whether the effectiveness of cognitive-behavioral education is different from the education of schema-based strategies of academic perfectionism on the academic buoyancy of female students of the second secondary school?

Method

The research was a quasi-experimental type with a pre-test-post-test design and a two-month follow-up with a control group. The statistical population included 2600 female students of the second secondary school in Jiroft city in the fall of 2021. 350 people were selected from the mentioned statistical population through multi-stage random cluster sampling; In each school, 350 students were selected from the 10th, 11th, and 12th grades, one or two classes each, depending on the population of the school, and a total of 350 students were selected from all girls' second-year high school schools. Then, the academic perfectionism questionnaire was implemented on them in order to initially screen the level of academic perfectionism. Among these people, based on the score of the academic perfectionism questionnaire, students with a score of 90 (the maximum score of the questionnaire is 110) and above were identified. Then, 48 people were randomly selected from among the people with a score higher than 90 in the academic perfectionism questionnaire who met the inclusion criteria according to the clinical interview; Then they were randomly divided into three groups (two experimental groups and one control group) and each group was replaced by 16 people. Inclusion criteria include willingness and consent to participate in the implementation of the research from beginning to end, not participating in any psychological education at the same time, and obtaining a score of 90 or higher in the academic perfectionism questionnaire. Exclusion criteria include suffering from an acute psychiatric disorder diagnosed by a psychiatrist such as personality disorder, bipolar and schizophrenia through a clinical interview based on DSM-IV criteria and absence of more than 2 sessions in the training process. Ethical standards include: Obtaining the code of ethics from the ethics committee in the university; obtaining written

consent from the participants in order to distribute the questionnaire and implement the relevant trainings; Full freedom and unconditional authority to withdraw from the study; maintaining confidentiality and protecting participants' personal information; Training the control group to one of the two training methods used at their discretion after completing the training period of the experimental groups in the research. The following tools were used to measure dependent variables in the study.

Materials

1. Educational buoyancy questionnaire: To measure academic buoyancy, a 9-question questionnaire by Hossein Chari and Dehghanizadeh (2012; cited by Dehghanizadeh & Hassan Chari, 2012) was used, which was prepared based on the academic buoyancy scale of Martin and Marsh (2006). The response scale of this questionnaire is based on a 5-point Likert scale from completely disagree (1) to completely agree (5) and the range of scores ranges from 9 to 45. An increase in scores in this questionnaire indicates greater academic buoyancy (a score between 9 and 18: low academic buoyancy; a score between 18 and 27: medium academic buoyancy; and a score above 27: high academic buoyancy). (Dehghanizadeh & Hassan Chari, 2012). In order to check the factorial structure (structural validity) of the questionnaire, principal component analysis with orthogonal varimax rotation was used and the obtained evidence showed that this questionnaire has a one-factor structure. Also, Cronbach's alpha with the removal of one item is 0.80 and the retest coefficient is 0.73 and the correlation range of the items or the total score is between 0.51 and 0.68 (Dehghanizadeh & Hassan Chari, 2012). This questionnaire has been used in various studies so far. Among them, Bakhshi and Fouladchang (2017) used this tool in their study and reported Cronbach's alpha equal to 0.7 for this questionnaire. In the present study, Cronbach's alpha of this questionnaire was equal to 0.86.

2. Cognitive-behavioral educational intervention: Cognitive-behavioral intervention training has also been implemented based on the plan of Anthony, Schneiderman and Ironson (2007), in the form of 8 sessions of 90 minutes, each session in one week and in total for 8 consecutive weeks. Zargar and colleagues (2012) in Iran have examined this educational package by examining its effectiveness on perfectionism and guilt and confirmed its validity. The summary of the cognitive-behavioral training sessions is presented in Table 1.

Table 1. Summary of cognitive-behavioral training sessions (Zargar et al., 2012)

Session	Content
1	Getting to know the group members with each other and creating a basis for group solidarity and communication among members; Introducing and stating the rules governing the group and the commitment to confidentiality of members in order to create a safe and reliable environment;

	familiarity with the training framework and the purpose of training and the number of training sessions; A detailed description of the problem of academic perfectionism
2	Checking homework; Teaching awareness of automatic thoughts and thoughts related to negative perfectionistic contents and necessary solutions to increase awareness
3	Checking homework; Teaching the connection between thoughts and feelings, providing explanations on the power of thought and teaching how to identify negative, extreme and unrealistic thoughts
4	Checking homework; Teaching and examining the cognitive distortions that each person often uses, the situations that trigger these distortions, and the negative emotions and behaviors that occur as a result of these distortions.
5	Checking homework; Teaching important issues raised in perfectionism, such as people's inability to face average or lower results and teaching correction and change in the need for approval and challenge with self-criticism
6	Checking homework; Teaching the difference between logical and illogical self-talk, practicing identifying logical and illogical self-talk, and teaching steps to replace logical thoughts instead of illogical thoughts.
7	Checking homework; Learning to identify interpersonal styles, role playing, examining barriers to expressive behavior and its components, and teaching steps to behave with higher expressiveness.
8	Checking homework; Overview of the training program, training to create a personal program and post-test implementation.

3. Schema-oriented education intervention for educational perfectionism:

This intervention has been developed for the first time in this study and has been used after initial content, scientific and specialized validation. In order to compile this new training package, firstly, through the content analysis of texts in the field of schema therapy and perfectionism, through the analysis of Atride-Sterling's (2001) theme network, the organizing and basic themes necessary for the educational package of schema-based strategies of perfectionism were extracted. At this stage, the content validity ratio (CVR) calculated by three independent coders was equal to 1. After that, the educational techniques of schema therapy approach were extracted through conventional content analysis; Then, by a specialized panel

consisting of 7 educational psychologists with more than 10 years of teaching and research experience, the combination of schema-based educational techniques to deal with academic perfectionism was determined for 8 sessions and the initial educational package was compiled. Then, the compiled package was reviewed by six experts in the field of education and after applying the corrections of the judges, the overall agreement coefficient of 0.9 was obtained for the educational package. After expert approval, during a preliminary study (pilot), the preliminary effectiveness of the designed package was implemented on six students, and the initial validity of the package was confirmed. The summary of the training sessions of schema-based strategies of academic perfectionism is presented in Table 1.

Table 2. Summary of educational perfectionism schema-based strategies training sessions (Bahreini Moghim Jiroft et al., 2022)

Session	Content
1	Getting to know the group members with each other and creating a basis for group solidarity and communication among members; Introducing and stating the rules governing the group and the commitment to confidentiality of members in order to create a safe and reliable environment; familiarity with the training framework and the purpose of training and the number of training sessions; Beginning to teach the concepts of perfectionism, schema, schema mentalities and schema therapy
2	Checking homework; Description of maladaptive coping mindsets, conceptualization of perfectionism in the form of a schema, finding central beliefs using the downward arrow technique, implementation of the lake monster technique.

3	Checking homework; implementation of the saint's practice technique; implementing the technique of accepting less than perfect performance; time management test practice; Apply acceptance technique to overcome self-blame
4	Checking homework; Explanation of dysfunctional parent's mentality (blaming.punishing parent and high-expecting parent) and the intended goals of schema training for dysfunctional parent's mentality; New definition technique of schema confirming evidence, introduction of visualization; Safe bubble technique
5	Checking homework; The technique of making mannequins represents the dysfunctional parent's mentality; The technique of establishing a dialogue between the healthy side and the schema side, the technique of playing the role of the expectant parent mentality
6	Checking homework; Implementing the technique of what a good parent tells his beloved child; Practicing rereading good parent's writings, implementing the technique of preparing and compiling educational cards; Implementation of the letter writing technique for the sake of creating a scheme
7	Checking homework; Description of vulnerable child mentality; Practicing giving importance to the child's feelings of sadness and anxiety; Practicing a good parenting therapist for a child; Technique of the lonely child on the street
8	Checking homework; Description of the mentality of a happy child; implementation of the child's dream house technique; Practice visualization for fun; Summary of training and post-test implementation

Implementation

After randomly assigning the participants to the groups, the people of the cognitive-behavioral training group were trained through the training validated by Zargar et al. Academic buoyancy was measured in all three groups in pre-test and post-test times. The teaching of schema-based strategies of academic perfectionism and cognitive-behavioral education was implemented by the first author of this study with more than 10 years of teaching and consulting experience in schools.

In order to analyze the data, chi-square test was used to check the homogeneity of the frequency distribution of demographic variables and to calculate the mean and standard deviation to present the status of each group in the dependent variable in three stages of the study. Finally, after checking the statistical assumptions of normality through the Shapiro-Wilk test, the equality of error variances

through the Levene test, and checking the slope of the regression lines, the data were analyzed through covariance analysis and Bonferroni's post hoc test using SPSS version 26 software.

Results

The three research groups were compared with each other in terms of age, field of study, grade point average, self-evaluation of academic performance, and academic level through chi-square test. The result of this analysis showed that there is no significant difference in the mentioned demographic variables between the three research groups. In Table 3, the mean and standard deviation of academic vitality are presented separately for three research groups and two stages of pre-test and post-test.

Table 3. Mean and standard deviation of academic buoyancy in research groups in three stages

Variable	Stage	Control		CBT		Schema	
		M	SD	M	SD	M	SD
Academic buoyancy	Pre-test	27.12	8.87	22	7.39	19.37	5.17
	Post-test	24.87	8.85	33.31	4.28	34.19	7.32
	Follow-up	23.62	7.79	35.06	6.03	34.69	3.36

As can be seen in the above table, the mean of academic buoyancy scores show that the two cognitive-behavioral training and the training of

schema strategies based on academic perfectionism have shown more changes in the post-test and follow-up compared to the control

group. Before running the covariance analysis, the statistical assumptions of this analysis were checked. The results of the Shapiro-Wilk test in academic buoyancy indicated the normality of the distribution of these two variables ($p \leq 0.05$) and the results of Levene's test also indicated the equality of the variance of the study groups in the academic buoyancy variable ($p \leq 0.05$).

The M-box test for academic buoyancy indicated the equality of the variance-covariance matrix and the interaction of group membership with the pre-test also indicated the equality of the slope of the regression lines ($p \leq 0.05$). In Table 4, the results of variance analysis of the repeated measures are presented.

Table 4. Results of variance analysis of repeated measures for academic buoyancy

Source		SS	Df	MS	F	Sig.	Eta ²	Power
Within-group	Time	2115.17	2	1057.58	54.77	0.001	0.55	1
	Time*Group	2016.42	4	504.10	26.11	0.001	0.54	1
	Error	1737.75	90	19.31	-	-	-	-
Between-group	Group	678.17	2	339.08	3.36	0.04	0.13	0.75
	Error	4543.50	45	100.97	-	-	-	-

The within-group effect, the time factor ($F=54.77$, $df=2$, $p<0.01$) and the interaction between the time and group factors ($F=26.11$, $df=4$, $p<0.01$) were calculated. (Table 4). The results show that there is a significant difference ($p>0.01$) in the variable of academic buoyancy between pre-test, post-test and follow-up and the interaction of time with the group (three research groups). Also, as can be seen in the

above table in the between-group effect section, there is a significant difference in academic buoyancy ($F = 3.36$, $df = 2$ and $p < 0.05$). The following table shows the results of Bonferroni's post hoc test for the pairwise comparison of the two experimental groups and the control group in the two stages of post-test and follow-up in the academic buoyancy variable.

Table 5. Bonferroni's post hoc test results in the academic buoyancy variable

Variable	Stage	Group I	Group J	Mean diff (I - J)	SE	Sig.
Academic buoyancy	Pre-test	Control	CBT	-11.46	2.09	0.001
		Control	Schema	-13.89	2.20	0.001
		CBT	Schema	-2.42	2.03	0.72
	Post-test	Control	CBT	-13.80	1.86	0.001
		Control	Schema	-14.63	1.95	0.001
		CBT	Schema	-0.83	1.80	1

According to the above table, in the variable of academic buoyancy in the post-test and follow-up stage, cognitive-behavioral therapy and schema-oriented strategies of academic perfectionism have a significant difference with the control group ($p<0.05$). There is no significant difference between cognitive-behavioral therapy and schema-based strategies of academic perfectionism in academic buoyancy in the post-test and follow-up stages ($p<0.05$).

Conclusion

This research was carried out with the aim of comparing the effectiveness of cognitive-behavioral education with the education of schema-based strategies of academic

perfectionism on academic buoyancy in female students of the second secondary school. The results showed that both approaches are effective in increasing academic buoyancy in female students of second secondary school and there is no significant difference between the two mentioned approaches on academic buoyancy.

In repeated searches, no research was found that compares the effectiveness of schema-based education of academic perfectionism with cognitive-behavioral education on the academic buoyancy of perfectionist female students. However, there have been interventions with cognitive and schema approaches for students' problems, whose results can be compared with

the results of the present study. The effectiveness of cognitive-behavioral therapy on the academic buoyancy of perfectionist female students in the present study is consistent with the results of previous studies. With the results of Zinali et al. (2016) and Beshartalo et al. (2017) in the field of effectiveness of cognitive-behavioral therapy on students' academic buoyancy; With the results of Abbasi and colleagues (2017) about the effectiveness of cognitive-behavioral therapy on academic enthusiasm (which is related to buoyancy) of students; With the results of the study by Kiamarathi and colleagues (2018) regarding the effectiveness of cognitive-behavioral therapy on psychological well-being. In the searches, no study was found that did not confirm the effectiveness of cognitive-behavioral therapy on academic buoyancy or variables related to this variable.

Explaining the effectiveness of cognitive-behavioral therapy on the academic buoyancy of girl students with perfectionism is related to the modification and replacement of irrational thoughts, ideas, beliefs and interpretations about themselves, others and the surrounding world. The main core of therapeutic and educational mechanisms of the cognitive-behavioral approach is to challenge cognitions and behaviors by facing logical, constructive, non-generalized and healthy alternatives. (Ong et al., 2022; Kelan et al., 2022; Grayo et al., 2022). Perfectionist people are imperceptibly under pressure from beliefs such as always being superior, always being perfect, always acting favorably, and always being approved and encouraged by others (Chyo & Chen, 2022). Such binding beliefs in perfectionist students when they are faced with the question of why and for what reason, do not bring a logical and satisfactory answer from the perfectionist. Therefore, during cognitive-behavioral training, such beliefs are questioned. At this time, with the help of cognitive and behavioral reconstruction, absolutism about one's behavior and performance is weakened and slowly and gradually, the power and energy that a person spends to meet his perfectionist standards and beliefs is released. This process is finally manifested by the increase of structures such as academic buoyancy.

The effectiveness of teaching schema-based strategies of academic perfectionism on the academic buoyancy of perfectionist female

students in the present study was also in line with the results of a study by colleagues (2021) in the field of the effectiveness of schema therapy on academic buoyancy. It was also consistent with the results of the study of Ghanbari and colleagues (2021) regarding the effectiveness of schema therapy on flexibility that is related to buoyancy. In addition, it was consistent with the results of the study by Shafiei and colleagues (2020) about the effectiveness of schema therapy on the academic buoyancy of students. Finally, it was consistent with the results of Rahmani et al.'s (2021) study regarding the effectiveness of group schema therapy on academic enthusiasm. In explaining this finding, it can be stated that along with absolutist beliefs, which are the root of most of the pressures and tensions of perfectionist people from the perspective of cognitive-behavioral approach, the faulty schema system is also another main source of perfectionist beliefs and behaviors. The main function of maladaptive schemas is that every partial to general event is in the context of a cognitive and schema system (Sohrabi et al., 2020; Mohammad Hosseini et al., 2020; Moghadam et al., 2021; Wisniewska & Machik, 2016). Such a process undoubtedly consumes a lot of energy, time and effort from the student and thus the level of perceived buoyancy is reduced. In the schema-oriented education process of academic perfectionism, getting to know the functions and role-playing of maladaptive schemas in the context of challenges such as the challenge of imaginary excellence is the starting point of the changes that take place in the cognitive and schema system of the perfectionist student. By challenging the interpretive, behavioral and emotional system of maladaptive schemas, the exhausting capacity and energy on these schemas are adjusted and the level of academic buoyancy gradually increases as a consequence. In addition to the findings related to the effectiveness of each of the two cognitive-behavioral approaches and the schema-oriented approach of academic perfectionism on academic buoyancy, the comparison of the effectiveness of the two approaches indicated that the effectiveness of these two approaches on academic buoyancy is the same and there is no difference between them. Repeated searches and several times did not find any study that includes two cognitive-behavioral and schema-

oriented approaches due to the novelty of the schema approach used in the current study. The innovation proposed in the present study was the use of educational package based on the schema of academic perfectionism and comparing its effectiveness with a time-tested and valid approach called the cognitive-behavioral approach. The result related to the equal effectiveness of these two treatment methods shows that perfectionist female students need professional help in the level of beliefs and thoughts and cognitive interpretations and subsequent behaviors and parallel to it in the field of schema system. Each of the two cognitive-behavioral and schema-oriented approaches of academic perfectionism are able to provide this assistance in apparently different ways, but by focusing on cognitive, behavioral and emotional correction, adjustment and replacement.

This research has limitations that need to be considered in generalizing and interpreting the results. The first limitation is that this study was conducted on perfectionist secondary school female students, so caution should be exercised in generalizing the results to male students or other educational levels, as well as students with low perfectionism or non-perfectionist students. To solve this limitation, it is necessary to carry out this study on both boys and girls and on low perfectionism levels or non-perfectionist students. In this way, the similarities and differences in specific results and the bases for scientific clarification and disambiguation are provided in this field. It is also possible to compare the educational and therapeutic methods of the current study with other approaches in the future researches so that the generalization of the results and the effect of schema therapy and cognitive-behavioral therapy training methods can be investigated more accurately and confidently. In the end, for the application of these results in the field of practice, it is suggested that the approaches used in this study be used as two parallel educational approaches to help perfectionist students by academic advisors and school advisors.

Conflict of Interest

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

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