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## Effectiveness of Academic Buoyancy Training on Academic Engagement and Adjustment to School in Firth High School Students

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### Abstract

**Purpose:** The purpose of present study was determining the effectiveness of academic buoyancy training on academic engagement and adjustment to school in firth high school students.

**Methodology:** This study in terms of purpose was applied and in terms of methodology was semi-experimental with a pretest and posttest design with control group. The research population was firth high school girl students of District 9 of Tehran city in academic years of 2019-20. The research sample was 50 people who were selected by available sampling method and randomly replaced into two equal groups (each group 25 people). The experimental group underwent 12 sessions of 70-minute academic buoyancy training and the control group did not see training. Research tools were the questionnaires of academic engagement Fredricks and et al (2004) and adjustment to school Sinha & Singh (1993). Data were analyzed with chi-square, independent t and multivariate analysis of covariance methods in the SPSS version 21 software.

**Findings:** The findings showed that the experimental and control groups had a significant difference in both variables of academic engagement and adjustment to school. In the other words, academic buoyancy training led to increased academic engagement and adjustment to school in firth high school students ( $P < 0/05$ ).

**Conclusion:** Based on the results, it is recommended that school counselors and psychologists used the academic buoyancy training method to improve academic characteristics, especially to increase academic engagement and adjustment to school.

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## 1. Introduction

The high school years coincide with early adolescence, during which adolescents face serious and new challenges in social, emotional, and academic life. For this reason, adaptation in this period is an important concept for adolescent development (Mohammadi Baghmali & Yousefi 2018). Adaptation is a set of learned behaviors that refers to a person's ability to adapt to the environment and incompatibility occurs when a person does not have the necessary skills to adapt to problems and challenges (Birman & Tran 2017). Adaptation means establishing a satisfactory relationship between the individual and the environment, and one of the important dimensions of adaptation is adaptation to school (Wu & Liu 2019). Adaptation to school means the ability of learners to adapt to the conditions and requirements of education and educational maps (Gamer, Dunsmore, Bassett 2020). This concept is a multifaceted task involving adaptation to the intellectual, social, emotional, and behavioral demands of the school (Ratelle, Duchesne, Guay 2017). Adaptation to school is conceptualized with three components: educational, social and emotional. Academic adjustment means inclusive ability to adapt to educational conditions in the school environment, social adjustment means appropriate inclusive relationship with one's social environment and having appropriate interpersonal relationships with all students, teachers and school staff, and emotional adjustment means inclusive emotional adaptation to interpersonal relationships. And is individual (Demirtas-Zorbaz & Ergene 2019).

Another variable affecting academic life in high school is academic motivation (Zahed, Rezaisharif, Shokri 2019). Academic enthusiasm as one of the constructs of positive psychology refers to the amount of energy that a learner spends on academic activities and this construct is an important and effective factor in learning (Wang, Tian, Huebner 2019). In other words, academic enthusiasm refers to the quantity and quality of learners' physical and mental energy expended during the course of study (Datu & King 2018). Academic enthusiasm includes multidimensional structures including behavioral, emotional, and cognitive. Behavioral eagerness to engage in academic and social activities related to learning and observable academic behaviors, emotional eagerness to an intrinsic interest in curriculum, value for education, and positive academic affection and cognitive eagerness to use information processing processes in education (Closson & Boutilier 2017). People with high academic motivation are more focused, avoid inappropriate and undesirable behaviors, perform better on exams, and are more willing to spend time and effort studying (Larson et al. 2019).

There are many methods to improve academic characteristics, one of the relatively new methods derived from positive psychology is the method of teaching academic vitality (Fouladi., Kajbaf, Ghmrani 2018). Academic vitality as one of the components of psychological well-being means the ability of learners to properly cope with academic problems and challenges (Hirvonen et al 2019). In other words, academic vitality means providing a positive, constructive and adaptive response to all kinds of academic problems and challenges in the current and future field of academic life (Jahedzadeh, Ghonsooly, Ghaznizadeh 2019). Students with academic vitality not only do not get tired of doing homework because of their inner motivation, but also feel energized (Martin & Marsh, 2008). Factors related to academic vitality include psychological factors (academic resilience, motivation, academic self-governance and academic self-efficacy), school and participation factors (class structure, perceived class goals, quality of time spent in class, positive perception of class and positive attitude towards it and improvement Class atmosphere) and family and peer factors (cognitive and emotional support of family and friends, communication patterns and constructive communication with family and peers) that are taught in academic vitality education (Fouladi, Kajbaf, Ghamarani, 2016).

Few interventional studies have been conducted on academic vitality and most studies have examined the relationship between academic vitality and other variables. For example, Yarahmadi et al (2018) in a study concluded that the educational vitality curriculum improved the academic performance, academic

motivation and academic vitality of high school students. The results of Fakharian (2019) showed a positive and significant relationship between academic vitality and conflict or academic motivation. In another study, Jalilian, Azimpour, Gholizadeh (2018) reported that academic vitality had a positive and significant relationship with students' academic motivation. Yu et al (2019) while researching concluded that vitality had a positive and significant relationship with passion. In another study, Martin (2013) reported that academic vitality plays an important role in resilience and academic motivation. Also, Azarian (2020) while researching concluded that academic vitality education increased students' academic adjustment. The results of Noshadi, Sheykholeslami (2017) showed a negative and significant effect of academic burnout (the opposite of academic enthusiasm) on students' adjustment to university. In another study, Yu et al (2019) reported that vitality had a positive and significant relationship with adaptation. Martin, Yu, Ginns, Papworth (2017) in a study concluded that academic vitality had a significant positive relationship with youth adjustment.

On the one hand, adolescent students are the future makers of society, and on the other hand, they face many academic challenges during their studies. Also, academic vitality education is one of the methods derived from positive and effective psychology in improving academic characteristics that little research has been done on its effectiveness. Another important point is that academic enthusiasm and adaptation to school play an important role in the success and academic performance of students. As a result, considering the role and importance of academic enthusiasm and school adjustment in adolescent students, the effectiveness of academic vitality education method and little research background on its effectiveness on academic enthusiasm and school adaptation, the present study aims to determine the effectiveness of academic vitality education on motivation. Education and school adjustment were performed in junior high school students.

## 2. Methodology

This study was applied in terms of purpose and quasi-experimental with pre-test and post-test design with control group. The study population was the first female high school students in District 9 of Tehran in the academic year 2009-2010. The research sample was 50 people who were selected by available sampling method and randomly replaced in two equal groups (25 people in each group). Inclusion criteria include studying in junior high school, physical health, not being rejected in previous years, not undergoing psychological treatment, not using psychiatric drugs and the absence of stressful events such as divorce and death of loved ones in the past three months and exclusion criteria They included cancellation of cooperation and absence for more than two sessions. The research process was such that after coordination with the officials of the Education Department of District 9 of Tehran, sampling was performed and when their number reached 50, the sampling was completed. For examples, ethical points such as the principle of confidentiality, confidentiality of personal information, data analysis in general were expressed and consent was obtained from them to participate in the research. Samples were randomly substituted in two equal groups and one of the groups was randomly selected as the experimental group and the other group as the control group. The experimental group received 12 sessions of 70 minutes (two sessions per week) of academic vitality training and the control group did not receive any training. The intervention was performed by the researcher based on the package of Fouladi et al (2016) as a group with practical practice of skills and homework, the content of which is reported separately in Table 1.

**Table1.** Content of academic vitality intervention sessions by sessions

meetings	Content
first	Introduction, introduction of expectations and rules and brief introduction of intervention method
second	Familiarity with the concept of academic resilience, cognitive reconstruction and creating constructive and resilient thinking, dealing with cognitive distortions, adopting an educational perspective, recognizing academic abilities and emphasizing the importance of meaning in education
third	Understanding the concepts of internal and external motivation, the role of motivational concepts in education, increasing internal motivation and promoting optimism, hope and mastery goal
fourth	Familiarity with academic self-government, teaching cognitive and metacognitive strategies, asking for help and managing the time and place of study and improving self-supervision and self-reinforcement
fifth	Familiarity with the concepts of self-efficacy and academic self-efficacy, teaching educational self-efficacy, problem solving and responsibility and their role in academic life
sixth	Explain the role of cognitive support of family and friends in education, teaching strategies for attracting cognitive support and teaching solving academic cognitive problems with the help of others
seventh	Explain the role of emotional support of family and friends in education, teach strategies for attracting emotional support and teach solving emotional educational problems with the help of others
eighth	Expressing the importance of communication with family and friends in education, recognizing communication barriers and teaching constructive communication (including eloquence) with emphasis on self-awareness and empathy
ninth	Understanding the types of classroom structures and their role in academic success, the role of learners in the classroom and school structure and teaching positive perception of them
tenth	Teaching time management in the classroom and school and its role in academic success, the importance of reading the headlines before the lesson and expressing the importance of planning in the classroom and school
eleventh	Explain the role of learners in improving the classroom and school atmosphere and teaching its promotion and teaching the improvement of friends' communication networks with the aim of positive perception of the classroom and school
twelfth	Overview of the training program by sessions and summary of the training program

In addition to the demographic information form, the following questionnaires were used to collect data. Academic Passion Questionnaire: This questionnaire was developed by Frederick, Bloomfield and Paris (2004). The instrument has 15 items that are scored from one to five using a five-point Likert scale. The instrument score is calculated with the sum of the items score, so the range of scores is between 15-75 and the higher score indicates more academic motivation. Fredericks et al. (2004) confirmed the validity of the instrument construct by factor analysis and its reliability by Cronbach's alpha of 0.86. In Iran, Safari et al (2016) obtained the reliability of the instrument by Cronbach's alpha method of 0.74. School Adaptation Questionnaire: This questionnaire was developed by Sinha & Singh (1994). This tool has 60 items that are scored as Yes (1) and No (0). The grade of the instrument is calculated with the sum of the points of the items, so the range of grades is between 0-60 and the higher grade indicates the adaptation to the weaker school. Sinha & Singh (1994) confirmed the validity of the instrument structure by factor analysis method and its reliability by halving and retesting methods by 0.95 and 0.93, respectively. In Iran, Khoshkonesh et al (2010) obtained the reliability of the instrument by Cronbach's alpha coefficient of 0.83. In the present study, the reliability of Cronbach's alpha method was 0.77 for academic motivation and 0.79 for school adaptation. Data were collected by the above tools and analyzed by chi-square, independent t-test and multivariate analysis of covariance in SPSS software version 21.

### 3. Findings

In this study, no shedding occurred in the samples of either experimental or control groups. The frequency and frequency of students' demographic information and their comparison based on Chi-square test are reported in Table 2.

**Table2.** Frequency and frequency of students' demographic information and their comparison based on Chi-square test

Variables	Levels	Academic Vitality Group		control group		Significance
		Abundance	Percentage	Abundance	Percentage	
Grade	Seventh	9	36%	8	32%	P>0/05
	Eighth	9	36%	9	36%	
	ninth	7	28%	8	32%	
Father's education	High school	4	16%	3	12%	P>0/05
	Diploma	11	44%	10	40%	
	Masters	8	32%	9	36%	
	Higher than bachelor	2	8%	3	12%	
Mother's education	High school	5	20%	6	24%	P>0/05
	Diploma	12	48%	12	48%	
	Masters	5	20%	6	24%	
	Higher than bachelor	3	12%	1	4%	

According to the results of Table 2, the experimental and control groups did not differ significantly in terms of educational level and parental education ( $P < 0.05$ ). The mean and standard deviation of academic motivation and adaptation to students' school in the evaluation stages by groups and their comparison based on independent t-test are reported in Table 3.

**Table3.** Mean and standard deviation of academic motivation and adaptation to students' school in the evaluation stages by groups and their comparison based on t-test

Variables	levels	Academic Vitality Group		control group		Significance
		Average	Standard deviation	Average	Standard deviation	
Academic enthusiasm	pre-exam	36/29	4/25	35/74	4/18	P>0/05
	Post-test	44/30	4/61	35/66	4/11	P<0/05
Compatibility with school	pre-exam	23/08	3/52	24/17	3/48	P>0/05
	Post-test	16/46	2/15	24/85	3/52	P<0/05

According to the results of Table 3, the experimental and control groups were not significantly different in terms of academic motivation and adjustment to school in the pre-test stage ( $P < 0.05$ ), but the groups were significantly different in terms of both variables in the post-test stage ( $05 / 0 > P$ ).

Examination of multivariate analysis of covariance assumptions showed that the normality was based on Kolmogorov-Smirnov test, the variance homogeneity hypothesis was based on Levin test and the covariance homogeneity hypothesis was based on M box ( $P < 0.05$ ). The results of multivariate tests to determine the effectiveness of academic vitality training on the variables of academic motivation and school adjustment in students are reported in Table 4.

**Table4.** Results of multivariate tests

exams	the amount of	Statistics F	Significance	Effect size	Statistical power
Pilay effect	0/62	75/28	0/001	0/69	0/76
Wilks Lambda	0/13	75/28	0/001	0/69	0/76
Hotling effect	1/44	75/28	0/001	0/69	0/76
The largest root on	1/44	75/28	0/001	0/69	0/76

According to the results of Table 4, academic vitality education has caused at least a significant change in one of the variables of academic motivation and school adjustment in students ( $P < 0.05$ ). Considering the effect size, it can be said that 69% of the changes are due to the effect of academic vitality education. The results of univariate analysis of covariance In the text of multivariate analysis of covariance to determine the effectiveness of academic vitality training on each of the variables of academic motivation and school adjustment in students are reported in Table 5.

**Table 5.** Results of univariate analysis of covariance in the text of multivariate analysis of covariance

The dependent variables	Source of effect	Total squares	Df	Average squares	Statistics F	Significance	Effect size	Statistical power
Academic passion	pre-exam	731/40	1	731/40	115/73	0/001	0/81	0/89
	group	456/27	1	456/27	72/19	0/001	0/67	0/74
	Error	290/72	46	6/32				
Compatibility with school	pre-exam	664/68	1	664/68	102/89	0/001	0/77	0/85
	group	517/25	1	517/25	80/07	0/001	0/74	0/83
	Error	297/16	46	6/46				

According to the results of Table 5, academic vitality education has caused a significant change in both variables of academic motivation and adaptation to students' school ( $P < 0.05$ ). According to the amount of means, it can be said that educational vitality training increases academic motivation and adaptation to school (decreasing the score in the questionnaire means increasing adaptation) and according to the size of the effect, it can be said that 67% changes in academic motivation and 74% changes in adaptation. With school is due to the impact of educational vitality education.

#### 4. Discussion

Considering the role and importance of academic enthusiasm and adaptation to school in the success and academic performance of students and little research on the effectiveness of academic vitality education method, the present study was conducted to determine the effectiveness of academic vitality training on academic motivation and school adaptation in junior high school students. The findings of the present study showed that educational vitality training increased students' academic motivation, which is in line with the findings of Fakharian et al (2019); Yarahmadi (2018); Martin (2013); Yu et al (2019) were consistent. For example, the results of Yarahmadi et al (2018) showed that educational vitality training increased students' academic motivation. In another study, Yu et al (2019) reported that vitality was positively and significantly related to passion. Explaining these findings based on the research of Yarahmadi et al (2018), it can be said that academic motivation is a multidimensional structure including cognitive, motivational and behavioral dimensions, so on the one hand the cognitive dimension of academic motivation causes students to use a variety of cognitive and metacognitive strategies in the process. Learn to use and considering that in the educational vitality education program, students are taught cognitive and metacognitive strategies, so academic vitality education increases academic motivation. On the other hand, the behavioral dimension of academic enthusiasm in which a person increases his / her efforts and succeeds by persevering and asking for help from others in dealing with homework is also related to academic vitality education. Because problem-solving skills, planning, and guiding behaviors are taught in the academic vitality education program to achieve goals, academic vitality education can increase students' academic enthusiasm.

Also, other findings of the present study showed that the education of academic vitality increased school adjustment in students, which is in line with the findings of Azarian (2020), Noshadi, Sheykholeslami (2017), Yu et al (2019), Martin AJ (2013) was consistent. For example, the results of Azarian (2020) research showed that academic vitality training increased student adjustment. In another study, Martin et al (2017) reported that academic vitality had a significant positive relationship with adjustment. Explaining these findings based on Azeri research, it can be said that there are challenging questions in the field of education that require reflection and thinking, and people with vitality show more resistance to solve these challenges, pay more attention to them and think about successes. They get more. Another important point is that academic vitality increases students' interest in education and increases their motivation. This factor provides the mobility needed to successfully complete a task, achieve a goal, or achieve a certain degree of competence. Therefore, students with high academic vitality show more

enthusiasm and interest in education and work harder to achieve their educational goals. In addition, highly energetic students believe that they can successfully manage and overcome academic challenges and difficulties, so these people expect more success from themselves in the face of challenges. Therefore, academic vitality increases students' adjustment to school by solving problems and academic challenges, increasing motivation and a positive and optimistic view of themselves, education and school.

The most important limitations of the present study were the use of accessible sampling method, the limitation of society to one gender, namely girls, the lack of long-term sustainability of results and the use of self-report tools. As a result, it is suggested that researchers, if possible, use possible sampling methods, use the present study on repetitive male students, use structured interviews to collect data, and examine the consistency of the results in multi-month follow-up. Since the results of the present study indicate the effectiveness of academic vitality training on increasing academic motivation and school adaptation in students, so it is necessary that specialists and educational planners for educators and even students in the course of academic vitality education. Another suggestion is that school counselors and psychologists use the method of teaching educational vitality to improve academic characteristics, especially to increase academic motivation and adaptation to school. Therefore, planning to use the method of teaching educational vitality has an important role in improving academic characteristics.



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