ORIGINAL ARTICLE

Comparing the effectiveness of teaching study skills with and without emotion regulation on the academic engagement of medical students

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Background: Academic life is one of the most important periods of a person's life, which affects his learning and success. The present study was conducted with the aim of comparing the effectiveness of teaching study skills with and without emotion regulation on the academic engagement of medical students.

Method: The present study was a quasi-experimental study with two experimental groups and a control group, which was conducted as a voluntary sampling on 60 students of Birjand University of Medical Sciences. The participants were divided into three groups based on random sampling. The tools used in this study were the Rio Academic Engagement Questionnaire and study skills training programs with and without emotion regulation for 16 90-minute sessions. The collected data were analyzed with SPSS-20.

Results: Comparing the results of these two interventions with each other showed that teaching study skills with emotion regulation on academic engagement with an effect size of 48.35 was more effective than teaching without emotion regulation with an effect size of 43.10. According to the findings of this study, it can be said that teaching study skills with emotion regulation is more effective than teaching without emotion regulation on academic engagement of medical students (P= 0.001).

Conclusion: In order to increase students' academic engagement, using the method of studying skills training with emotion regulation can be effective.

Keywords: Study skills, Emotion regulation, Academic engagement, Medical students

مقارنة فعالية تدريس مهارات الدراسة مع وبدون تنظيم العواطف على المشاركة الأكاديمية لطلاب الطب

الخلفية: تُعدّ الحياة الأكاديمية من أهم مراحل حياة الإنسان، إذ تؤثر على تعلمه ونجاحه. أُجريت هذه الدراسة بهدف مقارنة فعالية تدريس مهارات الدراسة، مع أو بدون تنظيم الانفعالات، على المشاركة الأكاديمية لطلاب الطب.

الطريقة: أجريت هذه الدراسة شبه التجريبية بمجموعتين تجريبيتين ومجموعة ضابطة، كعينة طوعية على ٦٠ طالبًا من جامعة بيرجند للعلوم الطبية. قُسّم المشاركون إلى ثلاث مجموعات عشوائيًا. استُخدمت في هذه الدراسة استبيان ريو للمشاركة الأكاديمية، وبرامج تدريب على مهارات الدراسة مع أو بدون تنظيم الانفعالات، لمدة ١٦ جلسة، مدة كل منها ٩٠ دقيقة. حُللت البيانات المُجمعة باستخدام برنامج SPSS-20.

النتائج: أظهرت مقارنة نتائج هذين التدخلين أن تدريس مهارات الدراسة مع تنظيم الانفعالات على المشاركة الأكاديمية، بحجم تأثير ٤٨,٣٥، كان أكثر فعالية من التدريس بدون تنظيم الانفعالات، بحجم تأثير ٤٣,١٠. ووفقًا لنتائج هذه الدراسة، يمكن القول إن تدريس مهارات الدراسة مع تنظيم الانفعالات أكثر فعالية من التدريس بدون تنظيم الانفعالات على المشاركة الأكاديمية لطلاب الطب (P= 0.001).

الخلاصة: لزيادة المشاركة الأكاديمية للطلاب، يُمكن استخدام أسلوب تدريب مهارات الدراسة مع تنظيم الانفعالات.

الكلمات المفتاحية: مهارات الدراسة، تنظيم الانفعالات، المشاركة الأكاديمية، طلاب الطب

میڈیکل طلباء کی تعلیمی مصروفیت پر جذباتی ضابطے کے ساتھ اور اس کے بغیر مطالعہ کی مہارتیں سکھانے کی تاثیر کا موازنہ

پس منظر: تعلیمی زندگی انسان کی زندگی کے اہم ترین ادوار میں سے ایک ہے، جو اس کے سیکھنے اور کامیابی کو متاثر کرتی ہے۔ موجودہ مطالعہ میڈیکل کے طلباء کی تعلیمی مصروفیت پر جذباتی ضابطے کے ساتھ اور اس کے بغیر مطالعہ کی مہارتوں کی تدریس کی تاثیر کا موازنہ کرنے کے مقصد سے کیا گیا تھا۔

طریقہ: موجودہ مطالعہ دو تجرباتی گروپوں اور ایک کنٹرول گروپ کے ساتھ ایک نیم تجرباتی مطالعہ تھا، جو برجند یونیورسٹی آف میڈیکل سائنسز کے ۶۰ طلباء پر رضاکارانہ نمونے کے طور پر کیا گیا تھا۔ شرکاء کو بے ترتیب نمونوں کی بنیاد پر تین گروپوں میں تقسیم کیا گیا۔ اس مطالعے میں استعمال ہونے والے ٹولز تھے ریو اکیڈمک انگیجمنٹ سوالنامہ اور ۱۶ ۹۰ منٹ کے سیشنز کے لیے جذباتی ضابطے کے ساتھ اور اس کے بغیر مطالعہ کی مہارت کے تربیتی پروگرام۔ جمع کردہ ڈیٹا کا تجزیہ SPSS-20 کے ساتھ کیا گیا۔

نتائج: ان دونوں مداخلتوں کے نتائج کا ایک دوسرے کے ساتھ موازنہ کرنے سے معلوم ہوا کہ ۴۸,۳۵ کے اثر والے سائز کے ساتھ تعلیمی مصروفیت پر جذباتی ضابطے کے ساتھ مطالعہ کی مہارتیں پڑھانا ۴۳,۱۰ کے اثر کے سائز کے ساتھ جذباتی ضابطے کے بغیر پڑھانے سے زیادہ موثر تھا۔ اس مطالعے کے نتائج کے مطابق، یہ کہا جا سکتا ہے کہ جذباتی ضابطے کے ساتھ مطالعہ کی مہارتیں پڑھانا میڈیکل کے طلباء کی تعلیمی مصروفیات پر جذباتی ضابطے کے بغیر پڑھانے سے زیادہ موثر ہے (P = 0.001)۔

نتیجہ: طلباء کی تعلیمی مصروفیت کو بڑھانے کے لیے، جذبات کے ضابطے کے ساتھ ہنر مندی کی تربیت کے مطالعہ کے طریقہ کار کو استعمال کرنا موثر ثابت ہو سکتا ہے۔

مطلوبہ الفاظ: مطالعہ کی مہارتیں، جذبات کا ضابطہ، تعلیمی مصروفیت، طبی طلباء

مقایسه اثربخشی آموزش مهارت های مطالعه با و بدون تنظیم هیجان بر درگیری تحصیلی دانشجویان علوم پزشکی

زمینه و هدف : زندگی تحصیلی یکی از مهم ترین دوره های زندگی فرد است که بر یادگیری و موفقیت او تأثیر می گذارد. پژوهش حاضر با هدف مقایسه اثربخشی آموزش مهارت های مطالعه با و بدون تنظیم هیجان بر درگیری تحصیلی دانشجویان علوم پزشکی انجام شد.

روش: این پژوهش یک مطالعه نیمه تجربی با دو گروه آزمایش و یک گروه کنترل بود که به صورت نمونه گیری داوطلبانه بر روی ۶۰ نفر از دانشجویان دانشگاه علوم پزشکی بیرجند انجام شد. آزمودنی ها بر اساس نمونه گیری تصادفی به سه گروه تقسیم شدند. ابزار مورد استفاده در این پژوهش، پرسشنامه درگیری تحصیلی ریو و برنامه های آموزشی مهارت های مطالعه با و بدون تنظیم هیجان به مدت ۱۶ جلسه ۹۰ دقیقه ای بود. اطلاعات جمع آوری شده با برنامه SPSS-20 مورد تجزیه و تحلیل قرار گرفت.

یافته‌ها: مقایسه نتایج این دو مداخله با یکدیگر نشان داد آموزش مهارت های مطالعه با تنظیم هیجان بر روی درگیری تحصیلی با اندازه اثر ۴۸/۳۵ از روش آموزش بدون تنظیم هیجان با اندازه اثر ۴۳/۱۰ بیشتر است. با توجه به یافته های این پژوهش می توان گفت روش آموزش مهارت های مطالعه با تنظیم هیجان نسبت به روش آموزش بدون تنظیم هیجان بر روی درگیری تحصیلی دانشجویان علوم پزشکی اثربخشی بیشتری دارد (P= 0.001).

نتیجه گیری: به منظور افزایش درگیری تحصیلی دانشجویان استفاده از روش آموزش مهارت های مطالعه با تنظیم هیجان می تواند اثر بخش باشد.

واژه های کلیدی: مهارت های مطالعه، تنظیم هیجان، درگیری تحصیلی، دانشجویان علوم پزشکی

INTRODUCTION

Human resources are the most valuable asset of any country, and universities, as the most important scientific hubs, play a significant role in cultural, economic, and social progress (1) and students' academic performance is one of the most important and objective criteria for evaluating the efficiency and effectiveness of educational systems (2). Currently, there are about 38 students per 1,000 people in the country, and a quarter of them are at risk of dropping out. Among them, medical students usually endure more academic pressure, and about 12% of them are on probation for a semester during their studies, which brings significant losses to students, families, society, and the country. The experience of these failures causes them to distance themselves more from the realities they face and to engage less in their studies to avoid the fears that have arisen (3).

Academic engagement was first proposed to understand and explain academic failure and is considered a basis for educational reform (4) and refers to students' active conflict between work and study, which is an important predictor of academic success (5). It should be noted that students are engaged in tasks, activities, and experiences that lead to learning, not the learning itself (3).

On the other hand, the increasing production of knowledge and information and the advancement of technology have caused the life of knowledge and information to be very short. Therefore, in order to overcome this situation, instead of transferring a set of knowledge and information to individuals, they should be taught how to learn and study and have quick access to information (6). It should be said that proper study is a dynamic and active process that includes reading, writing, thinking, remembering, and the like. These skills enable an individual to constructively understand what he reads and to achieve its meaning and generality (7). Using better techniques makes studying easier, faster, and more enjoyable (8). Research shows that medical students often lack study skills (9), and those students who use appropriate study strategies are more successful and more likely to adhere to active study conditions and study styles. Therefore, teaching these strategies is very effective in eliminating academic failure and encouraging students to study (10). Poor performance and negative thoughts and emotions also cause performance to decline. Even the exam result continues in the form of negative thoughts and emotions, and those who suffer from high levels of negative academic emotions are prone to distraction and poor study habits. Therefore, reading and learning skills affect the strategies used to regulate thoughts, feelings, and emotions (6), because it is influenced by the emotion regulation variable (11). Emotion regulation involves individuals' efforts to influence the type, timing, and expression of emotions through behavioral, experiential, or physiological processes either automatically or through conscious strategies (12).

Since medical schools rank higher than other universities in terms of educational standards, research, facilities, and equipment, and many applicants compete for admission to medical schools every year (13), and despite such a significant position and facilities allocated to medical education, it is essential to examine the problems medical students face in achieving success. Study and learning skills training can improve academic engagement and ultimately academic achievement by eliminating information processing deficiencies and increasing metacognitive knowledge (6). It should be acknowledged that academic emotions are a large unexplored area in psychological research (11). With the exception of research on test anxiety and document-based emotions in the academic setting, the lack of empirical research on academic engagement and the effect of studying and learning skills training on emotions is completely evidential. Since no research conducted in Iran has examined the effect of teaching study skills with and without emotion regulation on academic engagement, this study investigates whether there is a difference between the two approaches of teaching study skills with and without emotion regulation on the academic engagement of medical students.

METHODS

This study is a quasi-experimental study conducted on medical students in three groups with a pre-test and post-test design with a control group. The studied population consists of medical students enrolled in 2022 .In order to reduce the effects of confounding variables and to match the research groups, all participants were male, aged 20 to 40 years, and had a two-point drop in GPA compared to the previous semester.

The sample size was determined according to the Stevens table, adapted from Cohen (14), with a test power of at least 80% with a mean size equal to half and a probability of error of 0.05, resulting in 14 participants in each group. According to the sample size used in similar quasi-experimental studies and as suggested by Delavar (15) for more certainty, 20 participants were selected for each group. Eligible volunteers (no concurrent psychological interventions during the training course, full consent, and completion of informed consent forms) were recruited. Since students did not cooperate properly during the exam period and the number of training sessions was long, voluntary sampling was used to facilitate and accelerate the research work and save time and money. After the pre-test, the participants were randomly divided into three groups of 20 people: the first group received study skills training with emotion regulation, the second group received study skills training without emotion regulation using a weekly training package in a two-month period. There also were16 sessions, one session per week for each experimental group and the third group was as a control group without intervention. After the intervention, all three groups completed the academic engagement questionnaire again. The collected data were analyzed using SPSS 20 software.

Research tools

Rio Academic Engagement Questionnaire (2013), including 17 questions and four components: behavioral engagement (1-4), action engagement (5-9), cognitive engagement (10-13) and emotional engagement (17-14) was conducted in this study. It used a 7-point Likert scale to assess academic

engagement. According to Ramezani and Khamsan (2016), the reliability of this questionnaire is 0.92. The results of the confirmatory factor analysis also showed that the structure of the questionnaire matches well with the data and all the fit indices for the four-factor model of the questionnaire were confirmed (16). The overall alpha coefficient of the questionnaire was 0.75, which indicates sufficient reliability.
Non-emotional regulation study skills training package: This training package for 16 sessions of 90 minutes, based on the Center for Studies and Mental Health at the University of Texas by Shirley E. Cobb (2002), focuses on cognitive and metacognitive study training (17).
This protocol, developed by James Gross in 2002, is used to teach people how to manage and regulate their emotions. According to this package, different stages of emotion regulation training are performed in 16 group in sessions of 90 minutes (18).
The data collected from the experimental and control groups were analyzed using descriptive (mean, standard deviation) and inferential statistical methods.

RESULTS

Demographic findings showed that most of the people are in the age group of 19 to 21 years with a frequency of 33.68% in terms of education level, second year students with 33.63% in terms of marital status, and single people were with 83.33%.
The research hypotheses were examined using statistical tests. After examining the assumptions, one-way analysis of variance was performed (to examine the difference between the means of the three groups while there is only one dependent variable) .According to the results of the Shapirovik test, considering that the significance level for the test error at the 95% confidence level is more than 0.05, the null hypothesis can be confirmed. This shows that the distribution of research variables is normal. The result of

Table 1. The training package for group study skills with and without emotion

Session	With Emotion	Without Emotion
1	Teaching Physiological and Psychological Factors	Teaching physiological and psychological factors affecting the learning process.
2	Answering the questions and following the exercises from the previous session.	Introducing the concepts of active learning using the five senses and SQ3R and SQ4R study techniques.
3	Concepts of active learning using the five senses and studying the SQ3R and SQ4R techniques.	Introducing objective and active study techniques, especially SQ4R, and various alternative study techniques.
4	Introduction to objective and active study techniques.	Providing practical knowledge about brain function and how to train the brain for better learning using memory techniques.
5	Especially SQ4R and various alternative study techniques.	Providing an effective review program based on physiological and psychological needs.
6	Reviewing active learning techniques and discuss note-taking skills.	Introducing a positive mental approach to exams and practical exam techniques.
7	Providing practical knowledge about brain function and information on how to train the brain to learn better, with memory techniques	Introducing objective (academic) skills.
8	Providing an effective screening program based on physiological and psychological needs	Teaching physiological and psychological factors affecting the learning process.
9	Introducing a positive mental approach to exams and practical	1. Introduction of members 2. Main and secondary goals and personal and collective goals. 3. Determining the framework and rules.
10	Exam techniques for students	Recognizing emotions and exciting situations, teaching the different functions of emotions, different dimensions of emotions and their short-term and long-term effects.
11	Introducing objective (academic) skills	1. Self-assessment to recognize one's emotional experiences. 2. Self-assessment to identify emotional vulnerability. 3. Self-assessment to identify emotion regulation strategies.
12	Teaching Physiological and Psychological Factors	1. Preventing social isolation. 2. Teaching problem-solving. 3. Teaching interpersonal skills.
13	Concepts of active learning using the five senses and studying the SQ3R and SQ4R techniques.	1. Stopping rumination and worry. 2. Teaching task-focused attention.
14	Introduction to objective and active study techniques.	1. Identifying faulty appraisals and their effects on emotional states. 2. Teaching reappraisal strategies.
15	Especially SQ4R and various alternative study techniques.	1. Identifying the extent and manner of using suppression strategies and emotional consequences. 2. Teaching emotional expression. 3. Modifying behavior by changing environmental reinforcers. 4. Teaching emotional release, relaxation, and coping techniques.
16	Teaching Physiological and Psychological Factors	1. Assessing goal achievement 2. Applying learned skills in environments outside the meeting. 3. Removing barriers to completing tasks.

Levin's test to check the homogeneity of error variances showed that the significance level for the variable of academic engagement (F (2.57) = 2.753, p = 0.072) is greater than 0.05. Therefore, the assumption of homogeneity of error variances is fulfilled.

Academic engagement in two groups changed by 48.35 points for the group with study skills with emotion regulation and 43.1 points for the group without emotion regulation. Follow-up tests were used to check the amount of changes of the three groups in the variable of academic involvement.

There is a significant difference in the average changes of academic involvement among the three groups, F (2.56) = 887.081, P-value < 0.001. Further results based on the post hoc test showed that the changes in three groups of studying skills with emotion regulation, study skills without emotion regulation, and the control group had a significant P-value (p = 0.001).

The average academic engagement in the groups with and without emotion regulation skills training was significant during the study. Therefore, in response to the study question based on the reported information, it can be stated that the two groups did not have the same educational effectiveness. As a result, the subscales of the above variable are examined.

The variable of cognitive involvement changed by 14.55 units in the group with study skills and cognitive emotion regulation and by 12.95 units in the group without emotion regulation.

The factor engagement variable changed by 10.9 units in the group with study skills and emotion regulation and by 11.05 units in the group without emotion regulation.

The variable of emotional involvement changed by 13.50 units in the group with cognitive emotion regulation skills training and 8.65 units in the group without emotion regulation skills training.

The variable of behavioral involvement in the group with study skills with emotion regulation changed by 9.4 units and in the group without emotion regulation by 10.25 units, and no significant changes occurred in the control group.

DISCUSSION

This study aimed to compare the effectiveness of studying skills training with and without emotion regulation on the academic engagement of medical students. The results showed that in the pre-test phase, the level of academic engagement was relatively the same in all three groups and there was no significant difference. Based on the tests conducted and the reported results, academic engagement changed in the two experimental groups (study skills with and without emotion regulation), but no significant change was observed in the control group. Also, the changes in the group with emotion regulation skills were greater than the group without emotion regulation skills.

The results of the study conducted by Goldoust et al. (2018) showed that metacognitive skills training significantly increases study skills and its components, including memory reinforcement and improvement (19). Yavari (2014) identified a significant difference between positive

Table 2. The Mean Changes in Academic Engagement Variable in Three Groups

	Pre-test	Post-test
Groups	**Mean(SD)**	**Mean(SD)**
Study with emotion	40.35(4,89)	88.70(4,29)
Study without emotion	42.55(4,82)	85.65(2,66)
Control	42.85(5,81)	41.25(4,54)

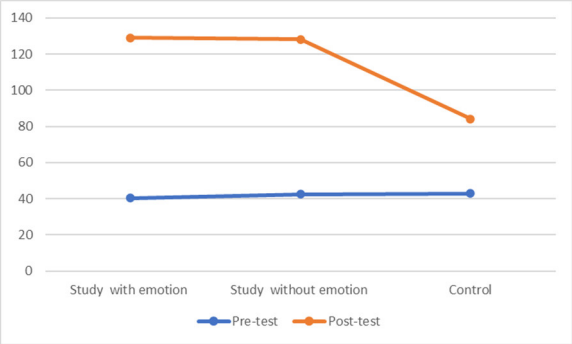

Figure 1. The Mean Changes in Academic Engagement Variable in Three Groups

Table 3. Results of the Post Hoc Test for Academic Engagement Variable in Three Groups

		Mean Difference	Standard Error	P-value
Experiment 1	Experiment 2	3.0500*	1.24005	0.044
	Control	47.4500*	1.24005	0.0000
Experiment 2	Experiment 1	-3.0500*	1.24005	0.044
	Control	44.4000*	1.24005	0.0000
Control	Experiment 1	-47.4500*	1.24005	0.0000
	Experiment 2	-44.4000*	1.24005	0.000

Table 4. Comparison of Pre-test and Post-test

		Pre-test	Post-test
Variable	**Groups**	**Mean(SD)**	**Mean(SD)**
Cognitive	Study with emotion	12.8(2.61)	27.35(2,68)
	Study without emotion	12.85(3,13)	25.8(1,23)
	Control	13.05(2,06)	11.55(2,66)
Agentic	Study with emotion	9.15(2.05)	20.05(1,6)
	Study without emotion	10.35(2,41)	21.4(2,25)
	Control	9.9(2,57)	9.8(2,72)
Emotional	Study with emotion	8.65(2,23)	22.15(2,08)
	Study without emotion	9.4(1,84)	18.25(1,25)
	Control	9.6(3,21)	9.75(2,46)
Behavioral	Study with emotion	9.75(1,94)	19.15(1,46)
	Study without emotion	9.95(1,73)	20.2(1,73)
	Control	10.3(2,22)	10.15(2,25)

refocusing and planning refocusing and suggested that hope training is effective in promoting students' academic vitality (20). Mengetti, Casali, Fabrice, Palama, Rizzato, Zamperlin, Zavagnen, and De Benny (2021) found that individuals training in study skills achieve better results in intelligence and learning strategies, as well as emotional skills (21). Zimmerman and Shank (2020) discovered that the use of positive emotion regulation strategies was significantly associated with increased academic engagement (22). Shaw (2017) showed that by teaching study skills, we can help our students become self-sufficient and effective members of the medical community (9). Marquez, Gallagher, and Lopez (2017) showed that by managing the role of the variables of self-efficacy and academic engagement, the academic hope will increased and, as a result the level of success and progress in college can be predicted (23). In explaining these findings, it can be stated that academic engagement includes cognitive, behavioral, emotional, and causal components. The more metacognitive strategies and cognitive strategies are used together, the better students will learn. When learners use study methods such as note-taking, summarizing, and questioning, they enhance learning and foster higher cognitive academic engagement because these methods encourage active participation and facilitate the processing of information in the mind. According to expectancy-value theory, the more learners expect to excel at a task, and the more valuable the task is, the more they will be interested in doing it. As a result, their performance improves, leading to greater emotional engagement. Students who put in more effort and seek more help learn more effectively and achieve higher levels of success. Emotion regulation refers to the ability to manage and interact with emotions. Students who can successfully cope with and manage negative emotions or accumulated stress generally perform best in their studies. This is due to increased focus, mastery of subjects, high motivation, and higher academic achievement. When students manage their stress and anxiety during exams, they are likely to perform better. Therefore, emotion regulation as an important skill can be effective in achieving better academic success, greater perseverance, and better results.

Also, the ability to regulate emotions can help students improve their relationships with others and find the best solutions to manage communication and cohesion in study groups to achieve more positive results. This skill enables students to act purposefully and calmly in difficult and dangerous situations, reduce conflicts arising from cultural differences or differing opinions, and engage in more constructive negotiations to resolve disputes.

In addition, students who are able to regulate their emotions may be better able to cope with academic and social pressures and find the best strategies to solve complex problems.

Ultimately, emotion regulation can help students throughout their academic careers and even in their personal and professional lives, allowing them to be recognized as effective individuals in society. As a result, they achieve greater concentration and memory, use their time and energy for learning, and achieve greater success in the academic environment.

Teaching study methods facilitates learning and enables students to obtain objective information to solve adaptive problems related to experiences, planning, and academic tasks.

Also, students who receive a lot of support from their social networks (parents, friends, and teachers) have a stronger sense of self-efficacy, spend more hours studying, and report success.

Teaching study skills with emotion regulation enables students to acquire and apply emotional information to solve adaptive problems related to experiences and classroom and academic tasks. According to the polarity principle, it can be said that people face many conflicts due to influence and sensitivity. Students want to change their situation and at the same time want to maintain the status quo. They want to act on their inner desires and at the same time be influenced by their inner logic. Linehan argues that the problem arises because they cannot let go of the extremes. They think they should act rationally or, according to their own desires, they completely change the situation. Emotion regulation skills help them resolve this conflict by choosing action over inaction and planning over ambiguity. In effect, they help students consider both their emotions and their rational needs when pursuing academic problems and completing assignments.

Balancing these two issues—emotions and logic—helps students have a plan of action and a suitable position to deal with learning problems to separate their concerns about not achieving academic goals from unrealistic thoughts and evaluations. Thus, it reduces the emotional burden of irrational thoughts and unhealthy evaluations. By practicing the right study methods, students can implement appropriate strategies for solving problems and answering test questions. Also, these skills can significantly improve students' critical and analytical thinking skills and help them understand subjects more deeply and comprehensively. They also help students

achieve higher self-confidence and self-esteem, which enables them to get the best results from their efforts and gives them more motivation to learn and progress.

CONCLUSION

The tendency to conform to conditions, expectations, demands, and social structures in the educational environment and planning for learning success is common, so the study skills training program with and without emotion regulation can be a practical solution to increase students' academic engagement.

Since increasing academic engagement is a very important factor in improving students' academic status and the effectiveness of studying skills training with and without emotion regulation training in increasing students' academic engagement has been proven, it is recommended that educational centers use group training methods, especially emotion regulation training, in addition to classroom training to improve students' educational and learning processes. Therefore, holding training workshops for students before starting graduate school is recommended in order to improve the quality of studying and learning and to improve knowledge.

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Ethical considerations

Ethical issues including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc. have been completely observed by the authors. The approval of the Ethics Committee of Birjand University of Medical Sciences was obtained with the approval number IR.BUMS.REC.1401.379 and all ethical considerations were observed for the participants.

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