The effectiveness of mindfulness-focused group therapy on students' academic achievement excitement (Alexithymia) and the moderating role of trait and characteristics of elementary school students in Ilam City

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Abstract

Introduction: Mindfulness can be defined as the conscious awareness of the present that is associated with cognitive therapy and based on the presence of mind is a new promise in explaining the approach. On the other hand, adolescence, as a special period of development, is a sensitive and critical period in which people face problems and should find solutions to solve problems and deal with them. Therefore, the present study attempted to evaluate the effectiveness of mindfulness behavior cognitive therapy on mindfulness of students' academic achievement and the moderating role of trait and state characteristics.

Materials and Methods: The statistical population of the study consisted of all junior high school students in Ilam city. Through cluster random sampling, sixty students with high emotional distress were selected as the main sample of the study. Moreover, two scaling measures along with two questionnaires were used in order to collect the required data. Finally, multivariate analysis of covariance was applied to analyze the collected data.

Results: The results revealed that mindfulness-based group therapy had a significant effect on trait and state characteristics of alexithymia school students in Ilam ($P < 0.0001$). Furthermore, it was found that mindfulness-based group therapy also influences the academic achievement emotions of Ilam elementary school students ($P > 0.0001$).

Conclusion: Mindfulness through awareness and concentration, as one aspect of its effects on academic progress, helps the students with their studying and comprehension. It can also indirectly influence the students' academic progress in a positive manner through decreasing Alexithymia and increasing their mental health. Furthermore, it can influence the excitements of academy progress as well as alexithymia of middle school students of Ilam.

Keywords: Mindfulness, Academic Achievement Excitement, Alexithymia, Trait and Trait Characteristics, Students, Ilam City

Introduction

Students usually wish to do their activities perfectly, and if they make even a slight mistake, they immediately feel frustrated, and emotionally distressed. There are many obstacles to the normal psychological processes of individuals, each of which can lead to problems in their academic development (1). Alexithymia can be considered as one of these obstacles (2). This term "was coined in 1973 by Peter Sifneos to

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describe certain clinical characteristics observed among patients with psychosomatic disorders who had difficulty engaging in insight-oriented psychotherapy". In other words, it refers to "a lack of affect" (3). Alexithymic individuals are distinguished by three main characteristic features: they cannot fully distinguish emotions; they experience difficulties when describing feelings; and they do not have the ability to create fantasies (3). Other characteristics include lack of introspection, tendency to social conformity, externally oriented thinking (4), deficit in the perceiving of emotions within oneself or others (5), use of inappropriate defense mechanisms (6), lack of empathy, cold and reserved behavior towards other people (7), and inability to establish close relationships and limited social skills (8). Previous studies show that alexithymia is associated with the investigation of natural sciences rather than humanities (9), and that students and professionals have a lower level of alexithymia than those who are interested in other fields. Lower level of alexithymia in students of helping professions appears since their first year of study; that is, first year students of helping profession fields have a lower level of alexithymia than first year students who study "non-helping" subjects. Therefore, the author claims that the level of personal alexithymia influences the choice of profession. Lipton (2007) asserts that if during childhood, people constantly hear that they are worthless and/or that they never achieve success in life, such messages are programmed in their subconscious mind and will undermine all their conscious efforts to make productive changes in their lives. Based on the above discussion, it seems necessary to explore the probability of changing beliefs and feelings of university students who have problems regarding mindfulness and concentration and as a result, have low achievements. The technique, ThetaHealing, which according to its creator – Vianna Stibal – can facilitate rapid and permanent change in counterproductive programs, beliefs and feelings, is used in this study in order to suggest a program of action research involving such students.

On the other hand, there are many educational modalities to improve educational status and related variables; one of which is mindfulness-based cognitive therapy, which places a great emphasis on learning through direct experience (10). Also, mindfulness-based cognitive therapy has improved academic performance, increased social skills, and reduced their test anxiety as well as trait anxiety (13). Based on the above discussion, the purpose of this study was to determine the effectiveness of mindfulness behavior cognitive therapy on mindfulness of students' academic achievement (Alexithymia) and the moderating role of trait and trait characteristics of middle school students in Ilam city.

Materials and Methods

The research method is quasi-experimental with factor analysis including pre
test and posttest with experimental and control groups. Through cluster sampling, sixty students with high Alexithymia were selected as the sample of the study. They all were from Ilam. Then, researchers started medical sessions in schools. The experimental group received 8 sessions of 60minutes with mindfulness-based cognitive therapy, and the control group received no training. The first session was devoted to communicating among the members, the need to use mindfulness and familiarity with relaxation. The second session included relaxation training for 14groups of muscles including forearm, arm, back muscle, thighs, abdomen, chest, shoulders, neck, lips, eyes,

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jaws, lower forehead and upper forehead. The third session was performed for 6 groups of muscles including arms and arms; legs and thighs; abdomen and chest; neck and shoulders; jaws and forehead; and lips and eyes. The fourth session was dedicated to learning how to breathe in mind, breathing technique training with relaxation and without thinking, and breathing watching technique training. The fifth session was on the technique of paying attention to body movements while breathing, focusing on the organs and their movements, searching for physical senses, and training mindful eating to relax and pay attention to food. The sixth session focused on mindfulness, pleasant or unpleasant thoughts, allowing negative and positive thoughts to enter and exit without judging, and paying close attention to them. The seventh session included complete mindfulness training along with a repetition of the fourth, fifth, and sixth sessions – each for 15 to 25 minutes. Finally, the eighth session was devoted to reviewing and summarizing previous sessions and evaluating their results.

At the end of each session, a task related to it was given; and at the beginning of the next session the students were given constructive feedback. The tools used in this study included the Academic Achievement Questionnaire of Pecker, Toronto Emotional Intelligence Questionnaire (11), Bamrind Parenting Styles (12) and Shot Emotional Intelligence. The questionnaires were completed by students. Next, based on the code specified for each subject, the questionnaires for parents (Questionnaire of Parenting Styles) were given to the students so that they could ask their parents to complete them. Finally, statistical analysis was performed after returning the questionnaires and completing the sessions. Moreover, descriptive statistics methods including frequency, mean and standard deviation were used to describe the variables. Also, multivariate analysis of covariance was used to explore the research hypotheses. In covariance analysis, subjects' differences were measured in two stages of pretest and posttest. In what follows, the tools used in the study are discussed:

Toronto Alexithymia Scale

This scale was developed by Bobby, Taylor, and Parker. It consists of 20 questions and three subscales including difficulty identifying emotions (7 questions), difficulty describing emotions (5 questions), and objective thinking (8 questions). Questionnaire scoring was based on a 5-point Likert scale ranging from completely disagree to strongly agree (1). The Toronto Alexithymia Scale has been reviewed and validated in numerous studies (13).

The Pekran Academic Excitement Questionnaire

The questionnaire is divided into three sections that assess the emotions associated with class, exam, and learning. The researchers used a special tool to assess learning-related emotions including (10-item pleasure, 6-item hope, 6-item honor, 9-item anger, 11-item anxiety, 11-item shame, 11-item hopelessness, and 11-item fatigue). In total, 75items were rated on a five-point Likert scale, with students rating their emotional experiences on a scale from strongly disagree (1) to strongly agree (5). Also, the questionnaire has acceptable psychometric properties (14).

Shot Emotional Intelligence Questionnaire

This test selects its degree of agreement or disagreement with each sentence on a five-point Likert scale ranging from strongly

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disagree (1) to strongly disagree (5). Using Cronbach's alpha coefficient of 0.93, the reliability of this subscale was reported in a study by Mohammadkhani et al.

Baumrind Children Style Questionnaire

This questionnaire is an adaptation of the theory of parental authority. It is made up of three models including parental emancipation, empowerment, and rational authority to examine patterns of influence and parenting practices. The questionnaire consists of 30items:10 items are associated with absolute liberation, 10are implicit, and the last 10 ones are related to the parent's rational authority for child rearing. In a study on the reliability of this questionnaire, Esfandiari (1995) reported test-retest reliability of 0.69 for convenience, 0.77for impersonality, and 0.73for logical authority.

Results

Descriptive statistics show the data obtained from the implementation of the Emotional Intelligence Questionnaire and its dimensions (social skills, optimism - emotion regulation, evaluation of excitement, and application of excitement) in the pretest and posttest stages.

As it is indicated, the mean of total scores of emotional intelligences and one of its dimensions including evaluation of emotions in the posttest stage did not increase significantly compared to the pretest stage, but in other dimensions including social skills, optimism-emotion regulation and application of emotions, means scores in the posttest stage were assessed higher than pretest stage.

Table1 shows the descriptive statistics of pretest and posttest resulting from the implementation of the parenting styles questionnaire and its dimensions, including: liberation, Authoritarian style and rational authority, separately by stages.

As can be seen, the average scores of parenting styles and its two dimensions, including: liberation and authoritarian style in the posttest stage have decreased significantly compared to the pretest stage, but in the dimension of logical authority, the average scores in the posttest stage compared to the pretest stage were evaluated to be higher.

Table 1. Pretest and posttest data of the implementation of emotional intelligence questionnaire.

Variables	Number	Pretest	Posttest
Emotional intelligence	60	2.67 ± 0.58	2.99 ± 0.44
Social skills and exploitation of excitement	60	2.75 ± 0.53	3.01 ± 0.38
Optimism - emotion regulation	60	2.88 ± 0.48	3.20 ± 0.45
Evaluation of excitement	60	2.52 ± 0.85	2.76 ± 0.90
Application of excitement	60	2.74 ± 0.32	3.003 ± 0.31

Data are shown as Mean ± SD.

Table 2 shows the descriptive statistics of pretest and posttest resulting from the implementation of the Alexithymia questionnaire and its dimensions, including difficulty in recognizing emotions, difficulty in describing emotions and thinking with external orientation. As can be seen, the mean scores of Alexithymia and its dimensions include: difficulty in recognizing emotions, difficulty in describing emotions and thinking with external orientation in the posttest stage compared to the pretest stage has decreased significantly.

Table 3 shows the descriptive statistics of pretest and posttest resulting from the implementation of academic achievement excitements questionnaire and its dimensions, including: pleasure, anxiety, fatigue, shame, disappointment, pride and anger, separately by stages.

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As it is illustrated in Table 4, the mean scores of academic achievement excitement and one of its dimensions including pleasure in the posttest stage were assessed as higher than the average score in the pretest stage. But, in other dimensions including: anxiety, fatigue, shame, disappointment and anger in the posttest stage, the test is significantly reduced compared to the pretest stage.

In this section, the information obtained from the implementation of research questionnaires in two stages of pretest and posttest has been analyzed.

Table 2. Descriptive statistics of pretest and posttest data resulting from the implementation of the parenting styles questionnaire.

Variables	Number	Pretest	Posttest
Parenting styles	60	2.29 ± 0.23	1.95 ± 0.27
Liberation	60	2.11 ± 0.16	1.24 ± 0.41
Authoritarian style	60	2.19 ± 0.54	1.50 ± 0.28
Logical authority	60	2.52 ± 0.12	3.11 ± 0.25

Data are shown as Mean ± SD.

Table 3. Descriptive statistics of pretest and posttest data resulting from the implementation of the Alexithymia questionnaire.

Variables	Number	Pretest	Posttest
Parenting styles	60	3.19 ± 0.15	2.16 ± 0.55
Liberation	60	3.65 ± 0.48	1.98 ± 0.83
Authoritarian style	60	3.63 ± 0.49	2.19 ± 0.44
Logical authority	60	4.01 ± 0.85	2.29 ± 0.85

Data are shown as Mean ± SD.

Table 4. Descriptive statistics of pretest and posttest data resulting from the implementation of the academic achievement excitements questionnaire.

Variables	Number	Pretest	Posttest
Academic achievement excitements	60	3.17 ± 0.11	3.00 ± 0.45
Pleasure	60	2.13 ± 0.09	3.84 ± 0.47
Anxiety	60	3.30 ± 0.33	2.89 ± 0.68
Fatigue	60	3.66 ± 0.09	2.68 ± 0.58
Shame	60	3.40 ± 0.15	2.61 ± 0.65
Disappointment	60	3.50 ± 0.00	2.70 ± 0.49
Pride	60	2.64 ± 0.42	3.84 ± 0.46
Anger	60	3.54 ± 0.34	3.28 ± 0.89

Data are shown as Mean ± SD.

Discussion

Mindfulness-based group therapy has a significant effect on trait, state and Alexithymia of male students of guidance school in Ilam. This finding is in agreement with the results of Fuchs, Day and Thorn (15), who believe that students with Alexithymia, in addition to the emotion dimension, see themselves as less progressive in other aspects of life than others. This does not mean that students with high scores on the scale of Alexithymia perform better than those with a high score on this scale (16), they tend to be less creative. Mindfulness enables students to transform their knowledge, attitude and existential values into real and objective abilities so that they can use these abilities to make the best use of their powers and to have a positive and happy life (17). Based on the evidence presented in this study, mindfulness-based cognitive therapy can improve academic achievement and Alexithymia. Therefore,

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attention to it and its use in educational and academic environments can improve the excitement of academic achievement(18) Furthermore, results showed that mindfulness-based group therapy has a significant effect on the excitement of academic achievement of Ilam elementary school students. Also, results of this study are consistent with Hamidian, Kaviani, Amiri, Pourabolghasemi, Naziri and Mousavi who state that controlling negative emotions for dysfunctional attitudes and enhancing students' performance is an effective therapeutic approach. According to the results, we argue that mindfulness-based group therapy has a significant effect on trait, state and trait characteristics, Alexithymia, and academic achievement of Ilam elementary school students. The results of this study are in line with those of Kojima et al (19). In their research, cognitive therapy was effective in the treatment of emotions and anxiety, and after applying it, the level of anxiety in the study group decreased and students had a significant improvement in their academic performance. Mindfulness helps students to identify their strengths and weaknesses by nurturing their self-awareness. If students find enough knowledge about their ability and evaluate their positions correctly, they can reinforce their motivations for success and can continue studying to identify situations that increase motivation. Students who are self-aware, are more capable of understanding what others want, and they can understand peer pressure better (20). By acquiring this skill, the students' individual and interpersonal indicators of change become dramatically enhanced as they gain a realistic understanding of themselves and the world around them. Moreover, they are empowered to control their emotions and behaviors. They will also be more successful in building effective, deep and honest relationships with others. Finally, mindfulness techniques may play an important role in preventing Alexithymia and impulsive behaviors, reducing Alexithymia and negative Alexithymia, and enhancing progress (21).

Conclusion

The findings indicated that mindfulness-based cognitive therapy in a short-term intervention program leads to changes in knowledge and attitude as well as improved academic achievement. It also has an Alexithymia and parenting style and emotional intelligence.

Conflict of interest

The authors declare that they have no conflict of interest.

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Reference

1. Gasper R. Understanding the reasons for behavioral failure: a process view of psychological barriers and constraints to pre-ecological behavior. Sustainability. 2013; 5(7):2960-75. doi: 10.1016/j.jad.2013.12.132.
2. Ricciardi L, Demartini B, Fotopoulou A, Edwards MJ. Alexithymia in neurological disease: a review. J Neuropsychiatr Clin Neurosci. 2015; 27(3):179-87. doi: 10.1016/j.jpsychores.2015.04.010.

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3. Sifneos PE. Short-term psychotherapy and emotional crisis. Harvard University Press. 1972. doi: 10.1016/j.sbspro.2010.12.111.
4. Nemiah JC. Alexithymia: present, past--and future? Psychosom Med. 1996;58(3):217-8. doi: 10.1097/00006842-199605000-00004.
5. Taylor G. The alexithymia construct: conceptualization, validation, and relationship with basic dimensions of personality. New Trend Experiment Clin Psychiatr. 1994; 1(9):33-7.
6. Prkachin GC, Casey C, Prkachin KM. Alexithymia and perception of facial expressions of emotion. Personal Individual Differenc. 2009; 46(4):412-7. doi: 10.1016/j.paid.2008.11.010.
7. Parker JD, Taylor GJ, Bagby RM. Alexithymia: relationship with ego defense and coping styles. Compr Psychiatry. 1998;39(2):91-8. doi: 10.1016/s0010-440x(98)90084-0.
8. Moriguchi Y, Decety J, Ohnishi T, Maeda M, Mori T, Nemoto K, Matsuda H, Komaki G. Empathy and judging other's pain: an fMRI study of alexithymia. Cereb Cortex. 2007;17(9):2223-34. doi: 10.1093/cercor/bhl130.
9. Lumley MA, Tomakowsky J, Torosian T. The relationship of alexithymia to subjective and biomedical measures of disease. Psychosomatics. 1997;38(5):497-502. doi: 10.1016/S0033-3182(97)71427-0.
10. Mason O, Tyson M, Jones C, Potts S. Alexithymia: its prevalence and correlates in a British undergraduate sample. Psychol Psychother. 2005;78(Pt 1):113-25. doi: 10.1348/147608304X21374.
11. Lu S, Huang CC, Rios J. Mindfulness and academic performance: An example of migrant children in China. Child Youth Serv Rev. 2017; 82:53-9. doi: 10.2017/000068681.
12. Bagby RM, Taylor GJ, Parker JD. The Twenty-item Toronto Alexithymia Scale--II. Convergent, discriminant, and concurrent validity. J Psychosom Res. 1994;38(1):33-40. doi: 10.1016/0022-3999(94)90006-x.
13. Baumrind D. Effects of Authoritative Parental Control on Child Behavior, Child Develop. 1996; 37(4):887-907. doi: 10.1996/10503307.2012.663512.
14. Palmer BR, Gignac G, Manocha R, Stough C. A psychometric evaluation of the Mayer–Salovey–Caruso emotional intelligence test version 2.0. Intelligence. 2005; 33(3):285-305. doi: 10.2005/ 000448287.
15. Pekrun R, Goetz T, Frenzel AC, Barchfeld P, Perry RP. Measuring emotions in students' learning and performance: The Achievement Emotions Questionnaire (AEQ). Contemporar Educat Psychol. 2011; 36(1):36-48. doi: 10.2011/fpsyt.2017.00261.
16. Day MA, Thorn BE. Mindfulness-based cognitive therapy for headache pain: An evaluation of the long-term maintenance of effects. Complement Ther Med. 2017; 33:94-98. doi: 10.1016/j.ctim.2017.06.009.
17. Kojima M, Senda Y, Nagaya T, Tokudome S, Furukawa TA. Alexithymia, depression and social support among Japanese workers. Psychother Psychosom. 2003;72(6):307-14. doi: 10.1159/000073027.
18. Terock J, Janowitz D, Grabe HJ, Freyberger HJ, Schneider W, Klauer T. Alexithymia and Psychotherapeutic Treatment Motivation: Main and Interactional Effects on Treatment Outcome. Psychother Psychosom. 2017;86(3):185-186. doi: 10.1159/000457961.

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19. Rayner M, Hotopf H, Petkova F, Matcham A, Simpson LM. McCracken, Depression in patients with chronic pain attending a specialized pain treatment centre: prevalence and impact on health care costs. Pain. 2016; 158(1):34. doi: 10.1097/j.pain.0000000000000542.
20. Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J. An inventory for measuring depression. Arch Gen Psychiatry. 1961; 4:561-71. doi: 10.1001/archpsyc.1961.01710120031004.
21. Hiirola A, Pirkola S, Karukivi M, Markkula N, Bagby RM. Joukamaa, M, et al. Suvisaari, An evaluation of the absolute and relative stability of alexithymia over11 years in a Finnish general population, J Psychosom Res. 2017; 1(95): 81–7. doi: 10.1016/j.jpsychores.2017.02.007.
22. Flückiger C, Caspar F, Holtforth MG, Willutzki U. Working with patients' strengths: a microprocess approach. Psychother Res. 2009;19(2):213-23. doi: 10.1080/10503300902755300.

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