

The Relationship between Mindfulness and Academic Adjustment in Students: Investigating the Mediating Role of Academic Hope Emotion and Academic Anxiety Emotion

Elnaz Abedi¹ | Emad Yousefi² | Leila Khajepour³ | Soheila Jokar⁴

1. Ph.D. Student of Educational Psychology, Department of Psychology, Qeshm Branch, Islamic Azad University, Qeshm, Iran. E-mail: abedipsy@gmail.com
2. Corresponding author, Assistant Professor, Department of Psychology, Qeshm Branch, Islamic Azad University, Qeshm, Iran. E-mail: yousefi24@gmail.com
3. Professor of Philosophy of Education, Department of Educational Science and Psychology, Qeshm Branch, Islamic Azad University, Qeshm, Iran. E-mail: leilakhajepour25@gmail.com
4. Assistant Professor, Department of Mathematics and statistics, Qeshm Branch, Islamic Azad University, Qeshm, Iran. E-mail: soheilajokar2007@yahoo.com

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ABSTRACT

The purpose of the present study was to model the structural relationships between academic adjustment and mindfulness with the mediating role of academic hope emotion and academic anxiety emotion. This research adopted a descriptive correlational design using the structural equation modelling. The statistical population included all secondary school female students in Bushehr in 2022-2023 from among, based on Cochran's formula and Random clustering sampling method, 256 people were selected. In order to examine the research variables, the mindfulness scale of Drotman et al. (2018), the compatibility questionnaire of Sinha and Singh (1993), and Pekrun et al. (2002)'s academic excitement scale were used. The structural equation modeling method was used to analyze the data. The findings showed that the research model has a good fit with the collected data. The findings indicated that the structural relationship between academic adjustment and mindfulness with the mediation of academic hope emotion and academic anxiety emotion had an optimal fit. The findings showed that mindfulness can predict academic adjustment either indirectly through the emotion of academic hope and emotion of academic anxiety. In general, the findings of the current research show the role of emotion of academic hope and the emotion of academic anxiety in the relationship between mindfulness and academic adjustment. Thus, it can be concluded that in order to increase the academic adjustment of students, it is required to pay attention to their mindfulness, academic hope, and academic anxiety.

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Introduction

One of the important concerns of educational systems is the academic success of students (Muhonen et al., 2018) and academic adjustment can be mentioned as one of the success factors of students (vanRooy et al., 2018) as well as an important predictor of academic success (Lubis et al., 2022). Considering the importance of the middle school period, which is the transition period to the university, it is important to identify the factors related to the adaptation of students (Ramler et al., 2016).

Academic adjustment means a set of reactions that help the person respond appropriately to school conditions and activities that the environment demands (Paramo et al., 2020). The lack of academic adjustment can end in dropping out of education (Keskin et al., 2016). Several factors are related to academic adjustment.

In positive psychology, academic adjustment, mindfulness and hope are mentioned a lot which are related to each other (Santisi et al., 2020). Karl and Fisher (2020) quoting from Kabat-Zinn (1994) defined mindfulness as paying attention in the present without judgment and in a special way, intentionally. Mindfulness helps a person find the possibility of adaptive response in difficult situations and be able to face events with positive thinking and reflection (Bajaj & Pande, 2016). Mindfulness as a metacognitive state is the purposeful attention with monitoring and understanding of the present moment (Munaz et al., 2018). The studies (Mettler et al., 2019; Porparizi et al., 2018; Ramler et al., 2016; Şakiroğlu et al., 2017) showed that conscious mindfulness is related to academic adjustment. Therefore, according to the definitions of mindfulness, this term is sometimes used as a technique or a set of popular methods or techniques, sometimes as a psychological process that can have consequences or mindfulness itself is expressed as a result or consequence (Orsillo & Roemer, 2007).

According to control-value theory of achievement emotions (Pekrun, 2006), metacognitive states and academic emotions play a key role in determining academic behaviors. This theory first emphasized on the expectation-value model in anxiety (Pekrun, 2006). This theory first emphasized on the expectation-value model in anxiety (Pekrun, 1984, 1988, 1992a). Later, it was extended it to hypotheses about the antecedents of multiple achievement emotions and hypotheses about their effects on academic engagement, self-regulation, and achievement (Pekrun, 2006; Pekrun et al., 2002a).

Emotions are described as a set of related psychological processes that include emotions, cognition, motivational components, psychological and

physiological reactions (For example, in the excitement of exam anxiety, anxiety and discomfort (emotional dimension), worries (cognitive dimension) tendency to avoid (motivational dimension) and facial expressions and some physiological reactions we observe (Pekrun, 2002a). Also, emotions are basic psychological systems that adjust and regulate the individual's adaptation to the personal demands of the environment (Glaser-Zikuda et al., 2018). High school students constantly experience academic excitement such as the excitement of educational hope and the excitement of academic anxiety (Pekrun et al., 2002). In this research, mindfulness as one of the metacognitive states, and academic hope and academic anxiety as one of the emotions of progress, respectively, have been investigated as distant antecedents and close antecedents of academic adaptation in the form of a causal model.

In Pekrun's theory of progressing emotions, academic anxiety is one of the eight emotions that are experienced in academic contexts and in connection with the learning process.

Academic anxiety is a set of cognitive, physiological and behavioral responses that are associated with worrying about negative social consequences or failing an exam or similar assessment situation (Bandura, 1986; Liem, 2008). Adaptation refers to all the strategies that a person uses to manage stressful, and anxiety situations (Sadock & Sadock, 2003). Personal qualities and characteristics and the sensitivity of the situations that a person faces are among the factors that affect his adaptation. For example, a person with a high level of exam anxiety drowns in his negative thoughts, these thoughts are about comparing his performance with others, the results of failure and its consequences and lack of success, and a low level of confidence in performance and performance, excessive pre-estimated anxiety, feeling unprepared for the exam and The lack of self-esteem is concentrated and is inconsistent with the educational situation (Eybergen, 2011; Keshavarz, 2019).

Academic hope, which is presented in the control-value theory as a future-oriented positive consequence emotion, motivates a person in the path of progress to evaluate failure negatively and success positively (Pekrun, 2006). In Snyder's theory, educational hope is considered as a type of hope that is specific to the field of education. Academic hope is the perceived capacity to produce paths towards desirable educational goals and the perceived motivation to move in these paths (Snyder et al., 2000). Hope is introduced as a process of thinking about a goal and the motivation to move towards this goal, and the ways to reach it (Snyder, 2000). Strategic thinking is the cognitive component of

hope and shows the capacity and ability of a person to create a path while agent thinking is the motivational component of hope, based on which a person motivates himself to use these paths (Alexander & Onwuegbuzie, 2007). According to this definition, when the excitement of hope is experienced, achieving success is evaluated positively and the person has a sense of relative control over the situation and success is evaluated positively (Pekrun, 2006).

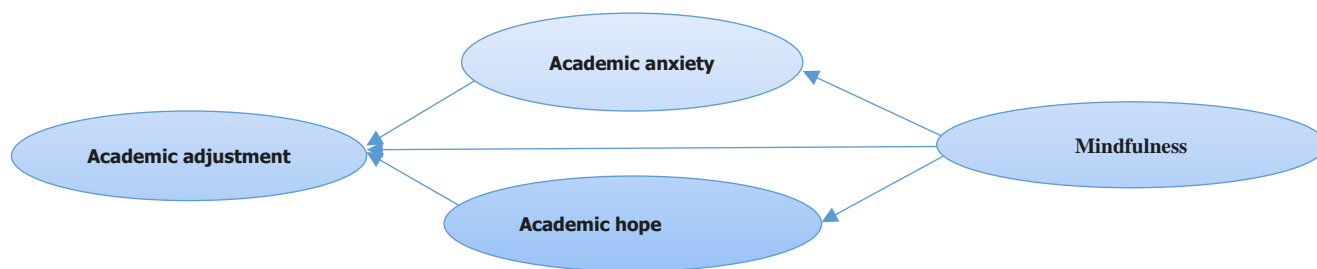
Emotions are basic psychological systems which adjust people according to personal and environmental demands (Gallagher et al., 2017). Therefore, it can be said that academic hope can have a positive relationship and academic anxiety has a negative relationship with academic adjustment. Research has shown that hope is related to adjustment and adaptive academic functions (Feldman & Kubota, 2015; Pekrun & Perry, 2014). Also, the research showed that mindfulness is related to hope in students (Azila Gbetor et al., 2020; Munoz et al., 2018; Yotsidi et al., 2018). Studies have shown that

academic anxiety in the academic situation is related to academic adjustment (Arslan et al., 2022 ; Dundas et al., 2016). Also, research showed that mindfulness is related to anxiety in students (Breedvelt et al., 2019; Franco et al., 2010; Munoz et al., 2018; Wiguna et al., 2018).

Despite the theoretical and experimental relationship between the variables, it seems that there is a set of causal mechanisms which causes students to have more academic adjustment and in the present research, this causal system has been examined in the form of a model. The research by Dartaj et al. (2020), Arabzade (2019) and Pourparizi et al. (2018) on academic adjustment and mindfulness of university students suggested similar research has not been done for students in the secondary school and it is considered a research gap. Therefore, the present study aimed to examine whether the excitement of educational hope and academic anxiety play a mediating role in the relationship between mindfulness and academic adjustment in students (Figure 1).

Figure 1.

The Conceptual Model of the Research



Method

Design of the Study

The present study adopted an applied descriptive correlational design using the structural equation modeling.

Participants

The statistical population was female students of the senior high school in Bushehr, who were studying in the academic year 2022-2023. Participants were selected by random cluster sampling. After obtaining permission from the Bushehr Education Department, the list of senior secondary schools of Bushehr was prepared. Then, five schools were randomly selected from among these schools from each, two classes were randomly selected (10 classes in total). Also, before completing the questionnaires, the consent of the students was obtained. All the students of the classes (267 people in

total) answered the questionnaires. After collecting the questionnaires, distorted and incomplete items were discarded and the questionnaires of 256 participants were analyzed. The mean and standard deviation of the age of the participants were 15.63 and 0.96 years, respectively.

Instruments

In this study, the following questionnaires were used:

High school student adjustment questionnaire (AISS): The adjustment questionnaire developed by Sinha from Shankar University in 1993, and Singh from Pant University was used to separate 14-18-year-old high school students with high adjustment from those with low adjustment in three emotional, social, and educational domains. This research employed the final 60-item version with yes/no alternatives (Each part contains 20 questions). In the scoring of the questionnaire, a score of 1 is given for answers that indicate compatibility, and a score of 0 is given

otherwise. The reliability coefficient of the questionnaire was reported as 0.95 for the whole questionnaire. In Iran, Veisi and Sajjadi (2014) obtained Cronbach's alpha coefficient of 0.81 for the entire questionnaire. In this study, the values of X²/df, GFI, CFI, RMSEA and PCLOSE indices were calculated as 1.86, 0.95, 0.97, 0.05, and 0.14, respectively, and Cronbach's alpha coefficients were calculated as 0.74.

Adolescent and adult mindfulness scale (AAMS): Adolescent and adult mindfulness scale developed by Droutmana, Golubb, Oganesyana, and Read (2018), has 19 items, 4 dimensions of attention and awareness (9 items), non-reactivity (3 items). It measures non-judgment (4 items) and self-acceptance (3 items). Answers to the items are set in a 5-point Likert scale from very little (score 1) to very high (score 5). The minimum score of this scale is 19 and the maximum score is 95. The reliability coefficient of the scale was also obtained by Cronbach's alpha method for the dimensions of attention and awareness 0.77, non-reactivity 0.75, non-judgment 0.71, self-acceptance 0.76 and the total reliability of the scale 0.84 (Droutmana et al., 2018). In Iran, validity and reliability were examined and confirmed by Barani and Sheikh al-Islami (2020). They reported an alpha coefficient of 0.87 for attention and awareness, 0.81 for non-reactivity, 0.82 for non-judgment, 0.62 for self-acceptance, and 0.85 for the whole scale. In the present study, the values of X²/df, GFI, CFI, RMSEA and PCLOSE indices were calculated as 1.64, 0.92, 0.91, 0.05, and 0.46, respectively. Cronbach's alpha for attention and awareness was 0.74, non-reactivity 0.78, non-judgment 0.77, self-acceptance 0.77 and total scale reliability 0.71.

Academic Excitement Scale (AEQ)

The scale of academic emotions consists of 8 subscales of pleasure, hope, pride, anger, anxiety, shame, disappointment and fatigue. In this study, according to the research objectives, the academic hope and academic anxiety subscales were used. The answers were set based on a 5-point Likert continuum from completely disagree (1) to completely agree (5). The reliability of this scale was reported by Pakran et al. (2002) using Cronbach's alpha coefficient method for different subscales from 0.75 to 0.95. The academic hope subscale has 2 factors and 14 items. Eight items are related to the class hope factor and six items are related to the learning hope factor. The lowest and highest scores of this subscale are 14 and 70, respectively. A higher score indicates greater educational hope.

The validity and reliability of this scale in Iran was investigated by Kadivar et al. (2008). Cronbach's alpha

coefficient for the learning hope subscale was 0.78 and class hope was 0.75, and the total Cronbach's alpha coefficient for educational hope was 0.75. In the present study, the values of X²/df, GFI, CFI, RMSEA and PCLOSE indices were 2.46, 0.97, 0.97, 0.03, and 0.12, respectively. Cronbach's alpha coefficient for learning hope subscale is 0.86 and class hope is 0.89, and Cronbach's alpha coefficient for educational hope is 0.93. Also, the academic anxiety subscale includes two factors and 19 items. Eight items are related to class anxiety and 11 items are related to learning anxiety factor. Higher scores equal higher academic anxiety. Cronbach's alpha coefficients in this subscale are 0.80 for learning anxiety and 0.77 for class anxiety. In the present study, the values of X²/df, GFI, CFI, RMSEA and PCLOSE indices were 2.58, 0.91, 0.90, 0.03, and 0.13, respectively. Cronbach's alpha of learning anxiety subscale was 0.87, class anxiety was 0.89, and academic anxiety was 0.92.

Procedure

The questionnaires of 256 participants were analyzed by structural equation modeling. Also, the collected data were analyzed using SPSS 25 and AMOS 22.

Findings

256 female adolescents participated in this study. The mean age was 15.63 (SD = 0.96). Participants were in the age range of 15–17 years. Demographic characteristic of the research participants including 12th grade, number=73, average age=8.16, percentage=40.28. 11th grade: number=96, average age=3.15, percentage=35.37; 10th grade: number=87, average age=7.14, percentage=85.33.

The mean, standard deviation and correlation matrix of the research variables have been examined. At first, cases of missing data, cases (outliers) and normality of variables were checked. Outliers in the present study were used by the Explore command in the SPSS program. Kolmogorov Smirnov test and two indices of skewness and kurtosis were used to check the normality of the distribution of variables. The skewness and kurtosis coefficients for all research indicators are in the range of (2 and -2), thus, considering these coefficients, the assumption of normality of the data for these indicators is confirmed. Table 2 indicates the correlation coefficients between research variables using the correlation test respectively. Therefore, the distribution of all research variables is normal (Byrne, 2001). Absence of multiple collinearity, tolerance statistic and variance inflation factor (VIF) were used. Tolerance statistics and variance inflation factor for none of the variables were smaller than 0.2 and larger

than 5, respectively. In general, all the basic assumptions of Structural equation are established. The normality indices of the variables and the mean and

standard deviation of the research variables along with the correlation between the variables are shown in Tables 1 and 2.

Table 1.
Indicators of Normality

Variables	M	SD	Skewness		Kurtosis		Kolmogorov-Smirnov test values
			statistics	SD	statistics	SD	
Mindfulness	21.44	9.28	.94	.30	-.09	.15	.053
Academic hope	33.28	5.50	-.70	.30	-.27	.15	.061
Academic anxiety	46.16	8.80	-.77	.30	-.15	.15	.073
Academic adjustment	59.51	9.83	-.33	.30	-.14	.15	.060

According to Table 1, the average of Mindfulness, Academic hope, Academic anxiety and Academic adjustment are 21.44, 33.28, 46.16, and 59.51 and their standard deviations are 9.28, 5.50, 8.80 and 9.83 respectively. The skewness and kurtosis coefficients for all research indicators are in the range of (2 and -2), And

in the Kolmogorov-Smirnov test values, according to the grades, they were not significant at the alpha level of 0.05 thus, considering these coefficients, the assumption of normality of the data for these indicators is confirmed.

Table 2.
Mean and Standard Deviation and Correlation Matrix

	1	2	3	4
Mindfulness	1			
Academic hope	.20**	1		
Academic anxiety	-.35**	-.31**	1	
Academic adjustment	.20**	.48**	-.38**	1

Table 2 indicates the correlation coefficients between research variables using the correlation test. As observed, the correlation coefficient between the main research variables is significant at 0.001.

The Fit of the General Research Model
After examining the descriptive statistics and normality of the data, the structural equation modeling was used to examine the research hypotheses and the statistical model's fit.

Table 3.
Direct and Indirect Effects and the Total Effect of Research Variables

Direction	direct effects		Indirect effects		total effect	
	β	p	B	p	β	P
From mindfulness to academic anxiety	-.43	.008	---	---	-.43	.008
From academic anxiety to academic adjustment	-.20	.01	---	---	-.20	.01
From mindfulness to academic hope	.20	.01	---	---	.20	.01
From academic hope to academic adjustment	.50	.001	---	---	.50	.001
From mindfulness to academic adjustment	.05	.73	.18	.01	.23	.01

Table 3 shows that mindfulness has a negative and significant effect on academic anxiety ($P=.008$), ($\beta=-.43$) while mindfulness has a positive and significant effect on academic hope ($P=.01$), ($\beta=.20$). Also, academic anxiety

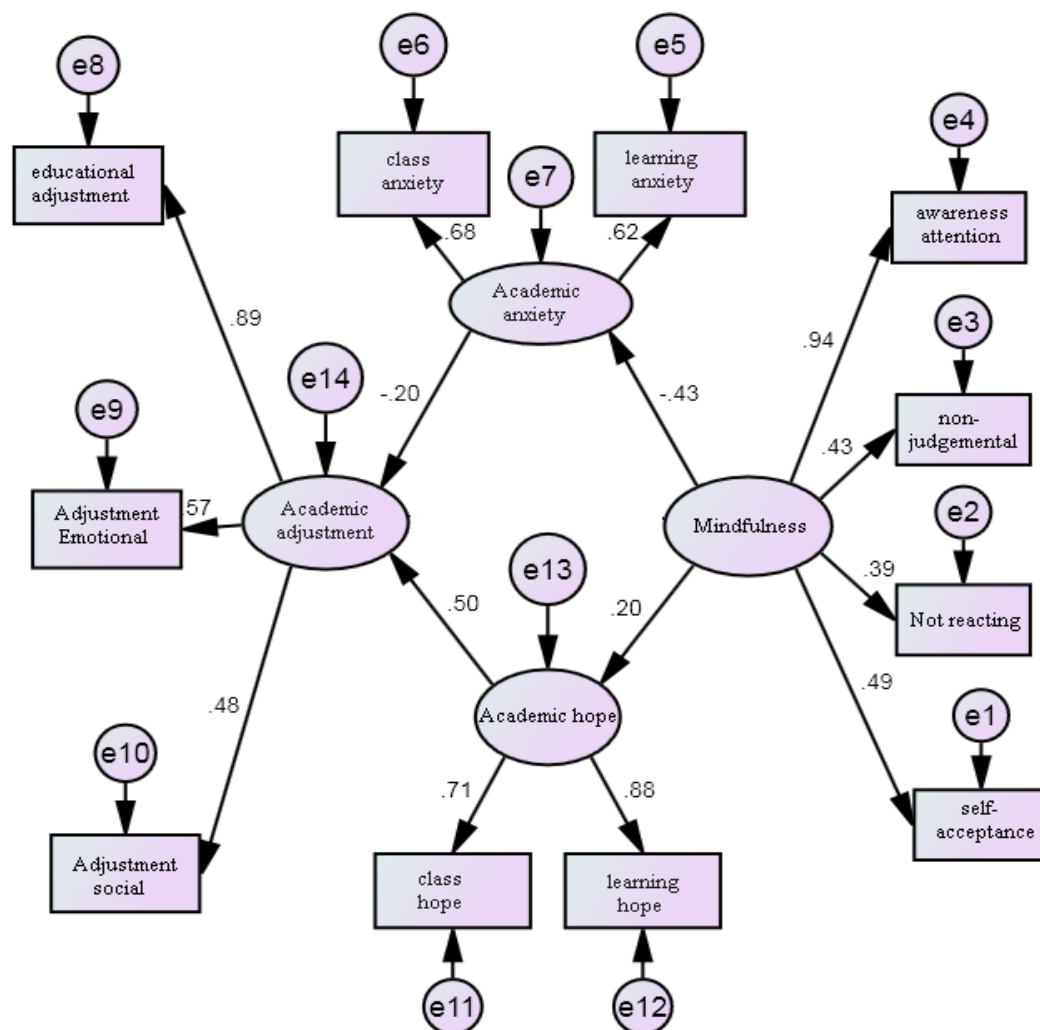
has a negative and significant effect on academic adjustment ($P=.01$), ($\beta=-.20$) and academic hope has a positive and significant effect on academic adjustment ($P=.001$), ($\beta=.50$). The direct effect of mindfulness on

academic adjustment ($P=.73$), ($\beta=.05$) was positive and significant ($P=.01$), ($\beta=0.18$). The effect of mindfulness on academic adjustment mediated by academic hope and academic anxiety (Direct effect +indirect effect = total effect) was significant ($P=.01$), ($\beta=.23$). In the conceptual examination of mediation in structural equation modeling, there are two basic concepts, one is the direct effect and the other is the indirect effect of the variables. In the mediation model, if the direct effect of one variable on another variable is statistically significant, but the indirect effect is not significant, it can be concluded that there is no mediation. In the mediation model, if the direct effect of one variable on another variable is not statistically significant, but the indirect effect is

significant, it can be concluded that the mediation is complete. In the mediation model, if both the direct and indirect effects are statistically significant, it can be concluded that partial mediation prevails.

According to the bootstrap or autorotation test that was used for this model, and also according to the principles governing the discussion of mediation in structural equation modeling in general, it can be concluded that in this model, the direct path was non-significant and the indirect path was significant. Inferred that there is full mediation. The relationship between study variables and their coefficients are shown in Figure 2.

Figure 2.
The Suggested Model with Standard Coefficients



According to the fit of the model after correcting the non-significant path in Figure 2, it can be observed that the items of the questionnaires of Mindfulness,

Academic hope, Academic anxiety, Academic adjustment have proper factor loading since if the calculated factor load for each question is higher than 0.3, the validity of

that question is confirmed (Esfidani & Mohsenin, 2018) which is applicable in the conceptual model of the current research.

The Fit of the Research Model

Model fit determines the degree to which the variance covariance data supports the structural equation modeling. The Root Mean Square Error of Approximation Index (RMSEA) is one of the main indicators of goodness of fit in structural equation modeling. In the strictest case, the value between 0 and 0.8 is considered the acceptance range of a good fit of the model. But most researchers use this rule: if this index is smaller than 0.1, the validity of the model is approved. Another important indicator is the ratio of chi-square to the degree of freedom, which most often has a value between 1 and 3. comparative fit index (CFI), normed fit index (NFI), goodness of fit index (GFI), adjusted goodness of fit index (AGFI), and non-normed fit index (NNFI) and for the final model to be accepted, the permissible value of these indicators should be about 0.9 or higher (Esfidani & Mohsenin, 2018).

Table 4.

Goodness-of-fit Statistics for the Model

Characteristics		
X2/df	X2/df <3	2.46
RMSEA	RMSEA < .08	.06
GFI	GFI > .90	.94
NFI	NFI > .95	.93
RMR	RMR > .90	.95
CFI	CFI > .90	.90
TLI	TLI > .90	.92

According to Table 4, the fit indices are favorable. The values of model fit indices, which include relative chi-square ($X^2/df = 2.46$) with significance level ($P = 0.00$), goodness of fit ($GFI = .94$), ($TLI = .92$) adjusted goodness of fit index ($CFI = .90$), the root mean square error index ($RMSEA = 0.06$) and the P value for goodness of fit approximation test ($PCLOSE = 0.01$) were obtained. In examining the research hypothesis that mindfulness increases academic adjustment by increasing academic hope and reducing academic anxiety, the results of the research using the bootstrap test showed that academic hope and academic anxiety could play a mediating role in the relationship between mindfulness and meet academic compatibility.

Discussion

The aim of the study was to investigate the mediating role of academic hope emotion and academic anxiety

emotion in the relationship between mindfulness and academic adjustment. The results of the research showed that mindfulness has a positive and significant effect on academic hope. This finding was in line with the results reported by Gallagher et al., (2017), Munoz et al. (2018), Malinowski and Lim (2015), Idan and Margalit (2015), and Ghasemijobneh et al. (2018). Also, the findings are in accordance with those research done on the relationship between hope, adjustment and mindfulness (Helmreich, et al., 2017; Lu et al., 2017; Ramasubmanian, 2017). Regarding hope, as an educational emotion, it is assumed that this emotion arises in a situation where the value of an educational outcome (Success) is high from the point of view of the student (Ebrahimiqiri, 2012). Considering that in the theory of hope, goals are the main sources of excitement, positive emotion (for example, the academic emotion of hope) is caused by reaching the goal or getting closer to the goal while negative emotion (For example, the academic emotion of anxiety) is caused by failure after not achieving the goal or moving away from the goal (Snyder, 2000).

Considering that mindfulness and mind meditation is a psychological and conscious process, Singh and Devender (2015), during their studies found that teenagers come across things that have a negative effect on their education process goal causing them to be disappointed and inconsistent. Adolescents need to be hopeful about their life and the future in order to overcome the anxiety of academic situations and adapt to the academic environment in order to overcome the problems they face and be alert and aware, and hope to achieve the goals of academic success, and one of the coping methods is mindfulness (Kahramanlou et al., 2016). Mindfulness is a purposeful and voluntary action and by focusing on the present helps a person accept his feelings, emotions, thoughts and concerns without judgment, regression and suppression (Baer et al., 2006). By creating moment-by-moment awareness and in the present tense and voluntary behavioral orientation instead of automatic and involuntary reactivity, a person is adaptable to reach favorable conditions and can create new solutions to achieve goals, and this is very similar to the agent's thinking in the definition is hope. On the other hand, mindfulness adds a motivational component to a person's attention and behavior by increasing intentionality and purposefulness (Wampold et al., 2010) which is in harmony with the intentionality and planning components of hope. Also, with the component of attention and awareness, understanding the emotions, abilities, needs and weaknesses of the individual, it creates a state full of hope in the individual (Purwandari et al., 2016).

Mindfulness is focused on positive psychology and individual characteristics and differences (Brown & Ryan, 2003). Therefore, mindfulness by full understanding the situation and accepting the feelings, emotions and moods and abilities of the individual creates active thinking which is the motivational component of hope and based on which the individual motivates himself to use various method (Alexaner & Onwuegbuzie, 2007). In this way, it is considered to adapt to the environment and adaptability. Because hope is an active emotion, the student hopes and may take actions and express activity. For example, because he hopes to get a good grade, he tries harder and studies, and because in this excitement, the percentage of getting a good score is favorable, so the possibility of getting that result makes the person hopeful, so it is also considered an emotion focused on the outcome (Ebrahimiqiri, 2012). Also, hope and conscious mind are both constructs in positive psychology and their relationship has been shown in research (Santisi, 2020).

Mindful students always have the components of voluntary and non-judgmental attention along with non-reactivity in educational situations, which is a factor to hope that the motivation to be an agent and move towards the academic goal is activated in the student, the academic goal is to achieve success. And it is academic progress that causes adaptation in the academic environment. Therefore, the positive relationship between mindfulness and academic hope, and on the other hand, academic hope and adaptability, seems logical.

On the other hand, the results of the research showed that mindfulness has an inverse and meaningful effect on academic anxiety. This finding is consistent with the results of Zhang (2020), Breedvelt et al. (2019), Sass et al. (2019), and Boettcher et al. (2014). Mindfulness helps people to accept thoughts, emotions, difficult and anxiety-provoking situations more easily (Kocovski et al., 2009). Mindfulness has reduced the intensity of nervous system arousal that is associated with thoughts and behaviors related to worry and anxiety (Sass et al., 2019) and the level of reactivity of a person towards his thoughts, feelings and emotions decreases and he can behave more constructively towards environmental events (Ghasemijubneh et al., 2016). Mindfulness causes the understanding of negative emotions, separate from one's personality, and paying attention to one's internal states in a non-judgmental and receptive state, and reduces spontaneous responses to stressful experiences. Self-awareness and physical and cognitive awareness increases, and this self-awareness causes a person to have a proper self-evaluation and the previous defective patterns of thoughts and feelings in the person are broken. Therefore, physical and mental peace is

created in him and as a result, the anxiety of the person is reduced. Therefore, mindfulness techniques are effective in increasing muscle relaxation and reducing worry and consequently reducing anxiety and stress (Kabatzin, 2003).

In recent decades, psychologists have come to the conclusion that people with high academic anxiety have many adaptation problems (Kirk et al., 2014). Considering that the academic anxiety variable includes class anxiety, exam anxiety, and learning anxiety (Kadivar et al., 2009), two separate components of concern and excitement have been proposed for it (Abolghasemi et al., 2011). First, the component of anxiety and cognitive activity unrelated to the task and educational situation includes excessive cognitive anxiety about performance and the consequences of failure, bad thoughts and self-deprecation, evaluation of one's ability compared to others, and negative expectations of performance. The second component of excitability also refers to autonomic and physical nervous reactions such as heart palpitations, upset stomach, headache, and irritability, which often leads to negative cognitive evaluation, unfavorable physiological reactions, academic performance and as a result incompatibility with the academic environment (Abolghasemi et al., 2011). The more the students experience a higher level of anxiety in the academic situations of class, learning and exams, it causes physical anxiety and excitement and physical discomfort which hinders the improvement of performance in academic situations, since academic adjustment includes satisfaction with school, academic progress. Being a teacher's favorite, communicating with other students, the opinion of the school officials regarding the student's performance, hinders the student's academic adjustment. The finding of Keshavarz et al. (2019) quoting Sadok and Sadok (2003) is the compatibility of all the strategies that a person uses to manage himself in a stressful situation. And the less anxiety a person experiences in the educational environment such as the class, learning situation and exam, the more academic adaptation he will have in that situation, and considering that anxiety is a reason to avoid the situation, it prevents the student's acceptance from the educational environment.

People with high mindfulness process act more realistically instead of avoidant or impulsive reactions, and due to the fact that they perceive internal and external realities without distortion, they process events less distressing and anxiety. They will understand less and in this direction, they will have the ability to face a wide range of emotions and as a result, they will be more compatible with their environment. A student with a conscious mind, due to moment-to-moment vigilance, unlike rumination that takes a person to the future or the

past and causes anxiety, faces anxiety in a correct way in the educational environment and adapts him in the environment. However, the relationship between academic adjustment and academic anxiety and the relationship between mindfulness and academic anxiety is logical.

Furthermore, the results of the research indicated the mediating role of academic hope and academic anxiety in the relationship between mindfulness and academic adjustment. According to the significance of the indirect path, academic anxiety and academic hope play the role of complete mediation in the relationship between mindfulness and academic adaptation. In explaining this finding, it can be stated that anxiety, as a common and important educational phenomenon, has a close relationship with academic progress and emotions (Weiner & Carton, 2012). Anxiety is not bad in itself. It is true that high levels of anxiety interfere with concentration and memory, which are critical for academic success. However, without any anxiety, most of us would not be motivated to study for exams, write essays or do daily homework. A moderate amount of anxiety actually helps academic performance by motivating. Anxiety plays an important role in our lives (Neil & Donald, 2010). In addition to what has been stated, it seems that mindfulness indirectly affects other academic variables such as students' academic adjustment by influencing stress and anxiety (Teodorczuk et al., 2013). In addition to what has been stated, it seems that mindfulness indirectly affects other academic variables such as students' academic adjustment by influencing stress and anxiety (Arslan et al., 2022; Taylor, 2018). Mindfulness by increasing a person's awareness of the experiences of the present moment and returning attention to the cognitive system and more efficient processing of information, leads to a decrease in anxiety and physiological tension in them, and this causes a decrease in the tension and anxiety of the person (Hamedi et al., 2017). Mindfulness changes the ability to adapt (Thompson et al., 2011). It seems that a conscientious person is able to face academic anxiety in academic situations and is able to adapt academically. Mindfulness causes academic adaptation and students need to be hopeful about their lives so that they can overcome the problems ahead and be able to consciously and consciously change their way of life (Pourparizi et al., 2016). Mindfulness by promoting hope and hopeful thoughts, facilitates the reaction to the situation and causes a person to behave more adaptively (Kahramanlu et al., 2016). Also, by increasing hope, positive attitude towards the future it increases adaptability (Barani et al., 2020; Feldman & Kubota, 2015). High levels of academic hope in students leads to moving towards the goal, which is the introduction to planning to achieve the

goals. Langer (2000) believed that mindfulness, such as observation, non-judgmental, non-reactive body and conscious action, enables a person to stand back and increase his ability to observe his states such as anxious and stressful states, and for this reason, the person interacts with his environment and adapts. Keng (2012) believed that a conscious person is able to respond appropriately to negative events by thinking and reflecting and follows his lifestyle with hope and acceptance of weaknesses and adapts himself to the conditions. In addition to that, hope has two components of pathfinder thinking and active thinking (Snyder, 2000), which pathfinder thinking helps the student in ways to achieve academic success and use the appropriate study method by using different learning methods. Also, agent thinking makes students not lose their motivation and not give up the desired activity if they encounter obstacles on the way to academic success and during study. In addition to what has been said, hope becomes a positive attitude towards the future with the increase of positive feelings, favorable supportive atmosphere. (Barani et al., 2020; Feldman & Kubota, 2015).

Increasing academic adjustment helps students to strive for academic adjustment that leads to academic success. Such a person with more motivation to achieve academic success will show academic adaptability and it is in this state that the person's hope is improved and it is easier for the person to face academic anxiety-provoking situations; therefore; the mediating role of academic hope and academic anxiety in the relationship between mindfulness seems reasonable and acceptable.

Conclusion

Many students, especially in the high school period, which is the beginning of the formation of a teenager's identity to enter adulthood experience some kind of academic anxiety which can be the cause of academic incompatibility and disruption in the education and learning process, and make the student suffer an academic crisis. Also, disappointment in achieving the desired results causes disappointment and incompatibility with the educational environment. Education has a great mission in creating abilities and skills to face the challenges and crises of students and one of the fundamental points in education is to teach learners how to learn and how to adapt.

The findings of the present study provided favorable evidence to confirm the mediating role of academic anxiety and academic hope in the relationship between mindfulness and academic adjustment. The information about the functional characteristics of mindfulness, academic anxiety and academic hope in the study

context of the antecedents of academic adaptation confirms the fact that improving the level of mindfulness in students will make them more adaptable. However, some limitations of the current research may make it difficult to generalize its results. First, considering that the group of research participants were selected from middle school female students, it is suggested that this research be conducted for middle school male students as well. Also, due to the use of self-reported tools, the participants may have suffered social image errors, it is suggested that in future research on academic adjustment, tools and methods that show more real behavior of people be used, and if self-reported tools are used to measure academic adjustment, tools that examine academic adjustment more broadly be utilized. It is suggested to use other academic behaviors such as academic engagement and academic enthusiasm in future research.

According to the findings of the research, it is suggested that therapists and counselors in the field of education examine and evaluate the important variable of academic adjustment and consider the important role of mediating variables. While holding educational workshops, teachers should learn about ways to reduce academic anxiety and increase academic hope in students. Also, parents play an important role in reducing students' academic anxiety and increasing educational hope, therefore, family education should be considered in school programs. Finally, school counselors should conduct training focusing on increasing the awareness of the mind with the aim of increasing the academic adaptation of students.

Conflicts of Interest

No conflicts of interest declared.

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