Iranian University EFL Students' Cognitive Appraisals of Control and Value, Learning-Related Achievement Emotions, and Academic Achievement[1]

Raouf Hamzavi[2], Bu-Ali Sina University, Hamedan, Iran

Hannane Sharifi[3], Imam Khomeini International University, Qazvin, Iran

Soha Kalantari[4] & Sahar Imani[5], Islamic Azad University Central Tehran Branch, Tehran, Iran

Abstract

The purpose was to examine the relationship between cognitive appraisals of control and value, learning-related achievement emotions, and academic achievement among Iranian EFL university students. Participants included 440 senior EFL students of different ages (22-35) from 15 universities in Iran. They completed the Motivated Strategies for Learning Questionnaire (Pintrich, et al., 1991), and the Achievement Emotions Questionnaire (Pekrun et al., 2005). Moreover, the participants' total Grade Point Averages were collected from the universities. The results revealed that control and value appraisals were positively correlated with all positive emotions, while all negative emotions except boredom were negatively correlated with control and value appraisals. Moreover, perceived value of learning could best predict participants' enjoyment, while the perceived control over learning could best predict their hopes. The results also revealed that positive achievement emotions were positively correlated with participants' academic achievement, while negative achievement emotions were negatively correlated with it. Finally, the findings showed enjoyment was the best predictor of participants' academic achievement. The results can support EFL educators, material developers and syllabus designers to get a better description of EFL students' control and value appraisals, achievement emotions and academic achievement, and their relationships with each other.

Resumen

El propósito fue examinar la relación entre las evaluaciones cognitivas de control y valor, las emociones de logro relacionadas con el aprendizaje y el rendimiento académico entre estudiantes universitarios iraníes de inglés como lengua extranjera. Entre los participantes se encontraban 440 estudiantes de último año de inglés como lengua extranjera de diferentes edades (22-35) de 15 universidades de Irán. Completaron el Cuestionario de Estrategias Motivadas para el Aprendizaje (Pintrich, et al., 1991) y el Cuestionario de Emociones de Logro (Pekrun et al., 2005). Además, los promedios totales de calificaciones de los participantes se recopilaron de las universidades. Los resultados revelaron que el control y las valoraciones de valores se correlacionaban positivamente con todas las emociones positivas, mientras que todas las emociones negativas, excepto el aburrimiento, se correlacionaban negativamente con el control y las valoraciones de valores. Además, el valor percibido del aprendizaje podría predecir mejor el disfrute de los participantes, mientras que el control percibido sobre el aprendizaje podría predecir mejor sus esperanzas. Los resultados también revelaron que las emociones positivas de logro se correlacionaban positivamente con el rendimiento académico de los participantes, mientras que las emociones negativas de logro se correlacionaban negativamente con él. Finalmente, los hallazgos mostraron que el disfrute era el mejor predictor del rendimiento académico de los participantes. Los resultados pueden ayudar a los educadores de inglés como lengua extranjera, a los desarrolladores de materiales y a los diseñadores de programas de estudios a obtener una mejor descripción del control y las evaluaciones de valores, las emociones de logro y los logros académicos de los estudiantes de inglés como lengua extranjera, y sus relaciones entre sí.

Introduction

In recent years, emotions and emotion-related factors have been the topic of many studies in the field of educational psychology (Pekrun & Linnenbrink-Garcia, 2014). Several previous research studies (e.g., Burić, 2015; Dewaele, 2011; MacIntyre & Gregersen, 2012; Peixoto, et al., 2016; Pekrun, et al., 2010; Pekrun, et al., 2011; Reilly & Sánchez-Rosas, 2021; Shao, et al., 2020; Swain, 2013) have shown that emotions have an essential role in different cognitive processes and more predominantly in language learning in general and foreign language learning, in particular, that involves mutual interactions between emotion and cognition. As Burić (2015) stated, emotions are regarded as an essential and inseparable part of education since, on the one hand, learning and academic accomplishments are of great significance for students' future

---

[2] raoufhamzavi@yahoo.com, Correspondent.
[3] hannanesharifi98@gmail.com
[4] sohakalantari@gmail.com
[5] sahar_imani@hotmail.com

and consequently represent a significant source of learners' emotions. On the other hand, the academic setting exemplifies grounds for undergoing a wide variety of emotions that affect instruction and learning.

Achievement emotions are simply regarded as emotions typically linked to achievement activities and their outcomes, both in success and failure. Achievement emotions are basically considered as those emotions directly dependent on both achievement actions and results (Pekrun, et al., 2011). It is worth mentioning that learning-related achievement emotions are divided into two categories of positive emotions (i.e., enjoyment, pride, and hope) and negative emotions (i.e., anxiety, anger, hopelessness, shame, and boredom) (Pekrun, 2014). Based on the theory of control-value (Pekrun, 2000; 2006; 2009), value and control cognitive appraisals are the uninterrupted achievement emotions' antecedents (Pekrun, et al., 2011). As pointed out by Pekrun, et al. (2017), cognitive appraisals of control over learning involve students' perception of their capability to perform actions fruitfully and also expect positive outcomes . Cognitive appraisals of the value of learning relate to the perceived significance of achievement activities and outcomes.

Therefore, this study examined the association between EFL university students' control and value cognitive appraisals, achievement emotions, and academic achievement in an Iranian setting. The findings of the study basically contribute to advancing both EFL teachers' and students' understanding of the association among the constructs. Pekrun (2014) proposed different ways to help EFL learners increase their positive emotions and, at the same time, decrease their negative emotions. According to Pekrun (2014), teachers can support learners develop their self-confidence, interest, and intrinsic value of education that stimulates enjoyment of learning and decreases negative emotions. This can be conducted by making high-quality teaching available, employing positive emotions as an educator, evading high-stakes testing, and also caring for the peer situation in the classroom (Pekrun, 2014). Furthermore, it is believed that educators can contribute to attaining emotion-related educational objectives by helping to unify universities and teaching systems in emotionally-sound approaches (Pekrun, 2014). EFL teachers are recommended to have a prudent approach to avert hurried- and overly-generalized characterizations of learners concerning their emotions. Instead, EFL teachers are suggested to remind themselves that they merely see a small excerpt of their EFL learners' lives.

Review of the Literature

Learning-related achievement emotions

Emotions are defined as "multidimensional constructs comprising affective, psychological, cognitive, expressive, and motivational components" (Frenzel & Stephens, 2013, p. 5). As Pekrun (2014) maintained, there are four groups of academic emotions: achievement emotions, epistemic emotions, topic emotions, and social emotions, which are exclusively pertinent to students' learning. The first group of academic emotions (achievement emotions), as aptly pointed out by Pekrun (2014), deal with achievement activities and failure and success stemming from these activities. These emotions are related to both achievement activities and outcomes (Pekrun, 2006). It is believed that they are truly pervasive in academic settings, particularly when the prominence of failure and success is made apparent to learners.

The second group of emotions (epistemic emotions) could be activated by various cognitive problems, including surprise about a novel task, inquisitiveness, misperception, and hindrance about problems, and enjoyment once the problem is resolved (Pekrun, 2014). It is worth noting that epistemic emotions are specifically significant in learning with novel, non-routine activities, and tasks. The third group of emotions (topic emotions) are related to the topics, which are presented in lessons. It is believed that both positive and negative topic emotions can typically activate learners' interest in learning material (Pekrun, 2014). The fourth group of emotions (social emotions), which relate to both educators and peers in the classroom, include sympathy, love, respect, jealousy, irritation, or even social anxiety. According to Pekrun (2014), these are particularly significant in group learning and educator-learner interaction.

Achievement emotions have three main dimensions (valence, object focus, and activity) (Pekrun, 2006). The first dimension (valence) incudes positive and negative achievement emotions. For example, positive achievement emotions (enjoyment, pride, and hope) are related to students' success. In contrast, negative achievement emotions, such as shame and anxiety, are related to students' failure (Pekrun, 2006). The second dimension (object focus) refers to activity or outcome, while the third dimension (activity) is basically considered as triggering and neutralizing positive, as well as negative achievement emotions (Pekrun, 2006).

Emotions can be differentiated regarding the educational context in which they are found and can be classified as state emotions or trait emotions (Pekrun, 2006). It is worth noting that this study has focused on positive learning-related achievement emotions, namely, enjoyment, pride, and hope, and also on negative learning-related achievement emotions, namely, anxiety, anger, hopelessness, shame, and boredom. It is argued that both positive and negative learning-related emotions affect learning by influencing learners' consideration, learning strategy use, self-regulation, as well as motivation of learning (Pekrun, 2014). For instance, positive learning-related emotions, such as hope and enjoyment, can naturally draw students' attention towards the object of the emotion, while negative emotions like boredom and anxiety can draw learners' attention away from it.

Cognitive appraisals of control and value

A crucial question in any emotional and psychological studies naturally centers on the causes of mental phenomena. Appraisal theory includes a conceptual framework available to help explain the causes or reasons for emotions (Frenzel & Stephens, 2013). As proposed by this theory, individuals' emotions are not caused by conditions and situations themselves, but by how individuals interpret them (Frenzel & Stephens, 2013). Appraisals are defined as "cognitive judgments about situations, activities, or oneself" (Frenzel & Stephens, 2013, p. 15). Achievement emotions are the central focus of Pekrun's (2006) control-value theory, which is based on the appraisal theory. In the control-value theory of achievement emotions, it is assumed that emotions fundamentally arise based on the interpretation of achievement activities and outcomes. Hence, this theory represents a framework for studying antecedents and influences of achievement emotions in an educational setting (Pekrun, 2006).

The central assumptions of the control-value theory of Pekrun (2006) are reflected in its name, wherein two categories of appraisals are seen to be most significant for achievement emotions. The first type of appraisal is an individual's subjective control over learning and performance-related activities and outcomes, and the second type is the value which is attached to these activities and outcomes (Frenzel & Stephens, 2013). In other words, the control-value theory posits that achievement emotions are stimulated by appraisals of value and control over performance-related activities and outcomes (Pekrun, et al., 2017).

As Frenzel and Stephens (2013) maintained, "subjective control refers to the extent to which one believes one is "in command" of a situation and its consequences; in other words, "how much one can control these factors" (p .20), while "value appraisals, on the one hand, refer to one's perception of whether an activity or outcome is judged as positive or negative" (p. 20). In other words, as noted by Pekrun (2006), control appraisal refers to the recognized controllability over an achievement activity and outcome, whereas value appraisals refer to subjective assessment of the prominence of an achievement activity and outcome.

It is believed that, when students perceive themselves to have high control over an achievement activity or when they highly value it, they are most likely to experience positive emotions, such as hope, pride, and enjoyment (Pekrun, et al., 2007). On the other hand, it is suggested that if students do not highly value an achievement activity or do not perceive themselves as having control over one, they logically are on the verge of feeling negative emotions, such as anger, hopelessness, nervousness, and embarrassment (Pekrun, et al., 2007).

Research questions

Regarding the purpose of this study, the following research questions were raised:

RQ_1: To what extent do cognitive appraisals of value and control correlate to EFL students' learning-related achievement emotions?

RQ_2: Do EFL students' value and control cognitive appraisals significantly predict their achievement emotions?

RQ_3: To what extent do learning-related achievement emotions correlate to EFL students' academic achievement?

RQ_4: What are the significant emotional predictors of EFL students' academic achievement in Iran?

RQ_5: To what extent do positive learning-related achievement emotions correlate to EFL students' academic achievement?

RQ_6: What are the significant positive emotional predictors of EFL students' academic achievement in Iran?

RQ_7: To what extent do negative learning-related achievement emotions correlate to EFL students' academic achievement?

RQ_8: What are the significant negative emotional predictors of EFL students' academic achievement in Iran?

Methodology

Participants

Participants were senior year (i.e., 4th year) EFL students from 15 different universities in Iran. All of them (n=440) were studying for a B. A degree in English Literature, English Language Translation, and Teaching of English Language in various regions. Cluster random sampling was used to select the participants. Their age ranged from 22 to 35.

Instrumentation

The Motivated Strategies for Learning Questionnaire (MSLQ)

In order to evaluate the control and value appraisals of the participants, the MSLQ developed by Pintrich, et al., (1991) was used. The questionnaire was composed of two factors (i.e., cognitive appraisals of value and of control), which, taken together, included ten 7-point Likert-scale items ranging from "Not at all true of me (=1)," to "Very true of me (=7)." The Task Value Scale was applied to assess EFL learners' value cognitive appraisals. This scale had six items measuring the students' view of the interest, importance, as well as utility of the material of the course. The potential range of scores would be from 6 to 42 with higher scores showing a higher perception of the value of learning. Using Cronbach's alpha, the reliability of this scale was estimated to be .88 in the present study. The Control of Learning Beliefs Scale was used to assess the EFL learners' control cognitive appraisals. It had four items measuring students' views that their exertions devoted to learning will generate positive outcomes. The potential range of scores would range from 4 to 28, with higher scores showing a higher perception of control over learning. Using Cronbach's alpha, the reliability of this scale was estimated to be .80 in the present study.

The Achievement Emotions Questionnaire (AEQ)

For the purpose of the study, the AEQ developed by Pekrun, et al., (2005) was used. This instrument consisted of 72 5-point Likert-scale items. It measured three positive learning-related achievement emotions (i.e., enjoyment (10 items), hope (6 items), and pride (6 items)) and five negative learning-related achievement emotions (i.e., anger [6 items], anxiety [11 items], shame [11 items], hopelessness [11 items], and boredom [11 items]). Thus, the participants had to answer the questions by indicating the degree of their agreement or disagreement with the items of the questionnaire on a five-point scale ranging from "Strongly disagree (=1)" to "Strongly agree (=5)." For each particular emotion, the items of that particular emotion were summed separately to obtain a total score, and a higher score specifies a higher level of that particular emotion. Using Cronbach's alpha, the reliability of enjoyment (a=.79), hope (a= .81), pride (a=.82), anger (a=.78), anxiety (a=.82), shame (a=.83), hopelessness (a=.78), and boredom (a=.84) were estimated.

Academic Achievement

In order to assess the participants' academic achievement, their total Grade Point Averages (GPAs) were taken into account. It should be noted that the participants' GPAs were collected from the universities which evaluate with a maximum grade of 20.

Procedure

This survey was carried out in April 2019. After obtaining the required permission to conduct the study in the universities, the instruments of the study (i.e., MSLQ and AEQ) were distributed among the study participants, 440 senior EFL students nationwide. It is worth noting that this study's goals, steps, and methods were shared with the participants. They were typically ensured that this study's collected data and findings were kept confidential and used merely for research purposes. The participants were asked to pay due attention to the questions and provide the most appropriate response. The allocated time for answering the aforementioned instruments was 60 minutes. Afterwards, the participants' total GPAs were collected from the registrars' offices of the universities. Finally, the collected data were later analyzed using Statistical Package for Social Sciences (SPSS) version 24.

Statistical analyses

The data obtained were analyzed through SPSS version 24. To answer the study's first and third research questions, Pearson product moment correlation coefficients were run. In order to answer the second and fourth research questions, regression analyses were run.

Results

In order to answer the first research question, i.e., *To what extent do cognitive appraisals of value and control correlate to EFL students' learning-related achievement emotions?* A Pearson correlation was run. The results of which are shown in Tables 1 and 2 below.

	Mean	Std. Deviation
Enjoyment	34.74	4.46
Hope	19.40	2.96
Pride	19.47	2.94
Anger	22.36	4.15
Anxiety	39.33	6.69
Shame	40.12	5.78
Hopelessness	37.05	5.79
Boredom	35.50	7.50
Value of learning	20.47	4.40
Control of learning	12.14	3.56

Table 1: Descriptive Statistics of EFL students' learning-related achievement emotions and cognitive appraisals of value and control (N=440)

As shown in Table 1, the mean and standard deviation for EFL students' Enjoyment enjoyed 34.74 and 4.46, for Hope M=19.40 and SD=2.96, for Pride M=19.47 and SD=2.94, for Anger M=22.36 and SD=4.15, for Anxiety M=39.33 and SD=6.69, for Shame M=40.12 and SD=5.78, for Hopelessness M=37.05 and SD=5.79, for Boredom M=35.50 and SD=7.50, for Value of learning M=20.47 and SD=4.40, and for Control of learning M=12.14 and SD=3.56.

		Enjoyment	Hope	Pride	Anger	Anxiety	Shame	Hopelessness	Boredom
Value of learning	Pearson Correlation	.74**	.57**	.56**	-.36**	-.37**	-.37**	-.31**	-.04
	Sig. (2-tailed)	.00	.00	.00	.00	.00	.00	.00	.35
	N	440	440	440	440	440	440	440	440
Control of learning	Pearson Correlation	.75**	.64**	.57**	-.42**	-.41**	-.32**	-.37**	-.00
	Sig. (2-tailed)	.00	.00	.00	.00	.00	.00	.00	.94
	N	440	440	440	440	440	440	440	440

** Correlation is significant at the .01 level (2-tailed).

Table 2: The Pearson Correlation between EFL students' learning-related Achievement emotions and cognitive appraisals of value and control (N=440)

As is shown in Table 2, a higher perception of the value of learning was found to have a significant positive relationship with a higher perception of all positive emotions (i.e., enjoyment, hope and pride) whereas a higher perception of negative emotions (i.e., anxiety, shame, anger, and hopelessness) was found to have a statistically significant relationship with lower perceptions of the value of learning. Furthermore, the findings also revealed that the value of learning had no significant relationship with the negative emotion of boredom. Likewise, the perception of control over learning was found to have a statistically significant relationship with the higher perception of all positive emotions (i.e., enjoyment, hope, and pride). In contrast, all the negative emotions except boredom were found to have a significant negative relationship with EFL students' cognitive appraisal of control of learning.

In order to answer the second research question (*Do EFL students' cognitive appraisals of value and control significantly predict their learning-related achievement emotions?*), regression analyses were run for each achievement emotion, as a predicted variable and both appraisals of value and control as predictor variables. The results are shown in Table 3 below.

	Enjoyment			Hope			Pride			Anger			Anxiety			Shame			Hopelessness			Boredom		
	β	t	p	β	t	p	β	t	p	β	t	p	β	t	p	β	t	p	β	t	p	β	t	p
Value of learning	.40	8.93	.00	.19	3.48	.00	.29	4.99	.00	-.10	-1.47	.14	-.12	-1.85	.06	-.32	-4.69	.00	-.06	-1.00	.31	-.10	-1.37	.16
Control of learning	.44	9.97	.00	.48	8.61	.00	.34	5.71	.00	-.34	-5.15	.00	-.32	-4.73	.00	-.07	-1.02	.30	-.32	-4.64	.00	.07	1.01	.31
R^2	.63			.42			.36			.18			.18			.14			.14			.00		
F	386.08			161.65			123.86			49.44			47.96			37.14			36.25			.95		

Table 3: Regression analyses (N=440)

As shown in Table 3, both perceived control over learning, as well as value of learning, were considered as significant predictors of EFL learners' positive emotions, specifically, hope, enjoyment, as well as pride. With reference to negative emotions, the perceived value of learning accounted merely for a significant number of variances of shame, but not the emotions of hopelessness anxiety, anger, as well as boredom. In addition, the results also specified that the perception of control over learning was regarded as a significant predictor of the participants' hopelessness, anxiety, as well as anger, but not their shame and boredom.

It is worth noting that the comparison of β values revealed that perceived value of learning had the largest absolute β coefficient (β=.40, t= 8.93, p=.00) for the emotion of enjoyment. In other words, based on the results, perceived value of learning made the strongest unique influence to amplification EFL students' enjoyment. Therefore, it was concluded that perceived value of learning could more significantly predict the enjoyment of the participants. Likewise, the comparison of β values revealed that perceived control over learning had the largest absolute β coefficient (β =.48, t= 8.61, p=.00) for the emotion of hope. This means that perceived control over learning makes the strongest statistically significant unique contribution to explaining EFL students' hope. Consequently, it was concluded that perceived control over learning could more significantly predict hope of the participants.

In order to answer the third research question (*To* what *extent do learning-related achievement emotions correlate to EFL students' academic achievement?*) The Pearson correlation was run. The results of which are shown in Tables 4 and 5 below.

	Mean	Std. Deviation
Enjoyment	34.74	4.46
Hope	19.40	2.96
Pride	19.47	2.94
Anger	22.36	4.15
Anxiety	39.33	6.69
Shame	40.12	5.78
Hopelessness	37.05	5.79
Boredom	35.50	7.50
Academic achievement	15.98	1.33

Table 4: Descriptive statistics of EFL students' learning-related achievement emotions and academic achievement (N=440)

As shown in Table 4, the mean and standard deviation for EFL students' academic achievement enjoyed 15.98 and 1.33.

		Enjoyment	Hope	Pride	Anger	Anxiety	Shame	Hopelessness	Boredom
Academic achievement	Pearson Correlation	.52**	.52**	.58**	-.53**	-.53**	-.53**	-.48**	-.48**
	Sig. (2-tailed)	.00	.00	.00	.00	.00	.00	.00	.00
	N	440	440	440	440	440	440	440	440

** Correlation is significant at the .01 level (2-tailed).

Table 5: The Pearson Correlation between EFL students' learning-related achievement emotions and academic achievement (N=440)

As is seen in Table 5, EFL all students' positive learning-related achievement emotions (i.e., enjoyment, hope and pride), had a significant positive relationship with their academic achievement. Moreover, all the negative learning-related achievement emotions (i.e., anger, anxiety, shame, hopelessness, and boredom) were found to negatively affect EFL students' academic achievement.

With the intention of answering the fourth research question (*What learning-related achievement emotions are significant predictors of EFL students' academic achievement?*) a regression analysis was run. The results are shown in Table 6 below.

	Academic achievement		
	Beta	T	Sig.
Enjoyment	.26	5.07	.00
Hope	.06	1.16	.24
Pride	.17	3.01	.00
Anger	-.06	-.93	.34
Anxiety	-.02	-.35	.72
Shame	-.14	-1.88	.06
Hopelessness	.03	.52	.59
Boredom	-.18	-3.49	.00
R^2	.47		
F	47.96		

Table 6: Regression output (N=440)

As illustrated in Table 6, the positive and negative learning-related achievement emotions significantly accounted for 47% of EFL students' academic achievement variance. Of all the eight learning-related achievement emotions, only the three emotions of enjoyment, pride, and boredom were significant predictors of EFL students' academic achievement. Thus, a higher level of enjoyment and pride and a lower level of boredom predicted higher academic achievement.

Additionally, the comparison of β values revealed that enjoyment had the largest absolute β coefficient (β=.26, t=5.07, p=.00). This means that enjoyment makes the strongest statistically significant unique contribution to explaining EFL students' academic achievement. Therefore, it was concluded that enjoyment could more significantly predict the academic achievement of the participants.

Discussion

This study set out to examine, the relationship among cognitive appraisals of value and control, learning-related achievement emotions, and academic achievement with Iranian EFL students.

A Pearson correlation coefficient was run for RQ_1, which indicated that higher perceptions of the value of learning and control over learning were found to have a significant positive relationship with the higher perception of all positive emotions (i.e., enjoyment, hope and pride). In contrast, higher perceptions of almost all negative emotions (i.e., anxiety, anger, hopelessness and shame) were found to have a statistically significant relationship with lower perceptions of the value of learning and control over learning. The results also revealed that the perceptions of value and control over learning had no significant relationship with the negative emotion of boredom.

The results in this respect are reinforced by the achievement emotions' control-value theory, wherein control and value cognitive appraisals are viewed as the direct achievement emotions' antecedents (Pekrun, et al., 2011). Additionally, based on the achievement emotions' control-value theory, it is expected that higher insights of both value of learning, as well as control over learning are directly associated with positive emotions and reversely linked with undesirable emotions (Pekrun, 2006). It is believed that, when students perceive themselves to have high control over achievement activity or when they highly value an achievement activity, they are most likely to experience positive emotions, such as hope, pride and enjoyment (Pekrun, et al., 2007).

As pointed out by Pekrun (2014), students' emotions are affected by numerous "individual factors, including genetic make-up, physiological processes, early learning experiences, personal values and cognitive appraisals of one's ability. Among these factors, students' self-confidence and task values are of primary importance for their emotions" (p. 16). Additionally, Pekrun, et al., (2007) avowed that, if pupils do not decidedly value an attainment action or do not recognize themselves as having control over an accomplishment action, they logically are on the verge of undergoing undesirable emotions including shame, anxiety, hopelessness, as well as anger. The results lend additional support to previous research studies (e.g., Brdovčak, 2017; Burić, 2015; Peixoto, et al., 2016; Pekrun, et al., 2010) that have verified a reverse association between control and value appraisals and negative emotions and, on the other hand, a direct association between control and value appraisals and positive emotions.

Regression analyses were run for RQ_2, which showed that both perceived value of learning and control over learning were significant predictors of EFL students' positive emotions. However, among negative emotions, the perceived value of learning accounted only for significant variances of shame, while the perception of

control over learning was a significant predictor of anxiety, anger and hopelessness. Additionally, the comparison of β values revealed that perceived value of learning could more significantly predict EFL students' enjoyment of the participants, whereas the perceived control over learning could more significantly predict hope of the participants. The findings in this regard are supported by the control-value theory of achievement emotions, which assumes higher perceptions of value and control predicted higher positive emotions, such as enjoyment and pride (Sorić, et al., 2013). The findings indicated that the perceived value of learning did not significantly predict learners' hopelessness, anxiety, as well as anger. A plausible explanation for these results could be a different measure, namely, the Task Value Scale, applied in the present study to measure the value of learning. It is worth noting that the findings in this respect are not in line with those of Brdovčak (2017), who reported the perceived value and control over learning predicted almost all negative emotions (i.e., anxiety, boredom, anger, and hopelessness) apart from the emotion of shame.

A Pearson correlation coefficient was run for RQ$_3$, which indicated that all positive learning-related achievement emotions were significantly and positively related with EFL students' academic achievement, while all negative learning-related achievement emotions were significantly and negatively related to EFL students' academic achievement. Thus, it can be stated that concentrating on the improvement of positive learning-related achievement emotions and reducing negative learning-related achievement emotions would be advantageous to EFL students' academic achievement and vice versa. Accordingly, not giving due consideration to both positive and negative achievement emotions in foreign language learning, in turn, might bring about EFL students' incompetence in accomplishing excellence in their academic achievement.

One possible explanation for the findings of the third research question may be Pekrun's (2006) statement that the control-value theory of learning-related achievement emotions assumed that both negative and positive achievement emotions are related to students' success and also have an influence on various motivational and regulating processes by typically mediating both learning and achievement. Previous studies (e.g., Meyer & Turner, 2002; Pekrun et al., 2002; Pekrun & Linnenbrink-Garcia, 2012) showed that learning-related achievement emotions also influence students' learning strategy use, motivation, academic accomplishment self-regulated learning. The findings also agree with those of Brdovčak (2017), who reported that positive achievement emotions were positively related to academic success while negative achievement emotions were negatively related to students' academic success.

A regression analysis was run for RQ$_4$, which indicated that the three emotions of enjoyment, pride and boredom were significant predictors of EFL students' academic achievement. Accordingly, a higher level of enjoyment, and pride and lower level of boredom predicted higher academic achievement among Iranian EFL learners. The results of this study that showed positive achievement emotions: pride and enjoyment, and a negative achievement emotion, boredom, significantly predict EFL learners' academic achievement, and are in accordance with the findings of Burić and Sorić (2012). In the same vein, Frenzel et al. (2007) reported that positive and negative achievement emotions were significant predictors of academic achievement. Moreover, the comparison of β values in the present study indicated that enjoyment could more significantly predict the participants' academic achievement. Therefore, the higher estimate of enjoyment that EFL students experienced throughout studying predicted higher levels of academic achievement among Iranian EFL learners. The findings in this respect agree with those of Goetz and Hall (2013) and Pekrun and Linnenbrink-Garcia (2014). However, the findings in this respect are not in line with those of Brdovčak (2017), who reported that the learning-related emotion of pride was the strongest predictor of students' academic achievement.

Conclusion and Implications

To sum up, this study examined how cognitive appraisals of value and control correlated to EFL students' learning-related achievement emotions and attempted to determine whether EFL students' cognitive appraisals of value and control could significantly predict their learning-related achievement emotions. Furthermore, this study aimed at identifying the extent to which learning-related achievement emotions correlated to EFL students' academic achievement and what learning-related achievement emotions were significant predictors of EFL students' academic achievement.

The results revealed that both control and value appraisals were significantly and positively correlated with a higher estimate of all positive emotions, while all negative emotions except boredom were significantly and negatively correlated with both control and value appraisals. Moreover, the findings indicated that the perceived value of learning could more significantly predict EFL students' enjoyment, while the perceived

control over learning could more significantly predict hope of the participants. Furthermore, the results revealed that positive achievement emotions were significantly and positively correlated with academic achievement while negative achievement emotions were significantly and negatively correlated with students' academic achievement. Finally, the findings showed that the positive emotion of enjoyment could more significantly predict EFL students' academic achievement.

Thus, based on the findings of this study, there are several conceivable implications. The results imply that EFL teachers should seek opportunities to improve cognitive appraisals of control and value of their students. This is crucial to support EFL learners as they improve control over their language learning, principally the value appraisal of learning material, which could support them to provoke more positive learning-related achievement emotions and set EFL students on a path towards higher academic achievement. Moreover, it is recommended that EFL students find some strategies to improve their cognitive appraisals of control and value if they want to improve their positive emotions and reduce their negative emotions. In order to have higher levels of academic achievement, more attention should be given to their learning-related achievement emotions in general and enjoyment in particular since the positive emotion of enjoyment was the best predictor of their academic achievement.

The results also can raise EFL learners' awareness of the importance of cognitive appraisals of control and value and positive achievement emotions and inspire them to seek opportunities to improve these features. Additionally, the findings can help EFL teachers, syllabus designers, and material developers get a better picture of EFL students' cognitive appraisals of control and value, achievement emotions and academic achievement, and their relationships with each other.

No research study is without limitations, and the present study is no exception. The major limitation is that certain intervening variables, such as culture, learning context, and other individual differences might have played a role in the three constructs being measured in this study since they were not controlled. Moreover, in this study merely self-reported instruments (i.e., questionnaires) were applied. Dörnyei (2003) said questionnaires suffer from some limitations like the answers might have been influenced by the respondents' tiredness, reluctance, lack of seriousness, and responsibility on responding to them. Thus, it is suggested to advance this study using other data collection tools (e.g., interviews, observations) and also compensate for probable problems triggered by applying self-reported instruments. Since control and value appraisals are considered domain-specific (Goetz et al., 2006), generalizability of the findings must be done with caution. Finally, other researchers can investigate the potential role of the attitude, beliefs and practice of other elements, such as school principals, families, and stakeholders.

References

Brdovčak, B. (2017). The relationship between achievement emotions, appraisals of control and value, and academic success. *Croatian Journal of Education, 19*(3), 29-41. https://doi.org/10.15516/cje.v19i0.2744

Burić, I. (2015). The role of social factors in shaping students' test emotions: A mediation analysis of cognitive appraisals. *Social Psychology of Education*, *18*(4), 785-809. https://doi.org/10.1007/s11218-015-9307-9

Burić, I., & Sorić, I. (2012). The role of test hope and hopelessness in self-regulated learning: Relations between volitional strategies, cognitive appraisals and academic achievement. *Learning and Individual Differences*, *22*(4), 523-529. https://doi.org/10.1016/j.lindif.2012.03.011

Dewaele, J. M. (2011). Reflections on the emotional and psychological aspects of foreign language learning and use. *Anglistik: International Journal of English Studies*, *22*(1), 23-42. https://eprints.bbk.ac.uk/id/eprint/5096

Dörnyei, Z. (2003). *Questionnaires in second language research: Construction, administration, and processing.* Lawrence Erlbaum.

Frenzel, A. C., Pekrun, R., & Goetz, T. (2007). Girls and mathematics - A "hopeless" issue? A control-value approach to gender differences in emotions towards mathematics. *European Journal of Psychology of Education*, *22*(4), 497-514. https://doi.org/10.1007/BF03173468

Frenzel, A. C., & Stephens, J. S. (2013). Emotions. In N. C. Hall & T. Goetz (Eds.), *Emotion, motivation, and self-regulation: A handbook for teachers,* (pp. 1-55). Emerald.

Goetz, T., & Hall, N. C. (2013). Emotion and achievement in the classroom. In J. Hattie & E. M. Anderman (Eds.), *International guide to student achievement* (pp. 192–195). Routledge.

Goetz, T., Pekrun, R., Hall, N., & Haag, L. (2006). Academic emotions from a social−cognitive perspective: Antecedents and domain specificity of students' affect in the context of Latin instruction. *British Journal of Educational Psychology*, *76*(2), 289-308. https://doi.org/10.1348/000709905X42860

MacIntyre, P., & Gregersen, T. (2012). Emotions that facilitate language learning: The positive-broadening power of the imagination. *Studies in Second Language Learning and Teaching*, *2*(2), 193-213. https://doi.org/10.14746/ssllt.2012.2.2.4

Meyer, D. K., & Turner, J. C. (2002). Discovering emotion in classroom motivation research. *Educational Psychologist*, *37*(2), 107-114. https://doi.org/10.1207/S15326985EP3702_5

Peixoto, F., Sanches, C., Mata, L., & Monteiro, V. (2016). "How do you feel about math?": Relationships between competence and value appraisals, achievement emotions and academic achievement. *European Journal of Psychology of Education*, *32*(3), 385-405. https://doi.org/10.1007/s10212-016-0299-4

Pekrun, R. (2000). A social-cognitive, control-value theory of achievement emotions. In J. Heckhausen (Ed.), *Motivational psychology of human development* (pp. 143–163). Elsevier.

Pekrun, R. (2006). The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice. *Educational Psychology Review*, *18*(4), 315-341. https://doi.org/10.1007/s10648-006-9029-9

Pekrun, R. (2009). Global and local perspectives on human affect: Implications of the control-value theory of achievement emotions. In M. Wosnitza, S. A. Karabenick, A. Efklides, & P. Nenniger (Eds.), *Contemporary motivation research: From global to local perspectives* (pp. 97–115). Hogrefe.

Pekrun, R. (2014). *Emotions and learning*. [Educational practices series: Vol. 24]. International academy of education, and international bureau of education, United Nations educational, scientific and cultural organization. https://unesdoc.unesco.org/ark:/48223/pf0000227679

Pekrun, R., Frenzel, A. C., Goetz, T., & Perry, R. P. (2007). The control-value theory of achievement emotions: An integrative approach to emotions in education. In P. A. Schutz & R. Pekrun (Eds.), *Emotion in education* (pp. 13–36). Elsevier.

Pekrun, R., Goetz, T., Daniels, L. M., Stupnisky, R. H., & Perry, R. P. (2010). Boredom in achievement settings: Exploring control-value antecedents and performance outcomes of a neglected emotion. *Journal of Educational Psychology*, *102*(3), 531-549. https://psycnet.apa.org/doi/10.1037/a0019243

Pekrun, R., Goetz, T., Frenzel, A. C., Barchfeld, P., & Perry, R. P. (2011). Measuring emotions in students' learning and performance: The Achievement Emotions Questionnaire (AEQ). *Contemporary Educational Psychology*, *36*(1), 36-48. https://doi.org/10.1016/j.cedpsych.2010.10.002

Pekrun, R., Goetz, T., & Perry, R. P. (2005). *Academic emotions questionnaire (AEQ) – User's manual*.

Pekrun, R., Goetz, T., Titz, W., & Perry, R. P. (2002). Academic emotions in students' self-regulated learning and achievement: A program of qualitative and quantitative research. *Educational Psychologist*, *37*(2), 91-105. https://doi.org/10.1207/S15326985EP3702_4

Pekrun, R., Lichtenfeld, S., Marsh, H. W., Murayama, K., & Goetz, T. (2017). Achievement emotions and academic performance: Longitudinal models of reciprocal effects. *Child Development*, 5(3), 1–18. https://doi.org/10.1111/cdev.12704

Pekrun, R., & Linnenbrink-Garcia, L. (2012). Academic emotions and student engagement. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 259-282). Springer.

Pekrun, R., & Linnenbrink-Garcia, L. (2014). *International handbook of emotions in education*. Taylor & Francis.

Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1991). *A manual for the use of the Motivated Strategies for Learning Questionnaire (MSLQ)*. The University of Michigan. https://eric.ed.gov/?id=ED338122

Reilly, P., & Sánchez-Rosas, J. (2021). Achievement emotions and gender differences associated with second language testing. *International Journal of Instruction*, *14*(4), 825-840. https://doi.org/10.29333/iji.2021.14447a

Shao, K., Pekrun, R., Marsh, H. W., & Loderer, K. (2020). Control-value appraisals, achievement emotions, and foreign language performance: A latent interaction analysis. *Learning and Instruction*, *69*, 1-12. https://doi.org/10.1016/j.learninstruc.2020.101356

Sorić, I., Penezić, Z., & Burić, I. (2013). Big five personality traits, cognitive appraisals and emotion regulation strategies as predictors of achievement emotions. *Psihologijske teme*, *22*(2), 325-349. https://hrcak.srce.hr/108516

Swain, M. (2013). The inseparability of cognition and emotion in second language learning. *Language Teaching*, *46*(2), 195-207. https://doi.org/10.1017/S0261444811000486