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Investigation the Relationship between Intelligence Beliefs and Academic Emotions with Academic Challenging in Students

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ABSTRACT: One of the missions of education is directing students to the direction that educational efforts and strategies used by their teachers and professors create self-regulation and promote educational aims in them. This study investigated the relationship between intelligence beliefs (entity and incremental and academic emotions (enjoyment, hope, pride, hopelessness, anxiety) with academic challenging in male and female students of Chamran University. Academic challenging means people tend to experience more difficult and challenging academic goals, and courses. To test this study hypothesis, 160 bachelor students of Chamran University, were chosen by simple random sampling and completed Implicit Theories of Intelligence Scale in the Student Population, Pekrun's Achievement Emotion Questionnaire and academic challenging subscale of Revised Academic Hardiness Scale. The data collected in this way, using software SPSS (version 21) and by Pearson correlation coefficient and stepwise regression methods were analyzed. The results showed that incremental intelligence belief, learning hopelessness, learning anxiety, learning enjoyment were related with academic challenging in $p < 0.05$ significant level. Also, learning hopelessness showed the highest correlation with academic challenging (-0.31). Based on these results, incremental intelligence and academic emotions, especially learning hopelessness have a significant role in students' tend to the challenging courses and assignments.

Key words: Intelligence Beliefs, Academic Emotions, Academic Challenging

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INTRODUCTION

Since students spend a lot of their time at school, the area of school can have many academic and social challenges (Kamtsios and Karagiannopoulou, 2012). Academic challenging is one of the parameters of academic hardiness. Kobasa's theory assumes that three processes (control, commitment, and challenging) are relevant to persistence and stability of the students when they face difficult problems in their life. Challenging can be defined as the student's tendency for following hard educational works and challenges are considered as his or her experiences for personal promotion which include behaviors like taking difficult courses at the cost of even getting bad scores. He or she just enjoys class challenges (Benishek and Lopez, 2001).

Dweck's model (2000) originates from a cognitive-social approach to motivation. Based on this model, learners acquire necessary information from social environment in order to evaluate situations and then they shape their educational behavior. This theory consists of four elements relating to behavioral studies: theory of intelligence, targeting objectives, understanding ability, and behavioral pattern. Theory of intelligence is student's beliefs related to their intelligence as being entity or incremental (influenced by learning or experience). Dweck (2000) devised two implicit intelligence theories. In entity theory of intelligence, people consider intelligence as something fixed and uncontrollable. In incremental theory of intelligence, it is believed that intelligence is something controllable and changeable. People with entity theory of intelligence consider ability as a fixed criterion of performance and assume attempting to reach a goal as a sign of low ability. Probably, they are afraid of facing challenging activities. They do not accept difficult objectives, and take failure as a negative evaluation of themselves. People believing in incremental intelligence consider their ability as a flowing criterion of performance and believe that they can develop their talents more by striving more. They believe that by trial and error they can improve their talents. That's why they face challenging tasks and failure does not prevent them from achieving their goals. They keep on trying after they fail (Hong et al., 1999).

Emotions directly related to learning, classroom, education and progress are called academic emotions (Pekrun et al., 2002). Theory of controlling the value of progress provides a theoretical framework for the analysis of emotions and the fields related to achievement. The theory assumes that learning environment influences two elements of cognitive evaluation which are basic to developing educational emotions. The first element, is mental controlling which consists of cognitions related to controlling like expectations. Expectations related to

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achievement of self-efficacy, and causal attributional of output are outputted. The second element is mental value which includes understood value of actions. Emotions are the result of these two elements.

Based on control-value achievement emotions, if an activity is considered as valuable and controllable, enjoyment is created. Also, pride emotion is the result of valuable consequences and in terms of controllability it is average. Similarly, hopelessness is the result of valuable consequences in terms of low controllability and anxiety is the result of consequences with low controllability and with negative value (Goetz et al., 2007).

Previous studies indicate that emotions are effective in creating and preserving interest (Pekrun, 2005). In Pekrun et al. (2002), positive educational emotions are positively related to student's interest and his or her self-managing educational attempt. Contrarily, negative inactive emotions are related negatively to self-managing educational attempt and interest.

Tulis and Fulmer (Tulis and Fulmer, 2013) studied the relationship between motivation and emotional experiences (boredom, anger, anxiety and enjoyment) with persistence and engagement while experiencing educational challenges in math and reading. A negative active emotion which partly increases anxiety is somewhat useful in creating stability while boredom which is a negative inactive emotion decreases stability. So, the present study investigates the relationship between intelligence beliefs (entity, incremental) and academic achievement emotions (enjoyment, hope, pride, hopelessness, anxiety) with academic challenging.

Methodology

The present study is a descriptive-correlational one. To analyze the data and testing hypothesis, descriptive statistics (calculating means, standard deviations, and frequencies) and inferential statistics (Pearson correlation, and multivariate regression) were used. The statistical sample included BA students of Chamran University in the second term of educational year of 2014-15. One hundred sixty students were randomly selected to test the study hypothesis and were used as the sample of the study. Specifically, in terms of gender, the sample included 96 boys and 65 girls, in terms of field of study, 22 were studying basic sciences and 83 humanities, 51 in engineering. The field study of the rest of the subjects was unknown. They were all BA students. The subjects were given Implicit Theories of Intelligence Scale in the student population, Pekrun's Achievement Emotion Questionnaire and Revised Academic Hardiness Scale. The data, then were analyzed by SPSS software (version 21).

Revised Academic Hardiness Scale

Benishek et al. (2005) designed the questions of revised academic hardiness scale. The scale included 40 questions related to academic hardiness and questions related to 3 subscales (educational commitment/control, emotional control and academic challenging). However, in this study, only the subscale of challenging including 11 items was used. The respondents gave their views about correct or incorrect amount of each item on a 4-degree Likert continuum in which 1 was for completely correct and 4 was for completely incorrect. To investigate the validity of the continuum, Benishek et al. (2005) correlated the continuum with NEO-PI-R Neuroticism Scale and Academic Self-Concept Scale (ASCS) and obtained Pearson correlation coefficients of -0.41 and 0.68 for them, respectively. Both coefficients were significant at $p<0.001$. Also, the reliability of academic hardiness was calculated by internal homogeneity procedure and reported the Chronbach's alpha of 0.88 for challenging. To measure the validity of this study, confirmatory factorial analysis was used for the questionnaire. Based on the results, its factorial structure was confirmed but 4 items did not have suitable factorial load (above 0.3). Moreover, to confirm the reliability, coefficients of Chronbach alpha were calculated and used. Chronbach alpha for challenging was 0.64.

Pekrun's Achievement Emotion Questionnaire

Pekrun et al. (2002) designed the questionnaire of achievement emotions in 2002. This questionnaire included 3 sections of class emotions, learning, and testing. Each section included 8 subscales of enjoyment, hope, pride, anger, anxiety, shame, hopelessness, and boredom. In this study, the only the section of learning emotions of the questionnaire and the emotions of enjoyment, hope, pride, hopelessness and anxiety were used. The respondents gave their answers based on a 5 degree Likert scale; 1 for complete disagreement and 5 for complete agreement. Pekrun et al. (2002) obtained the reliability of the questionnaire by referring to some experts in the field and some professors of teaching, training, and psychology. Also, the confirmatory factorial analysis was used to measure the questionnaire validity. The results confirmed the confirmatory structure of the questionnaire and indicated that all the items had suitable factorial loads (above 0.3). Correlation coefficients calculated for enjoyment, hope, pride, anxiety, and hopelessness were 0.86, 0.86. 0.79, 0.91, and 0.88, respectively.

Implicit Theories of Intelligence Scale

This device was first used by Abd-El-Fattah and Yates (2006) based on Dweck's approach (implicit intelligence theories). This scale has 14 items of which 7 items are for measuring entity intelligence theory (stable intelligence belief) and 7 items are for the subscale of incremental intelligence theory. The scoring procedure was based on a 4-degree of Likert scale type, 1 for complete disagreement and 4 for complete agreement. Moreover, in order to measure the criterion validity of the scale another device with the title of Dopirat and Marin (2005) was applied to the subjects of the study. In this study, too, confirmatory factorial analysis was used to measure the validity of the questionnaire. Based on the results, the two factorial structure of was confirmed and all the items, except item 9 and 14, had suitable loads (over 0.30). Also, Chronbach's alpha coefficients were calculated for entity intelligence belief and incremental one as 0.74 and 0.83, respectively, which confirms a plausible validity.

RESULTS

Descriptive results related to mean, standard deviation, minimum and maximum scores of testable variables and correlations between predictor variables and criterion variable are shown in table 1.

Table 1. Descriptive results of the study variables for all the testable variables and Correlations between predictor variables and criterion variable

criterion variable	predictor variables	Correlation coefficient	Significant level	mean	Standard deviation
Academic challenging Mean= 17.88 Standard deviation = 4.89	Entity intelligence belief	-0.11	0.14	10.81	3.54
	Incremental intelligence belief	0.19*	0.02	22.63	3.68
	Learning hopelessness	-0.31**	0.00	23.01	9.16
	Learning anxiety	-0.25**	0.00	28.17	83.10
	Learning pride	0.15	0.06	78.22	90.4
	Learning hope	0.18*	0.02	48.23	5.00
	Learning enjoyment	0.24*	0.00	71.31	7.91

As shown by table 1, from among predictors of the study, the variables of incremental intelligence belief, learning hopelessness, learning anxiety, and learning enjoyment correlated significantly with academic challenging at the level of $p<0.05$. From independent variables of the study learning hopelessness variable correlated most with academic challenging. In the present study, multiple regression analysis was used in order to investigate the correlation between predictor variables and independent variables. Then, multiple regression was applied using stepwise procedure. Table 3 shows the results of multiple regression of predictor variables with independent variables in the study sample.

Regarding Table 2, the results of stepwise regression shows that generally the total predictor variables accounted for 10 percent of the variance of academic challenging and considering regression coefficients of β, in terms of prediction, learning hopelessness is the best predictor of academic challenging.

Table 2. Stepwise multiple correlation coefficients of predictors and criteria in female employees

Variables	MR	RS	F P	β B
Learning hopelessness	0.31	0.10	F= 16.92 P < 0.001	β= -0.31 B= -0.17

It can be observed in table 2 that learning hopelessness can predict academic challenging in this sample. Generally, there is a 0/31 multiple correlation between all of the predictors with academic challenging in this sample.

DISCUSSION AND CONCLUSION

This study attempted to investigate the correlation between intelligence beliefs and academic emotions with academic challenging of boy and girl students of Shahid Chamran University of Ahvaz. The results showed that the best predictor for academic challenging was learning hopelessness. Based on control-value theory, hopelessness is resulted from understanding valuable consequences because of their low controllability. It means that despite the value of challenging assignments for the promotion of personal cognition, fear from getting negative results causes hopelessness and consequently forces individuals to leave challenging situation. Also, it shows that academic is influenced by enjoyment and learning anxiety.

Also, the results of Pearson correlation analysis indicated that among this study independent variables, incremental intelligence belief, learning hopelessness, learning anxiety, and learning enjoyment correlated significantly with academic challenging. Enjoyment develops when an activity is considered very valuable and controllable and anxiety is the result of

consequences with an average level of controllability having a negative value. When individuals assume situations, assignments, and educational courses as issues of personal importance which create valuable consequences and moreover, when conditions of these consequences are provided and can be controlled through personal attempt, then enjoyment is experienced and challenging happens.

Regarding anxiety emotion, if an individual feels that he or she has a negligible role in controlling consequences through personal behavior and attempts and probable negative consequences, like getting low grades, causes many problems for him or her, he or she is affected by tension and avoids lesson challenging. Another kind of academic challenging is related to the variable of incremental intelligence beliefs. Different judgments of students about their intelligence develop when they face education challenges and obstacles.

Dweck (2000) believes that if students assume intelligence as a fixed entity and unchangeable, they probably are frequently worried about the way their performance would be judged by others. Therefore, they avoid facing their assignments and their hard and challenging lesson duties. On the contrary, if students consider intelligence as something variable, flexible, and incremental, they attempt to increase their intelligence ability, they do not fear facing their duties, assignments and hard situations and they do not miss learning opportunities easily. They also frequently try to improve their intelligence ability and performance.

According to the results, incremental intelligence belief and academic hopelessness have determining roles in accepting academic challenging by students. In order to complete the results of the present study, it is suggested that more researches replicate the presnt study with different samples and use different procedures for their analysis.

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