IMPLICIT BELIEFS OF INTELLIGENCE, ACHIEVEMENT EMOTIONS AND ACADEMIC SELF-EFFICACY AMONG UNIVERSITY STUDENTS

Ms. Ayesha Shabbir[1] and Dr. Irum Naqvi[2]

ABSTRACT

Present research was designed to study the association between implicit beliefs of intelligence, achievement emotions, and academic self-efficacy among university students. Studying the moderating role of achievement emotions in relationship between implicit beliefs of intelligence and academic self-efficacy was another objective of the study. The sample of study comprised of 400 students from Quaid-i-Azam University, Islamabad including both male (n = 213) and female (n = 187). Participants ages range from 17-34 years (M = 21.58; SD =2.64). For data collection, Implicit Self- theory Scale (Dweck, 2000), Achievement Emotions Questionnaire (Pekrun, Goetz & Perry, 2005) and academic Self-efficacy Scale (Zajacova, 2005) were used in current study. Result revealed a positive correlation between incremental beliefs, positive emotions (enjoyment and hope) and academic self-efficacy and negative correlation between entity beliefs and negative emotions (anxiety and boredom) and positive correlation between entity beliefs and academic self-efficacy. Academic self-efficacy positively related with positive emotions and negatively related with negative emotions. Results of moderation analysis revealed anxiety and boredom as significant moderators on relationship between implicit beliefs and academic-self-efficacy. This study will help teachers and education institutions in improving students' implicit beliefs through effective teaching and instruction.

Keywords. *Implicit Beliefs, Entity Beliefs, Incremental Beliefs, Achievement Emotions, Academic Self-Efficacy.*

1. INTRODUCTION

Beliefs play a crucial role in how an individual view the world and themselves and perceive information (Buehl & Alexander, 2001). There is an important role of beliefs in guiding individual behavior and opinions because it is a sort of knowledge that impact all human perception. Beliefs have a significant role in educational context, and in learning process, because beliefs are in an individu al's mind they are called implicit beliefs. "Implicit beliefs are

[1]MS Scholar, National Institute of Psychology, Quaid-i-Azam University, Islamabad, Pakistan. Email: ayeshashabbir1994@gmail.com

[2]Dr. Irum Naqvi, Assistant Professor, National Institute of Psychology, Quaid-i-Azam University, Islamabad, Pakistan. Email: irumnaqvi2006@gmail.com

defined as the unconscious cognitive constructs that influence motivation, behavior and affect" (Pekrun, 2006).

The primary theoretical framework of implicit beliefs derives from the work done by Dweck, (1975). Implicit beliefs are beliefs about intelligence whether it can change or not (Dweck & Yeager, 2012). Implicit beliefs are also known as self –theories of intelligence and students have two types of beliefs regarding their intelligence, "entity beliefs" and "incremental beliefs" (Hong, Chiu, Dweck, Lin & Wan, 1999). The beliefs that intelligence is enduring characteristic named as entity belief and belief that intelligence can be changed is incremental belief of intelligence (Dweck & Master, 2009).

Implicit beliefs additionally influence students' emotions in academics. Achievement emotions are defined as emotions that are linked with achievement activities or achievement outcomes. In educational research emotions have recently been a topic of widespread interest. Studies have found that there is a significant role of emotions in learning and educational context (Pekrun, 2006). Students experiences many emotions during their academic lives like pride when they get position or high grades in class, or they may experience anxiety when exams come or when they get assignments from teachers, or feels hopelessness if they do not achieve the expected consequences (Anthony, Artino, Holmboe & Durning, 2012).

The emotions a student feels while doing a task or after achieving a goal effects its confidence e.g. after getting high grades from a tough exam boost his/her self-efficacy. The beliefs students have about their intelligence also affect their sense of self efficacy and it is referred to as a one's confidence in his abilities that he/she has the recourse to meet the demand of a situation (Huang, 2013). Students who believe that a particular ability can be improved overtime tend to have a strong faith in themselves (Dweck & Master, 2009).

A study shows that those who have higher level of academic self-efficacy hold incremental beliefs and students who report low level of self-efficacy endorsed entity beliefs, that intelligence is inborn and cannot be changed (Calik, 2014; Koseoglu, 2015; Komarraju & Nadler, 2013; Khalkhali & Aryanpour, 2013; Lindsay, 2006; Malekirad, Purbaghan & Rezapour, 2013; Williams, 2015). Another study reveals that people with high academic self-efficacy hold more positive emotions and less negative emotions (Bernardo & Villavicencio, 2013; Goetz et all, 2010; Larkin, Putwain & Sander, 2013). Students with incremental beliefs are less susceptible to negative emotions and hold more positive emotions as compare to students with entity beliefs. Individuals with fixed view of intelligence and think that they cannot change their abilities show more negative emotions and less positive emotions and incremental theorist more likely to have positive emotions (King, Mclnerney &

Watking, 2012; Luo, Lee, Xiao and Ong, 2014; Pals & Robins, 2002; Simin, Sirus & Moradi, 2016).

1.1 Objectives

1. To study the relationship between implicit beliefs of intelligence, achievement emotions and academic self-efficacy among university students.
2. To explore the moderating role of positive achievement emotions (enjoyment & hope) and negative achievement emotions (anxiety & boredom) on implicit beliefs of intelligence and academic self-efficacy

1.2 Hypotheses

1. Incremental beliefs are positively related with positive achievement emotions (hope and enjoyment) and academic self-efficacy among university students.
2. Entity beliefs are positively related with negative achievement emotions (anxiety, and boredom) among university students.
3. Entity beliefs are negatively related with academic self-efficacy among university students.
4. Negative achievement emotions (anxiety, boredom,) negatively related with Academic self-efficacy among university students
5. Positive achievement emotions (hope and enjoyment) positively related with Academic self-efficacy among university students.

1.3 Purpose and Scope of the Present Study

Present research aimed to study the relationship among research variables that are implicit beliefs of intelligence, achievement emotions and academic self-efficacy, among university students. All these constructs are really important in educational context and need to be studied. Incremental beliefs increase motivation in students, when one face challenges, with effort he/she can achieve success (Pals & Robins, 2002). It is significant to study implicit theories of intelligence among students because they develop the way students assess their intelligence and the beliefs students hold about their intelligence impact their behavior and thinking. Achievement emotions influence the outcome of an activity and positive achievement emotions enhance confidence and strong sense of academic self-efficacy can results in good performance outcomes (Pekrun, 2014). Emotions strongly influence students' thoughts, motivation, and behavior. Individuals with strong sense of academic self-efficacy hold incremental beliefs and those who have weaker sense of self-efficacy were tend to believe that intelligence is inborn and

cannot be developed (Koseoglu, 2015). Lower level of academic self-efficacy increase anxiety and negative emotions (Larkin, Putwain & Sander, 2013). Confident Individual tends to have positive emotional states (Calik, 2014). Literature highlights the importance of these constructs so the present research will study these in educational context and there is gap in literature that study the simultaneous relationship of these variables, this study will fill this gap by studying simultaneous relationship of these variables.

Achievement Emotions Questionnaire (AEQ) measures eight types of achievement emotions. There are three positive emotions (enjoyment, pride and hope) and five negative emotions (anger, anxiety, shame, hopelessness and boredom) (Pekrun, Goetz, & Perry, 2005). Research shows that enjoyment, hope, boredom and anxiety are the emotions that are more experienced by students and are particular salient for academic setting (Ahmed, Kuper, Minnaert & Werf, 2013; Goets, Hall, Klein & Pekrun, 2005; Luo et al, 2014) so, the present study will also focus on two positive achievement emotions (enjoyment and hope) and two negative achievement emotions (boredom and anxiety) because these emotions are more relevant in academic setting. Furthermore present research will also study the moderating role of both negative and positive achievement emotions because there is scarcity of literature that study moderating role of achievement emotions so this study will fill this gap in this way (Bernardo & Villavicencio, 2013).

There is a significant impact of implicit beliefs of intelligence, achievement emotions and academic self-efficacy on students' performance and attainment. Very few studies are available in Pakistan that studies these constructs. A study was conducted to study relationship between academic self-efficacy and academic performance and finding indicates a strong positive relationship between self-efficacy and academic performance of the students (Akram & Ganzanfar, 2014). An other study was conducted on test anxiety and academic achievement and results revealed a significant negative relationship between test anxiety and students' achievement (Rana & Mahmood, 2010). A recent study was conducted to study confirmatory factor analysis of implicit beliefs and demographic variable in Pakistani context (Kamal & Khan, 2020). There is scarcity of literature on implicit beliefs in Pakistan and it is relatively new construct (Kamal & Khan, 2020). It is significant to study these important constructs in Pakistani students, in this way; this study will be useful addition in literature.

Mostly researches on achievement emotion and academic self-efficacy, implicit theories of intelligence all these researches were conducted on school and college level students (Conner, Aagaard, & Skidmore, 2011). Present research will explore correlation between variables among university

students, because there is a difference in university and college environment and effect students' level of efficacy and confidence differently and furthermore students' study domain also influence their emotions because of their emotional appraisal of the domain (Pekrun, 2006).

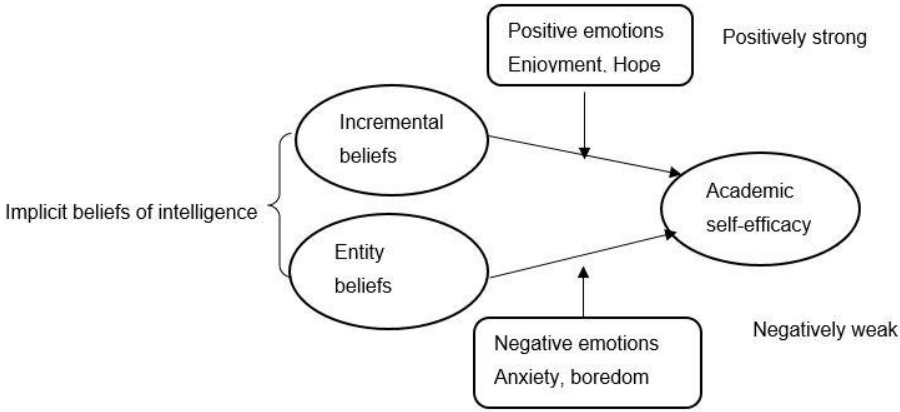
This study will be helpful in refining students' control and value related cognitive appraisal and will facilitate in improving the quality of academic instructions. This study will facilitate teachers and education institutions in order to know how students view intelligence and its influence on their success and they can guide students in a better way and can ensure their success. It is necessary for teachers to use appropriate kind of praise while communicating with students, in this way they can modify students' entity beliefs (Pool, 2012). This study will helpful for education institutions, they can increase positive emotions and academic self-efficacy through positive feedback, effective teaching method and transparency of content (Pekrun, 2014).

2. METHODOLOGY

2.1 Conceptual Model

The conceptual model of study is proposed after extensive literature review, considering of which it is revealed that implicit beliefs, achievement emotions and academic self-efficacy are related with each other. There is a positive correlation between Incremental beliefs positive achievement emotions and academic self-efficacy, whereas negative correlation between entity beliefs and academic self-efficacy (Calik, 2014; Goetz et all, 2010; Khalkhali & Aryanpour, 2013; Koseoglu, 2015; Komarraju & Nadler, 2013; King; Lindsay, 2006; Luo et al, 2014; Purbaghan, Rezapour & Malekirad, 2013; Putwain et al, 2013; Pals & Robins, 2002; Simin, Sirus & Moradi, 2016; Bernardo & Villavicencio, 2013; Williams, 2015). Current research has studied the moderating role of achievement emotions (positive + negative achievement emotions) in relationship between implicit beliefs of intelligence and academic-self efficacy (Bernardo &Villavicencio, 2013; Chipperfield et. all, 2008). Implicit beliefs of intelligence is predictive variable in this study. Academic self-efficacy is criterion variable and achievement emotion is moderator and make relationship between independent and dependent variable stronger positively/negatively weak. Even though correlation exists between implicit beliefs and academic self-efficacy but positive achievement emotions make this relationship positively strong and negative achievement emotions make this relationship negatively week (Bernardo & Villavicencio, 2013; Chipperfield et. all, 2008). (Figure 1 shows detail).

Figure 1: Moderating Role of Positive and Negative Emotions.



2.2 Research Design

The present study is correlation and cross-sectional research. Its aim was to study the relationship between implicit beliefs of intelligence, achievement emotions and academic self-efficacy among university students and to investigation the psychometric properties of the instruments, achieving the objectives and explore the hypotheses through empirical testing.

2.3 Instruments

2.3.1 Implicit Self -Theory Scale.

Implicit self-theory scale is developed by Dweck, (2000). It consists of 8 items, in which 4 items measures entity beliefs and 4 items measures incremental beliefs of intelligence. All 4 entity belief items were reverse coded and high score on entity beliefs subscale means greater endorsement of entity beliefs. High score on incremental beliefs means endorsement of incremental beliefs. It is six point Likert scale and range from "*strongly agree*" (1) to *"strongly disagree"* (6) and score range from (4-24) on each subscale. The alpha reliability of entity beliefs subscale is .87 and incremental beliefs subscale is .88 (Dweck, 2000).

2.3.2 Achievement Emotions Questionnaire.

AEQ developed by Pekrun, Goetz and Perry (2005). It is five point Likert scale and ranges from "*strongly disagree*" (1) to "*strongly agree*" (5). It consists of eight subscales that measure three positive emotions (enjoyment, hope and pride) and five negative emotions (boredom, anxiety, anger, shame and hopelessness). Two positive learning-related (enjoyment and hope) and two

negative (anxiety and boredom) learning related achievement emotions subscales have been used in this research. Enjoyment subscales consist of 10 items and its score range from (10-50). Hope subscale consist of 6 items and score range from (6- 30). Anxiety subscale consist of 11 items and score range from (11- 55). Boredom subscale consist of 11 items and score range from (11-55). There are no reverse coded items in this scale. Alpha reliability of enjoyment subscale is .78, for hope subscale is .77, for anxiety it is .84 and for boredom alpha reliability is .92 (Pekrun, Goetz & Perry, 2005).

2.3.3 Academic Self-Efficacy Scale.

Academic self-efficacy scale developed by Zajacova, (2005) was utilized to assess academic self-efficacy of students and scale is consisting of 27 items. It is 5 point rating scale range from (0 = *not at all confident* to 5 = *extremely confident*. Scoring of this scale range from (27- 135). Higher score on this scale means high academic self-efficacy and there is no reverse coded item in this scale and no cut of point. Scale reliability range from α 0.72 to 0.90 (Zajacova, 2005).

2.3.4 Demographic sheet.

A demographic sheet was used in order to get specific demographic information from the respondents. The sheet included information about the participants' age, gender, grade level, CGPA/ percentage, level of education and current discipline of the study

2.4 Sample

Sample of 400 students was collected from Quaid-i- Azam University. The sample of present study consisted of both men (*n* = 213) and women (*n* = 187) from social (*n* = 175) and natural sciences (*n* = 225) disciplines. Sample was consist of students of BS (*n*=147), Masters (*n* =170) and M.Phil (*n* =81). Students' ages range from 17-34 years (*M* = 21.58; *SD* =2.64).

Table 1 shows sample characteristics and its frequencies and percentage for gender, age, grade level, percentage and study discipline. There are 187 female and 213 male in the sample from different age groups. Age of sample range from 17-34 year, two groups of age were formed, late adolescence (17-24) and young adulthood (25-34) based on the development through life (Newman & Newman, 2014). BS level's students comprised 37.3%, masters and M.Phil.'s students comprised 42 and 20.3% of the sample. Students in the sample have different percentages and categories range from 50 to 80 % and above. Ten out of 13 departments of social sciences and 8 out of 10 departments of natural sciences were taken and 175 students from social

sciences discipline and 225 students from natural sciences discipline were included in the sample.

Table 1: **Frequencies and Percentage of Demographics Variables (N= 400)**

Sample	F	%
Gender		
Men	213	53.3
Women	187	46.8
Age		
Late Adolescence (17-24 years old)	257	64.43
Early Adulthood (25-34 years old)	143	35.80
Grade level		
BS	149	37.3
Masters	170	42.5
M.phil	81	20.3
Percentage of marks		
50-60	15	3.8
61-70	148	37
71-80	167	41.8
80 and above	70	17.5
Study discipline		
Social sciences	175	43.8
Natural sciences	225	56.3

2.5 Procedure

Data was collected from students of Quaid-i- Azam University Islamabad. Informed consent was taken from students and they were informed that their participation is voluntarily. The students were guaranteed about the confidentiality of their information and will only use for study purposes. Participants were briefed how to fill the questionnaire according to statements. Participants were instructed to fill the all there questionnaires along with demographic sheet. After the completion of questionnaires, students were thankful for their contribution in research.

3. RESULTS

3.1 Reliability Estimates and Descriptive Analysis of Measures

The reliability and descriptive statistics was assessed for the implicit beliefs subscales, entity and incremental beliefs, achievement emotions subscales, enjoyment, hope, anxiety and boredom and for academic self-efficacy scale. The results revealed are presented in the following table.

Table 2: Mean, Standard Deviations, and Psychometrics Properties of Scales. (N=400)

Variables	No. of items	A	M	SD	Skewness.	Kurtosis
Entity beliefs	4	.79	16.95	4.84	-.46	-.47
Incremental beliefs	4	.83	17.69	4.77	-.96	.51
Enjoyment	10	.86	36.39	7.70	-.71	.24
Hope	6	.85	22.58	4.93	-.77	.52
Anxiety	11	.81	32.50	7.94	-.22	.12
Boredom	11	.88	29.08	9.27	.13	-.42
Academic self-efficacy	27	.93	94.65	18.05	-.49	.14

Table 2 shows descriptive, alpha-coefficient and number of items for entity beliefs, incremental beliefs, positive and negative achievement emotions and academic self-efficacy. Good reliability values are the sign of high internal consistency within the scale, the values for reliability coefficients range from 0 to 1.0. A 0 reliability coefficient means no reliability and 1.0 means perfect reliability (Field, 2005). Alpha values for all measure are in acceptable range, for entity beliefs it is .79, for incremental beliefs .83, enjoyment .86, hope, .85, anxiety, .81, boredom .88, and academic self-efficacy .93. Skewness and kurtosis value is between -1 to +1, which shows that data is normally distributed.

3.2 Relationship between Implicit Beliefs of Intelligence, Achievement Emotions and Academic Self-Efficacy

Pearson correlation was computed to evaluate the relationship between implicit beliefs of intelligence (entity beliefs and incremental beliefs), achievement emotions (enjoyment, hope, anxiety and boredom) and academic self-efficacy. Results revealed through analysis are described in table below.

Table 3: Correlation between Incremental Beliefs, Entity Beliefs, Enjoyment, Hope, Boredom, Anxiety, and Academic Self-Efficacy. (N=400)

	Variables	1	2	3	4	5	6	7
1	**Incremental beliefs**	-						
2	**Entity beliefs**	.08	-					
3	**Academic self-efficacy**	.40**	.12*	-				
4	**Enjoyment**	.46**	.10*	.50**	-			
5	**Hope**	.48**	.10*	.52**	.76**	-		
6	**Anxiety**	.07	-.24**	-.11*	.08	.11*	-	
7	**Boredom**	.10*b	-.30**	-.18**	-.23**	-.15**	.46**	-
	A	.83	.79	.93	.86	.85	.81	.88
	M	17.69	16.95	94.65	36.39	22.58	32.50	29.08
	SD	4.77	4.84	18.05	7.70	4.93	9.27	7.94

Note. **p* <0.05, ***p* <0.01

Table 3 shows correlation between study variables. Result indicate that incremental beliefs are significantly positive correlated with enjoyment and hope (*p* <0.01), and statistically significant and positive correlation between incremental beliefs and academic self-efficacy (*p* <0.01). It means that individuals with incremental beliefs of intelligence have high self-efficacy and have positive emotions. This result confirmed the first hypothesis which is stated as "incremental beliefs are positively related with positive emotions (enjoyment and hope), and academic self-efficacy among university students. Analysis shows the results entity beliefs are significantly negative related with anxiety and boredom (*p* <0.01). It means that individuals with entity beliefs don't feel negative emotions like anxiety and boredom. This result rejected the second hypothesis which is stated as "entity beliefs are positively related with negative achievement emotions (anxiety and hope) among university students". There is significant and positive correlation between entity beliefs and academic self-efficacy (*p* <0.05). This means that individual with entity beliefs have high self-efficacy. This result rejected the third hypothesis which is stated as "entity beliefs are negatively related with academic self-efficacy among university students".

There is negative relation between academic self-efficacy and anxiety (*p* <0.05) and academic self-efficacy and boredom (*p* <0.01). It means that individuals who feel more negative emotions have low self-efficacy. This result confirmed fourth hypothesis which is stated as "academic self-efficacy is negatively related with academic self-efficacy among university students".

There is statistically significant and positive correlation between academic self-efficacy and enjoyment (p <0.01) and between academic self-efficacy and hope (p <0.01). It means students who feel positive emotions they have high self-efficacy. This result confirmed our fifth hypothesis which is stated as "academic self-efficacy is positively related with positive emotions (enjoyment and hope) among university students".

3.3 Moderating Effects of Achievement Emotions

Moderation analysis was done to study the moderating role of achievement emotions. Moderation analysis studies the role of third variable to determine the relationship between two variables. Table shows the results of moderation.

3.3.1 Anxiety and boredom as a moderator between entity beliefs and academic self-efficacy.

The impact of anxiety and boredom as a moderator variable has been assessed in the relationship between entity beliefs and academic self-efficacy using regression analysis. The results revealed are as following:

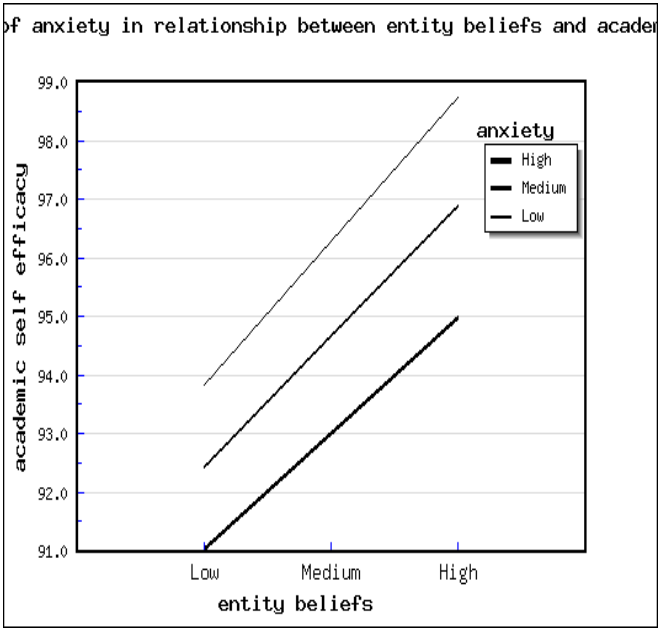
Table 4: Moderating impact of the anxiety and boredom on the relationship between entity beliefs and academic self-efficacy (N =400)

		Academic self-efficacy		
		B	**SE**	**B**
Constant		94.65**	.89.	-
Entity beliefs		2.22*	.89	.12*
Anxiety		-1.66	.93	-.09
Entity beliefs * anxiety		-.24*	.81	-.15*
R^2	.04			
F	6.27**			
R^2 Change	.02			
R^2 Adjusted	.03			
Constant		94.65**	.89	-
Entity beliefs		2.22*	.89	.12*
Boredom		-2.93	.92	-.16
Entity beliefs * boredom		-2.74**	.76	-.17**
R^2	.07			
F	9.90**			
R^2 Change	.03			
R^2 Adjusted	.06			

*p<0.05, **p<0.01

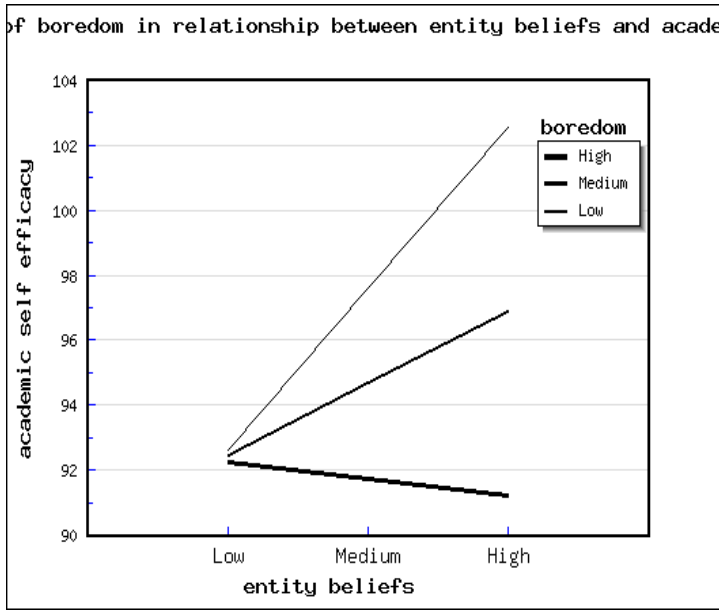
Table 2 shows the results of moderation. Results show that the β value for interaction of entity beliefs and anxiety is significant (p <0.05) and explains 3% variance in academic self-efficacy. Table 2 also shows that β value for interaction of entity beliefs and boredom is significant (p<.01) and explains 6% variance in academic self-efficacy. (Figure 2 shows detail)

Figure 2. Moderating role of anxiety in relationship between entity beliefs and academic self-efficacy



Result of mod graph in figure 2 shows that low level of anxiety and entity beliefs is related to high academic self-efficacy. When significance of slope was computed it showed t = 5.98 (p <0.01) for high level, t = 11.05 (p <0.01) medium level and t = 14.25 (p <0.01) for low level of anxiety.

Figure 3. Moderating role of boredom in relationship between entity beliefs and academic self-efficacy



Result of mod graph in figure 3 shows that low level of boredom and entity beliefs is related to high level of academic self-efficacy. Significance of slope was computed and it showed t = -1.19 (p >0.05) for high, t = 8.40 (p >0.01) medium, t = 18.75 (p <0.01) and for low level of boredom.

3.3.2 Anxiety and boredom as moderator between incremental beliefs and academic self-efficacy.

The impact of anxiety and boredom as a moderator variable has been assessed in the relationship between incremental beliefs and academic self-efficacy using regression analysis. The results revealed are as following.

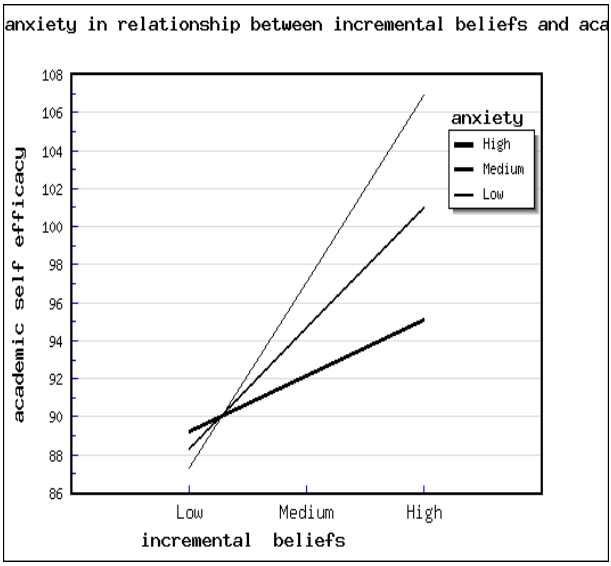
Figure 3 shows result of moderation analysis. Result shows that β value of interaction for incremental beliefs and anxiety significantly (p <0.01) predict academic self-efficacy and explains 18% variance in academic self-efficacy. The β value of interaction of interaction of incremental beliefs and boredom is also significant (p <0.01) and explains 16% variance in academic self-efficacy.

Table 5: Moderation Impact of the Anxiety and Boredom on the Relationship between incremental beliefs and academic self-efficacy (N =400)

		Academic self-efficacy		
		B	SE	B
Constant		94.57**	.84	-
Incremental beliefs		6.50**	.86	.35**
Anxiety		-2.46*	.84	-.13*
Incremental beliefs * anxiety		-3.54**	.76	-4.63**
R^2	.189			
F	30.57**			
R^2 Change	.004			
R^2 Adjusted	.183			
Constant		94.57**	.84	-
Incremental beliefs		6.50**	.86	.35
Boredom		-2.65*	.84	-.14*
Incremental beliefs * boredom		-3.02**	.85	-.16**
R^2	.174			
F	27.67**			
R^2 Change	.026			
R^2 Adjusted	.168			

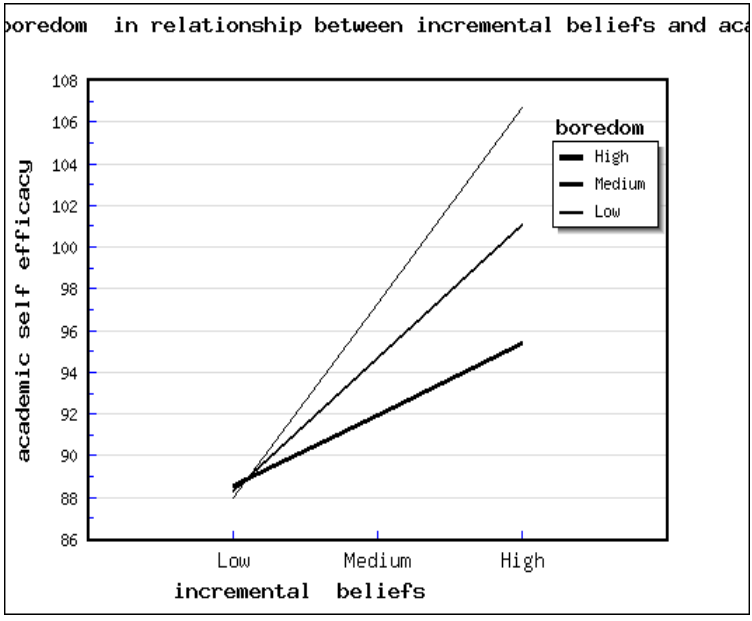
*p<0.05, **p<.01

Figure 4. Mod graph for moderating role of anxiety in relationship between incremental beliefs and academic self-efficacy.



Result of mod graph in figure 4 shows that low level of anxiety is related to high level of incremental beliefs and high level of academic self-efficacy. When significance of slope was computed it showed t= 4.74 (p <0.01) for high level, t = 15.51 (p <0.01) medium level and t = 18.68 (p <0.01) for low level of anxiety.

Figure 5. Moderating role of boredom in relationship between incremental beliefs and academic self-efficacy.



Results of mod graph in figure 5 shows that low level of boredom level is related to high level of incremental beliefs and academic self-efficacy. Significance of slope was computed and it showed t =5.54 (p <0.01) for high level t = 15.58 (p <0.01), medium level and t = 17.67 (p <0.01) for low level of boredom.

4. DISCUSSION

The goal of current research was to study correlation between implicit theories of intelligence, achievement emotions and academic self-efficacy among university students. Objective of the research were accomplished through data collection from students using implicit beliefs of intelligence scale (Dweck, 2000), achievement emotions questionnaire (Pekrun, Goetz & Perry, 2005) and academic self-efficacy scale (Zajacova, 2005).

Bivariate correlation analysis was performed to explore the relationship between variables. First hypothesis was that incremental beliefs are positively related with positive achievement emotions and academic self-efficacy among university students. Analysis shows the results that there is statistically significant positive relation between incremental beliefs and enjoyment and incremental beliefs and hope. There is statistically significant and positive correlation between incremental beliefs and academic self-efficacy. Incremental theorists are intrinsically motivated to learn and they focus on the development of their ability and perceive challenge as a learning opportunity. Intrinsic value incremental theorist give to learning induce positive emotions, such as enjoyment and hope. Incremental theorists they are enthusiastic and more hopeful and increase their self-efficacy. This hypothesis is supported by results and according to existing literature (Khalkhali & Aryanpour, 2013; Koseoglu, 2015; Nadler & Kumarraju, 2013; Luo et all, 2014; King ,Mclnerney & Watking ,2012; Purbaghan, Rezapour & Malekirad, 2013; Williams, 2015).

Second hypothesis was that entity beliefs are positively related with negative achievement emotions (anxiety and boredom) among university students. Analysis revealed a statistically significant and negative correlation between entity beliefs & anxiety and between entity beliefs and boredom. It might be possible that anxiety and boredom are not so much in intensity that can affect their thought pattern and beliefs. It is common misunderstanding that anxiety is always bad thing. Optimum level of anxiety has positive effects on performance and mild form of anxiety might be considered as positive (Cizek & Burg, 2006). Research shows that university students will not likely to suffer from boredom because they are intrinsically motivated to learn (Deveci, 2016). It might be possible that students do not feel these emotions on regular basis, because mostly students feel anxiety during examinations and boredom during lectures. Anxiety motivates students to improve their performance in order to avoid failure and study more to get success (Calik, 2014). It might be possible that entity beliefs unlike western countries do not prevail in Pakistan that can produce negative emotions among students, and in Pakistan there is scarcity of literature in Pakistan on implicit beliefs that show indigenous reality of these beliefs.

Third hypothesis was that entity beliefs are negatively related with academic self-efficacy among university students. Result shows that there is significant and positive correlation between entity beliefs and academic self-efficacy. This hypothesis is rejected by results. It might be possible that students does not hold entity theory strongly that can affect their self-efficacy negatively. It also might be possible that students have so much confidence on their ability to mastering a task that their intelligence belief does not matter

for them because individuals with high self-efficacy overcome negativity (Wheeler & Herdegen, 2016).

Fourth hypothesis was that negative achievement emotions negatively related with academic self-efficacy among university students. Analysis shows that there is negative relation between academic self-efficacy and anxiety and academic self-efficacy and boredom. People who feel negative emotions like anxiety and boredom they have low confidence on their abilities and by the fear of these negativity they think that they can't perform well as compare to others. In this way negative emotions decrease motivation and effect self-efficacy negatively. This hypothesis is also supported by results and according to existing literature (Calik, 2014; Putwain et al, 2013; Bernardo & Villavicencio, 2013).

Fifth hypothesis was positive emotions (enjoyment and hope) positively related with academic self-efficacy is among university students. Analysis shows the results that there is statistically significant and positive correlation between academic self-efficacy and enjoyment and between academic self-efficacy and hope. Self-efficacy is considered as a construct that effect emotional experiences of people through thoughts, actions, and emotions. People who have positive emotions like enjoyment and hope they can control to the negative emotions by examining their life events in the more positive way, that's way individuals with high academic self-efficacy have more positive emotions. This hypothesis is supported by existing literature (Calik, 2014; Putwain et al, 2013; Bernardo & Villavicencio, 2013).

Moderation analysis was done to study the moderating role of positive and negative achievement emotions in relationship between implicit beliefs and academic self-efficacy. Conceptual model was formulated on the basis of evidence of the relationship between implicit beliefs of intelligence, achievement emotions and academic self-efficacy. Achievement emotions moderate this relationship. Positive achievement emotions (enjoyment and hope) make the relationship between implicit beliefs and academic self-efficacy positively strong and negative achievement emotions (anxiety and boredom) make this relationship negatively week. Results show that enjoyment and hope does not play role of significant moderator. Only negative emotions, anxiety and boredom are significant moderator in relationship between implicit beliefs and academic self-efficacy. Less anxiety, boredom and entity beliefs is related to high academic self-efficacy, high level of anxiety and entity beliefs is related to low level of academic self-efficacy. High level of incremental beliefs and low level of anxiety and boredom is related to high level of academic self-efficacy. These results are consistent with the conceptual model of research. Students who have incremental beliefs and low level of

negative emotions have high self-efficacy because people with low level of negative emotions positively appraise learning task and with positive emotions individual will feel control over task that will increase self-efficacy . Students with high level of negative emotions along with high entity beliefs have low self-efficacy because individual with negative emotions negatively appraise learning task and outcome of the task and because of these negative emotions individual feel lack of control on the learning task, and thus reduce the self-efficacy. Although there is little evidence that study moderating role of achievement emotions but our results are consistent with literature that negative emotions (boredom and anxiety) are significant moderator (Bernardo & Villavicencio 2013; Chipperfield et all, 2008).

5. CONCLUSION

The aim of present study was to explore the relationship between implicit beliefs of intelligence, achievement emotions and academic self-efficacy among university students and also find the moderating role of achievement emotions in relationship between implicit beliefs of intelligence and academic self-efficacy. Results show that there is significant positive relationship between incremental beliefs, positive emotions (enjoyment and hope) and academic self-efficacy. Entity beliefs are negatively related with negative emotions (anxiety and boredom). Entity beliefs are positively related with academic self-efficacy. Academic self-efficacy is positively related with positive emotions and negatively related with academic self-efficacy. Anxiety and boredom are significant moderator in relationship between implicit beliefs and academic self-efficacy. As academic self-efficacy is greatly affected by implicit beliefs of intelligence and achievement emotions so, it is plausible that educators design such programs that help students to form incremental beliefs of intelligence and also promote positive emotions.

6. IMPLICATIONS

After accounting comprehensive detail of entire study, it highlights certain important features. There are some important implications for educational institutions.

- Education institutions can appoint expert psychologist such as school psychologist, who are trained to perform high-quality assessment of emotions.
- Teachers should create class room environment that promote malleable view of intelligence among students, in which every students would like to take challenges, will know that making mistake is part of learning, and will have high confidence in their ability.

- Students feel different types of emotions while learning and during class, it is necessary for teachers to recognize the emotions felt by students by establishing a trustful relationship with them, this will have a positive impact on students' personality.

7. LIMITATIONS AND RECOMMENDATIONS

Despite of the detailed work, research has following limitations as well.

- There is scarcity of literature on implicit beliefs of intelligence in Pakistan that showed indigenous reality of these beliefs, it is important that future researchers first should study the cultural reality of these beliefs in Pakistan for better results.
- Only students of Quaid -i- Azam University were selected in the sample because of convenience and time constraints, this limits the generalizability of the research, and also affect the results of this research. Future studies should be conducted with diverse sample and included more universities from different cities of Pakistan for better generalizability of research.
- Self-report measures of implicit beliefs of intelligence, achievement emotions questionnaire and academic self-efficacy scale were used, and this can cause biasness in answering.
- In this study only two domains of studies social sciences and natural sciences were included, future researches can be conducted on different domains and can study students' implicit beliefs, emotions and academic self-efficacy of specific subject.

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