

Relationship between Self-Efficacy and Academic Motivation

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Abstract— How to motivate students has been a long standing issue with educators. It is argued that Self-efficacy is an important determinant of student's motivation. This research will determine the relationship between academic motivation and Self-efficacy of the student at the undergraduate level. The study works on a two hypotheses i.e. 1). There is an association between self-efficacy and academic motivation. 2). There is a gender difference in self-efficacy and academic motivation of undergraduate students. Data was collected through random sampling method and 135 participants from various Business Schools in Karachi during summer semester 2012-2013 were selected. To assess motivation questionnaire developed by Vallerand's (1989) Achievement Motivational Scale (AMS) was used and General Self-Efficacy Scale (GSE; Ralf Schwarzer, and Mattias Jerusalem, 1995) was administered to assess self-efficacy. For the first hypothesis i.e. there is an association between self-efficacy and academic motivation Pearson Product Moment Correlation was applied. For second hypothesis i.e. there is a gender difference in self efficacy of graduate students, t-test was applied through Statistical Package for Social Sciences, version 17. The result suggests that there is a significant correlation between self-efficacy and motivation. However, the findings of second hypothesis showed no gender difference in academic motivation and self-efficacy.

Keywords—Academic Motivation, Gender Difference, Self-efficacy

I. INTRODUCTION

EDUCATORS have long recognized there is a strong relationship between academic motivation and self efficacy. In simple language this means that the students' beliefs about their academic capabilities play an essential role in their motivation to achieve [28]. Motivation is identified as the fundamental aspect of learning [8] "To be motivated means to be moved to do something"[12]. Components of Motivation are excitement, interest and enthusiasm towards learning[10]. It is argued by Self-Determination Theory [12] that motivation is of various types based on the reasons or goal made for any action. The most basic distinction is made between Intrinsic and Extrinsic motivation according to the Self Determination Theory [12] Intrinsic motivation is the undertaking of any task because the individual finds it interesting and enjoyable. Intrinsically motivated students are persistent in their efforts and learn from their mistakes [27]. They also integrate their existing knowledge with new knowledge and form a deeper

perception of their learning. Honkimaki [13] distinguishes deep learning from surface learning. The researcher describes deep learning to intrinsic motivation and surface learning to extrinsic motivation [11]).

Since intrinsically motivated students are able to concentrate better and longer on the task, they develop the ability to use series of strategies to face challenges. They work with concentration and hard work and achieve the goal of mastery. This state is known as "flow" which is arrived at through doing any activity, knowing and applying the required skills and be able to perceive challenges of the activity. This exercise further enhances and reinforces the ability to concentrate and achieve. Moreover students who are intrinsically motivated exercise better self regulation. Self regulation is the ability to change one's behavior as required. It depends upon the accuracy and consistency of their self-observation and self-monitoring of their actions, choices, and attributions. Flow is seen as the ultimate of self regulated learning.

To perceive the relationship between self efficacy and motivation self efficacy is observed to be a major ingredient in motivation [2]. Self in this context is seen as "cognitive structures that provide references mechanisms" and "a set of sub functions for perception, evaluation and regulation of behavior" [2]. Self efficacy concept thus is basically a belief about one's capabilities to perform certain task. It is formally defined as people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" [4] and [3]. Two decades of research have clearly established the validity of self-efficacy as a predictor of student's motivation and learning" [28].

To further specify self efficacy for students, academic self efficacy includes various learning and teaching processes. Midgley [19] defines "academic self – efficacy refers to students' perceptions of their competence to do their class work". According to Schunk [23] academic self efficacy refers to individuals' convictions that they can successfully perform given academic tasks at designated levels. A similar definition also expressed by Altunsoy [1] state that "the concept of academic self –efficacy includes the beliefs about the capabilities to achieve the tasks in certain academic fields". This belief is closely linked to self-concept which is a general self-descriptive belief that incorporates many forms of self-knowledge and self-evaluative feelings [18]. Self-Efficacy beliefs are the core of social cognitive theory and are created by interpreting information from four sources. Strongest source is the interpretation of the results of one's own experience, called as the Mastery Experience. This information then becomes the base for developing beliefs of

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our capabilities and further engaging ourselves in various tasks. Second source for self-efficacy beliefs is through vicarious experience that is learning from observing other's behavior, as models. This experience becomes particularly powerful when people have little prior experience of the task involved and they see similarities in their own attributes and capabilities with the model.

Since Self efficacy constructs our feelings and thinking for the way we act it is essential to look into the way it works. In terms of thinking, a strong sense of competence facilitates cognitive processes and performance in a variety of settings, including quality of decision-making goal-setting and academic achievement [16]. Self efficacy beliefs also affect thought patterns and emotional reactions for example "People with high self efficacy beliefs indulge in activities in a relaxed peaceful manner" [16]. In terms of act, self-related cognition is a major ingredient of motivation [3]. Self efficacy will also determine effort and perseverance they will exert in pursuing their goals. Students with high self efficacy will engage in activities in which they feel competent. They will participate in these activities with deeper interest and will recover quickly from setbacks. Self-efficacy beliefs motivate students to learn through their self-regulatory processes for making choices in goal setting. Self-regulation is ability to change according to the conditions [28], [3] & [29].

Bandura [4], [3] sought to assess the level, generality, and strength of self efficacy across activities and contexts since self-efficacy levels can enhance or impede motivation. The level means that self efficacy relevant to the difficulty involved in performing a task. Generality means the ability to transfer self efficacy from one task to another. Strength of self efficacy means the amount of certainty about performing a task. Research shows that the ideal level of self-efficacy is slightly above one's own ability, When we have this balance between challenge and competence we can achieve flow, "which encourages people to tackle challenging tasks and gain valuable experience"[11]. These properties of self efficacy are reflected in our goal setting. Goal setting is hypothesized to be an important cognitive process affecting motivation [5], [17]. Students experience an initial sense of self-efficacy and make a commitment to attempt the goal. This motivation in turn is reflected in performance.

The review of the literature of past researches on gender difference in self efficacy suggested that difference in gender self-efficacy may be an important variable affecting academic motivation. This is so because self efficacy beliefs are multidimensional in form and differ on the basis of the domain of functioning. This signifies that Self efficacy varies with context and can be a predictor with in specific situations [5], [23]. For example efficacy beliefs about performing on a history test may differ from beliefs about a biology examination. Kumar [16] studied gender difference in self efficacy in intelligence tests. His results showed significant difference as girls scored higher than their male counterparts. Researches done in four academic domains Writing, Mathematics, Sciences and Technology for gender difference, shows male more effective in mathematics and technology and females are more confident in language and writing skills.

Further research by Huang, Chiungjung [15] also documented the same that females displayed higher self efficacy in language and Arts. Meanwhile, males exhibited higher self-efficacy than females in mathematics, computer, and social sciences. Findings of the study [15] showed that age was also a determinant self efficacy. The largest difference was observed in the age bracket of over 23 years. Difference in gender difference in academic in gender self-efficacy for mathematics emerged in late adolescence [15]

Hypotheses

H1. There is an association between self-efficacy and academic motivation.

H2. There is a gender difference in academic motivation and self efficacy of graduate students.

II. METHODOLOGY

A. Sample

The population for this research was undergraduates both genders from various Business Schools in Karachi enrolled in the summer session. The students belonged to families from educated Middle and Upper middle class and ranged between the age group of 18-26 years. The survey administered random sampling of 135 participants (83 male; 52 female). (See table 1)

B. Measures

Demographic Information Form included: age, gender, socio-economic status, parent's education, current and last year GPA was asked.

To assess the academic motivation a questionnaire developed by Vallerand's (1989) Achievement Motivational Scale (AMS) was used. This instrument was created after extensive research done in the realm of self-determination theory which is based on three subscales i.e. intrinsic, extrinsic and amotivation. The Scale assesses 7 types of constructs: Intrinsic motivation towards knowledge, towards accomplishments, and to experience stimulation. It also assesses external motivation as, introjected and identified regulations. The subscale to assess Amotivation there are 28 questions, 4 questions per subscale, assessed on a 7 point scale, which has been tested and generally accepted as a valid instrument that accurately examines motivation.

The General Self-Efficacy Scale (GSE) was administered to measure self-efficacy. This scale was created by Ralf Schwarzer, and Mattias Jerusalem, (1995) to construct general belief of perceived self efficacy by an adult including adolescents. The scale uses a comprehensive questionnaire consisting of ten items designed to construct perception of self efficacy. The GSE scale responses to the ten questions made on a 4- point scale 1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true. Reliability of the scale on Cronbach's Alpha: ranged from .76 to .90, with the majority in the high .80s.

C. Procedure

The data was collected by conducting a survey using a Questionnaire in the summer semester of 2012- 2013 academic

year. The Survey was conducted in the class room in small groups consisting of max 30 students. Before the scale was given to students, a consent form was given to get students consent. The whole procedure was undertaken with teacher's permission.

D. Statistical Plan

The collected data from the questionnaires was measured according to the scoring criteria of Academic Motivation Scale (Vallerand, 1992) and General Self-Efficacy Scale (Ralf Schwarzer, and Mattias Jerusalem, 1995) as described in the manual. The demographic data was analyzed by calculating mean and standard deviation. To assess first hypothesis i.e. there is an association between self-efficacy and academic motivation Pearson Product Moment Correlation was applied. For second hypothesis i.e. there is a gender difference in self-efficacy of graduate students t-test was applied through Statistical Package for Social Sciences, 17 version.

III. RESULTS

TABLE I
DEMOGRAPHIC INFORMATION OF PARTICIPANTS

Demographic Variables	Frequency	Percentage%
Age		
18-20 years	26	19.5%
21-23 years	97	71.6%
24 – 26 years	12	8.9%
Gender		
Male	83	61.5%
Female	52	38.5%
Semester		
Freshman	23	17.0%
Sophomore	57	42.2%
Junior	36	26.7%
Senior	19	14.1%
Family Income		
20,000-30,000 Rupees	5	3.7%
31,000-40,000 Rupees	3	2.3%
41,000-50,000 Rupees	27	20.0%
51, 000- 60,000 Rupees	18	13.3%
61,000 or above	82	60.7%
Parents Education		
Father's Education		
Intermediate	2	1.5%
Bachelors	21	15.5%
Masters	58	43.5%
	54	39.5%
Mother's Education		
Matriculation	26	19.3%
Intermediate	21	15.6%
Bachelors	55	41.0%
Masters	23	17.0%
Professional Degree	10	7.1%
GPA (Current)		
0-2.5	17	12.6%
2.6-3.67	113	83.7%
3.78-4	5	3.7%
GPA (Last Semester)		
0-2.5	28	20.7%
2.6-3.67	100	74.2%
3.78-4	7	5.1%

TABLE II
A CORRELATION BETWEEN SELF-EFFICACY AND ACADEMIC MOTIVATION

		Academic Motivation
Self Efficacy	Pearson Correlation	.199*
	Sig (2 tailed)	.020
	N	135

TABLE III
THE MEAN DIFFERENCE BETWEEN MALE AND FEMALE ON THE VARIABLE OF ACADEMIC MOTIVATION

	Gender	N	Mean	Std. Dev	t	df	Sig
Academic Motivation	Male	83	94.40	13.312	-.739	133	.599
	Female	52	96.12	12.859			

Note. According to the results Academic motivation is not statistically significant (t=-.739, df =133, p >.05).

TABLE IV
THE MEAN DIFFERENCE BETWEEN MALE AND FEMALE ON THE VARIABLE OF SELF-EFFICACY

	Gender	N	Mean	Std. Dev	t	df	Sig
Self-Efficacy	Male	83	31.25	4.474	.051	133	.793
	Female	52	31.21	4.742			

Note. According to the results self-efficacy is not statistically significant (t=.051, df =133, p >.05).

IV. DISCUSSION

Findings of the demographic data were as follows. Age bracket of the sample population was between 18-26. However 71.6% was between the age group of 21-23yrs. Students from sophomore and junior semesters amounted to 66.9% of the total population. This shows that the students were more than half way into their university degree and were familiar with the requirements of their course work. The demographic form asked monthly income in five groups ranging between Rs. 20000- and up to above Rs. 61000. This data placed 60.7% above the highest income bracket. As far as parent's education is concerned 80.2% fathers and 65% of the mothers were educated above Bachelors. Out of the total population gender ratio was 61.5% and 38.5% respectively as Males and Females.

Since the aim of this study was to investigate the relationship between self-efficacy and academic motivation among undergraduate students the scores on self-efficacy and on academic motivation were correlated and the result is presented in table 1 which shows the data for Hypothesis 1. The analysis of the data shows that there is a correlation between self efficacy and academic motivation. These results are consistent with previous researches which document that there is a highly significant positive relationship between the two variables [9]. Past researches also strongly relate self-efficacy to motivation to learn. These studies confirm

educator's notion that self belief of student's capabilities is a determinant of their motivation to achieve [28]. Another study confirms that students with a higher level of self-efficacy are more successful at accomplishing their tasks and academically display better achievements. Accordingly, self-efficacy beliefs are "crucial" when applied to the cognitive demands of higher education [26] As teachers, we can clearly relate student's perceived self efficacy in making their choice to undertake any academic task. This high self efficacy will result in high level of energy put in the task.

Results of the present study do not confirm the second hypothesis that there is a gender difference in the academic motivation and self efficacy. Although previous researches do show a significant difference in the level of self efficacy of respondents with respect to their gender, they also identify that these differences are contextual and vary within subjects of study and with age. Male students showed high level of self efficacy in the level of mastery experience, social persuasion and level of psychological state as compared to female students [9] study conducted in one of the university in Pakistan. Whereas gender differences in self-efficacy for self-regulated learning, [21] proposed that female students were generally more confident than male students. Albanian University results also showed gender difference in self efficacy [22]. According to this study males were recorded to have higher self efficacy in chosen subjects like mathematics science than their female counterparts. The analysis of the data indicated that students' level of self-efficacy is medium and no significant gender difference in the level of self-efficacy. Efficacy beliefs vary between individuals and will actually fluctuate within an individual for different tasks [26] It also varies in the same individual according to age [15]

Although the findings of previous researches are consistent with stereotyping of males in the society, the results of this study do not record significant difference in gender self efficacy and academic motivation. This can be attributed to the typical stereotyping female roles when social restrictions for females do not encourage them to indulge in outdoor activities. They are then confined to indoor intellectual activities which helps develop their self efficacy beliefs. It can also be a pointer towards social change for the society in Pakistan where educated females in the upper middle class are now being included in family decision making and are being given freedom of choice especially in the age bracket of the sample. This fact is class specific and the data collected through the demographic form shows that the population sample for the survey belongs to upper middle class with educated parents; the findings confirm that some level of social change is in the offing.

The study did experience some limitations. The first was that the survey was conducted in the summer session when the students enrolments are less than spring and fall sessions. Therefore the sample size was small. Second limitation was from the fact that the population sample for the survey was from business schools and only in one city of Karachi. Despite limitations, the findings of the study provide a first step towards the identification of the relationship between self efficacy and academic motivation.

Future research can work with enlarged sample size by including other disciplines and other universities. It can also be conducted in other cities of Pakistan. Self-efficacy for specific subjects can also be explored. Future researches might address the same issues, but with improved measures and a larger representative population of students.

Implication of the study can lead to teachers being trained towards adopting teaching techniques to improve student's self efficacy for example collaborative teaching, peer learning with female inclusive and subject specific techniques.

V.CONCLUSION

Self-efficacy beliefs are at the core of social cognitive theory and therefore touch virtually every aspect of human lives. Past two decades of research in the academic dimension has established that self efficacy is the predictor and determinant of students' motivation and learning. This study provides empirical evidence that there is a definite relation between self efficacy and academic motivation. However the results of this study did not confirm the second hypothesis derived from the earlier researches that there is significant difference in academic motivation and self efficacy in the gender domain where it differs in subjects and varies with age. Difference in gender self efficacy for mathematics emerged in late adolescence (Huang, C. 2013) and the largest difference was observed in the age bracket of over 23 years. The present study collected data of the same age with majority being just under 23 years and showed no gender difference in self-efficacy in the aggregate business studies.

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