ACADEMIC SELF-EFFICACY, SELF-REGULATED LEARNING AND ACADEMIC ACHIEVEMENT OF HIGHER SECONDARY STUDENTS IN BANGLADESH

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ABSTRACT

The present study aimed at investigating the role of academic self-efficacy and self-regulated learning on Bangladeshi Higher Secondary students' academic achievement, as there was a dearth of research on such issues in the context of the study population. The data were collected from a sample of 230 higher secondary school students utilizing the convenience sampling technique. Results suggested significant mean differences in academic self-efficacy, self-regulated learning, and academic achievement by gender and residence areas. Academic self-efficacy was the strongest predictor of academic achievement that partially mediated by self-regulated learning. Results also suggested that gender moderated this mediational relationship among study variables. The present study findings would help students, teachers, guardians, and policy makers to ensure quality education in this academic layer.

Keywords*: Academic Self-efficacy, Self-regulated Learning and Academic Achievement

INTRODUCTION

Every student has the ambition to reach a particular point of the goal. It is strongly related with their academic beliefs, where academic beliefs define students' level of performance. Students who have higher academic performance in the past will do better in future also. In recent years the student evaluation system is based on their GPA that means a good GPA increase one's academic value. Our country's most popular daily newspaper "The Daily Prothom-Alo" (6th may 2018) reported that GPA 5.00 in SSC equivalent exams was increasing in number than the previous years. That means there is a belief that students in our culture better GPA will provide a better opportunity for future achievement.

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A student who got GPA 5.00 in past exam but does not have high academic self-efficacy and strong self-regulated thought will not be able to do better in future academic achievement-related task. Higher academic self-efficacy and stronger self-regulated thought encourage students to overcome future challenges and help to define any complex problem easily. Lower academic self-efficacy and lower self-regulated thought do not provide optimal encouragement to achieve excellence and face future challenges and do not help to formulate a better goal. Lower self-efficacy will not help students do better in their future performance, instead, high self-efficacy increases students' confidence about facing future challenges successfully and helps to solve complex issues in their lives (Witt Rose 2003).

Self-regulated learning is characterized as the ability to manage one's thoughts, feelings, and behaviors to achieve one's objectives. Self-regulated learning requires students to independently plan, maintain, and assess their learning. It facilitates students' learning capabilities and helps them to reach the apex of the goal by strengthening their learning capabilities. Most of the time, students face several challenges to reach their goal successfully. If a student can effectively monitor his/her learning process, he will be able to make a desirable and achievable goal for him. Self-regulated learning is strongly controlled by a set of factors that determine its development and sustainability. If a student properly develops his/her self-regulation towards learning, he/she would become more confident about own academic performances (Pintrich and Zusho 2002).

Academic achievement refers to students' performance towards their academic tasks. It is a measurement technique through which a student's ability is measured according to his/her academic performance.Educational psychologists and other educational researchers are interested in academic achievement and its determinants for years.

Self-efficacy is an important predictor of academic learning (Pintrich, Smith, Garcia, and McKeachie 1991). Students having higher self-efficacy are more likely to utilized cognitive and meta-cognitive strategies and remain engaged more thoughtfully in these tasks compared students having lower self-efficacy (Schunk 1985; Zimmerman and Martinez-Pons 1990). Valle *et al.,* (2008) studied undergraduates from Northern Spain and suggested a significant positive relationship between self-regulated learning and academic achievement. Ahmed (2008) also found significant correlations between self-efficacy and self-regulation learning strategies among the undergraduates.

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There are several factors that have a greater influence on students' performance. Our education system is developing day by day. It becomes more challenging to the students to cope with these changes. If a student properly acquires high academic self-efficacy and maintains higher levels of self-regulation, he will be able to easily cope with these changes. It is a multi-dimensional task that considers the learners' cognition, emotion, behavior, and surroundings (Cheng 2011). However, there has been very little research on how students' self-regulation techniques and academic self-efficacy are linked to their academic performance at the higher secondary level. The situation in Bangladesh is even very surprising as the researcher hardly comes across any local work on higher secondary level students' self-regulation learning strategy and academic self-efficacy contribution to their academic performance. This research would be helpful, especially those interested in clinical psychology, educational psychology, and school psychology.

The main objective of this study was to investigate the relations among academic self-efficacy, self-regulated learning, and academic achievement of Bangladeshi higher secondary students. Other objectives were – i) To investigate the mean differences in academic self-efficacy and self-regulated learning by gender; ii) To investigate the mean differences in academic self-efficacy and self-regulated learning according to place of residences (Urban and Rural); iii) To investigate the mean differences in academic self-efficacy and self-regulated learning in academic groups (science, business studies and humanities);and iv) To investigate the predictability of gender, academic self-efficacy, self-regulated learning on academic achievement.

MATERIALS AND METHODS

Participants
The population of the present study was the higher secondary level students of Bangladesh. A sample 230 higher secondary students was selected through convenience sampling techniques from 4 colleges (two from Chattogram division and two from Dhaka division). Among these participants, 23 participants, response were excluded from analysis because of identified as outlier and missing response. Respondents' *mean age* was 17.39 years with *standard deviation* .77. Among the 207 respondents, 106 (51.2%) were male and rest 101 (48.8%) were female, and 80 (38.7%) from rural colleges and 127 (61.3%) from urban colleges. Among them, 108 (52.2%) were from science, 58 (28.0%) were from business studies and 41 (19.8%) were from humanities.

Measures
Demographic and personal information blank: Demographic and personal information form was used to collect respondents' personal and demographic information such as- gender, age, siblings, birth-order and socio-economic status.

Academic self-efficacy scale
Academic Self-efficacy Scale (Owen and Froman 1988) was utilized to collect information about participants' academic self-efficacy. This scale was adopted from the study of Rahman *et al.,* (2015). This adapted scale consists of 32 self-reported items of 5-point Likert-type scale (ranging from 1 [very little] to 5 [quite a lot]). The scale represents "how much confidence do you have about performing each behavior listed below". A higher score indicates high academic self-efficacy. Owen and Froman (1998) reported good internal consistency reliabilities (α=.90 to .92) of the scale. *Internal consistency* reliabilities of the Bangla version of the ASE as reported Rahman *et al.,* (2015) were ranged from .83 to .91. The *Cronbach's alpha* of this measure in the present study was found .908.

Self-regulated learning scale
The Bangla (Ahmed Iet al., 2014) of the Meta-cognitive Self-regulated Learning Scale (Pintrich *et al.*, 1991), part of the 'Motivated Strategies for Learning Questionnaire' (MSLQ; Pintrich *et al.*, 1991) was used to collect information about self-regulated learning. This is a 12-item measure to assess students' self-regulated learning strategy. Participants responded in this scale utilizing a 7-point Likert-type scale, ranging from 1 (not at all true to me) to 7 (very true to me). It is a reliable and valid instrument for measuring students' self-regulated learning strategies (Pintrich *et al.*, 1991; Ahmed *et al.*, 2014). In the present study, one item was excluded due to low item-total correlation. The *Cronbach's alpha* of this measure in the present study was found .62.

Design
Design of the present study was cross-sectional survey design.

Procedure
For collecting data, above mentioned measures were administered upon the students of 4 colleges. The principal of each college was communicated about the procedure and the purpose of the study, and a written permission for data collectection was received. Firstly, the author entered into class and selected some students following the convenience sampling technique. Respondents were ensured that their data would only be used for research purposes, and all personal information would be kept secured.

For collecting relevant data from the students under study, the scales were administered to them individually. Along with written instruction within the questionnaire, the students were instructed verbally to make it sure that they had understood their task well. Then there, they were requested to answer the questions sincerely and honestly. All possible clarifications were made for any problems faced by the respondents while answering the questions. After accomplishing their task, the answered questionnaire were collected from them, and they were thanked for their sincere co-operation.

RESULTS AND DISCUSSIONS

The data were placed to *independent sample t-test* to estimate the mean differences by their gender and place of residence in academic self-efficacy, self-regulated learning and academic achievement. Results are presented in Table 1 and Table 2.

TABLE 1: MEAN DIFFERENCES IN ACADEMIC SELF-EFFICACY, SELF-REGULATED LEARNING AND ACADEMIC ACHIEVEMENT BY RESPONDENT'S GENDER

Variable	Male			Female			*df*	*t*	95% *confidence interval*		*d*
	n	*M*	*SD*	*n*	*M*	*SD*			Lower	Upper	
ASE	106	118.05	18.6	101	117.34	18.26	205	.27	-4.39	5.82	.04
SRL	106	54.53	8.30	101	58.07	6.93	205	-3.32**	-5.64	-1.44	.46
AA	106	4.52	.38	101	4.65	.37	205	-2.37*	-.23	-.02	.35

*p<.05, **p<.01
ASE = academic self-efficacy, SRL = self-regulated learning, AA= academic achievement

Data presented in Table 1 clealry shows that female students have higher self-regulated strategy (*t*-value = -3.32, *p*<.01, 95% CI [-5.64, -1.44], effect size = .46) with higher academic achievement scores (*t*-value = -2.37, *p*<.05, 95% CI [-.23, -.02], effect size = .35) compared to male students. These findings are consistent with the past studies (Zimmerman and Martinez-Pons 1990; Ergul 2004; Khatib 2012; Caprara *et al*., 2008). Females are more consistent in academic performance than their male counterparts because they use more time in learning and they are more motivated by family members than male students.

TABLE 2: MEAN DIFFERENCES IN ACADEMIC SELF-EFFICACY (ASE), SELF-REGULATED LEARNING (SRL) AND ACADEMIC ACHIEVEMENT (AA) BY PLACE OF RESIDENCE OF STUDENTS

Variable	Rural			Urban			df	t		95% *confidence interval*		d
	n	M	SD	n	M	SD				Lower	Upper	
ASE	80	112.43	17.45	127	121.02	18.56	205	-3.32*	-13.71	-3.49		-.47
SRL	80	54.16	7.08	127	57.57	8.04	205	-3.11*	-5.57	-1.25		-.44
AA	80	4.44	.36	127	4.68	.36	205	-4.78*	-.35	-.14		-.66

*$p<.01$

Table 2 clearly shows that urban students had higher self-efficacy (*t*-value = -3.32, *p*<.01, 95% CI [-13.71, -3.49], effect size = .47) and academic achievement scores (*t*-value = -4.78, *p*<.01, 95% CI [-.35, -.14], effect size = .66), and utilized more self-regulated learning strategy (*t*-value = -3.11, *p*<.01, 95% CI [-5.57, -1.25], effect size = .44) over the rural students. Probably, it might occur because of lack of facility and qualitative education system in rural areas.

TABLE 3: COEFFICIENTS FOR THE CONDITIONAL PROCESS MODEL

Antecedent	Consequent							
	Self-regulated Leaning (M)				**Academic Achievement (Y)**			
	Coefficient	**SE**	**ß**	**p**	**Coefficient**	**SE**	**ß**	**p**
ASE (X)	.232	.025	.547	.000	.006	.001	.286	.000
SRL (M)					.023	.003	.486	.000
Gender (V)					-.507	.258	-.671	.05
M*V					.010	.005	.743	.04
Constant	28.957	2.955		.000	2.563	.164		.000
	R^2=.300, F (1, 204)=87.507, $p<.001$, f^2=.43				R^2=.600, F (4, 201)=75.234, $p<.001$,f^2= 1.5			

Table 3 shows that academic self-efficacy, self-regulated learning, gender and interaction between self-regulated learning and gender explained 60% total variance of academic achievement (AA) (R^2 = .600, $F_{(4, 201)}$ = 75.234, $p<.001$, f^2 = 1.5). These findings were consistent with some past studies (Loo and Choy 2013; Hassan *et al*., 2015; Jinks and Morgan 1999; Pajares and Schunk 2001; Zimmerman *et al*., 1992). Self-efficacy had also a positive impact on students' self-regulated learning. If students' academic self-efficacy beliefs were high, they would be able to do better academic performance. Table 3 also shows both

academic self-efficacy ($B = .006$, $SE = .001$, $ß = .286$, $p<.001$) and self-regulated learning ($B = .023$, $SE = .003$, $ß = .486$, $p<.001$) as a strong predictor of higher secondary students' academic achievement. Here, self-regulated learning partially mediated the association between academic self-efficacy and academic achievement and gender moderated the association between self-regulated learning and academic achievement. These findings were consistent with past studies (Schunk and Pajares 2002; Valle *et al*., 2008; Ergul 2004). Figure 1 depicts this moderated mediational association among variables.
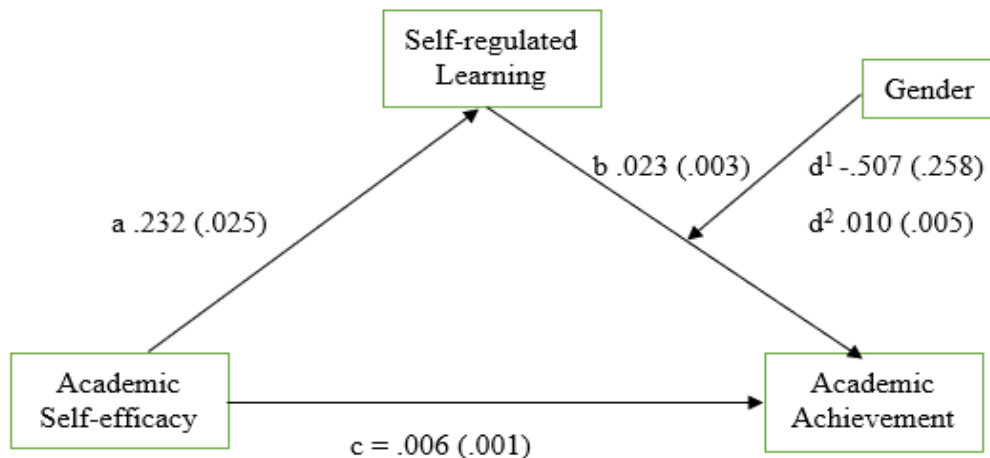

FIGURE 1: DIRECTION OF INFLUENCE OF ACADEMIC SELF-EFFICACY, SELF-REGULATED LEARNING AND GENDER ON ACADEMIC ACHIEVEMENT.

LIMITATIONS

This study utilized the self—reported data that could be subjected to biases like social desirability bias. Moreover, the sample size was also not relatively large to come into a conclusion with 95% precision. Further studies would be undertaken utilizing a large and employing the experimental/ quasi-experimental method.

CONCLUSION

The present study provided a new insight regarding the important factors for the academic achievement of higher secondary students. Both students' academic self-efficacy beliefs and utilization of the self-regulated learning strategy

contributed more than 50% variability of the academic achievement. The present study findings would be helpful for academicians, teachers, parents, students, and policymakers. They could provide importance on improving the academic self-efficacy beliefs and designs self-regulated learning strategies for students.

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