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# **ROLE OF MOTIVATIONAL AND SELF-REGULATORY PROCESSES ON ACADEMIC AND SOCIAL FUNCTIONING OF LOWER SECONDARY SCHOOL STUDENTS**

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**Abstract:** In a knowledge-based economy, an effective learner takes greater self-direction, independence and initiative in the learning process and, thus is required to draw on personal motivational resources to manage and perform. Such strategic learning is particularly critical at the secondary school level when the syllabi are more cognitively demanding and regulation of one's behaviour towards effective learning is increasingly called upon. This paper therefore seeks to examine the relationships between prior achievement, academic and social self-regulation, and students' self-beliefs from the survey findings of 540 lower secondary school students in Singapore.

## **Introduction**

To adapt to this age of information and technological advances, students will have to assume more self-direction and initiative in learning. This process not only allows the individual to draw on personal motivational resources to manage and perform, but also reinstates one's control over learning and life processes, thereby reinforcing antecedents of personal agency. As such, when learning processes are aimed at strengthening self-efficacy, improving self-concept and helping students move toward a more internal locus of control, a better platform is provided for individuals to make lasting changes in their beliefs about learning. This ability to regulate one's learning and motivate oneself towards desired goals is particularly critical at the secondary school level where the syllabi are evolving towards a more cognitively demanding context.

Self-regulatory processes have primarily been linked to the study of academic achievement. Some research has indicated that such processes do not appear to influence academic performance alone (Patrick, 1997). Social competence, which involves skills in social goal setting, problem-solving capabilities, feelings of social support and trust and ability to exercise self-control in the face of social pressure, is found to require the execution of self-regulatory skills, thereby influencing academic outcomes (Wentzel, Weinberger, Ford & Feldman, 1990). Since both academic and social learning share common self-regulatory features, it would appear that promoting the development of either aspect of behaviour should have an impact on the other behaviour domain.

Research has also shown that self-regulation can be effective in influencing educational outcomes if an individual has positive beliefs about his ability to negotiate and achieve optimal learning. Self-efficacy has been found to influence students' motivation in regulating cognitive and social processes. Students high in self efficacy are better able to

regulate their own learning activities, master difficult learning tasks and influence their academic motivation, interest and achievement performance. Such positive self-beliefs also impact on one's ability to regulate affect in social relations and vulnerability to peer pressure (Bandura, Barbaranelli, Caprara & Pastorelli, 1996).

A small number of cross-cultural studies have suggested that the relationship between efficacy beliefs and academic achievement is not a straightforward one, suggesting that such beliefs may have greater predictive power in individualistic rather than collective societies, such as many Asian countries. Markus and Kitayama (1991), for instance, have suggested that there are different cultural determinants of achievement in Western and Asian societies. In Asian societies, academic achievement is a way of honouring the family and is often considered the filial duty of a good son or daughter. Making one's family proud, saving face (Salili, 1995), and avoiding shame or unhappy consequences may be a greater incentive for individual success than a personal sense of achievement. Eaton & Dembo (1997) demonstrated that fear of failure rather than efficacy beliefs elicits a stronger motivation to succeed academically in a group of Asian-American students, whereas Anglo-American students were motivated more by their level of self-efficacy. Similarly, in terms of social behaviour, the Asian emphasis is to conform and "fit in" with others and on the importance of harmonious interdependence with them (Markus & Kitayama, 1991). Affiliation-based motives, characterised by being collectivistic and socially oriented in nature, may offer a more useful explanation for Asian students' academic and social competence.

This paper, therefore, sets out to examine the role of self-processes on the self-regulatory, academic and social functioning of lower secondary school students. The findings are based on a correlational study, the main aim of which was to validate questions on the motivational, academic, social and self-regulatory variables, in order to ensure cross-cultural applicability.

### **Instrument**

A survey questionnaire with the following five sub-scales was administered to a sample of 540 secondary one and two students:

1) *Academic efficacy (AE)*. In the context of this study, students were asked to judge their capability to organise or exercise control over their performance, that is, efficacy in schoolwork. Five questions from the Motivated Strategies for Learning Questionnaire (MSLQ) Post-secondary and Secondary versions (Pintrich & De Groot, 1990) were selected for this sub-scale. The Cronbach alpha internal reliability coefficient obtained for this sub-scale was 0.71.

2) *Academic self-regulation (ASR)* was measured by the degree to which various cognitive and metacognitive and self-regulatory learning strategies were adopted by students in negotiating their schoolwork. This sub-scale was assessed with the post-secondary version of the MSLQ constructed by Pintrich, Smith, Garcia and McKeachie (1991), and secondary version (Pintrich & De Groot, 1990). The twelve learning strategy

items selected were classified into three categories: cognitive, metacognitive and resource management strategies. The Cronbach alpha obtained was 0.78.

3) *Social efficacy (SE)* measured how well the student assesses his ability to manage interpersonal relationships and responds to group pressure in specific situations. Bandura's Multidimensional Efficacy Scale (Bandura, 1990) was adapted for use in this study. The nine questions yielded a Cronbach alpha of 0.71.

4) *Social self-regulation (SR)* tested the ability to monitor and regulate one's social interactions. The items measured four distinct behavioural domains: suppression of aggression, impulse control, consideration of others and responsibility (Weinberger, 1991). The Cronbach alpha obtained was 0.71 for the eleven-item sub-scale.

5) *Affiliation-based motivation (AM)*. Self-perceptions of family influences on academic and social behaviours were measured with a sub-scale constructed by the first author. The first aspect of the sub-scale measured the fear of academic failure that would produce parental disapproval or negative consequences for future employment. The other aspect measured social compliance, which was seen as behavioural adherence to social rules and role expectations for fear of bringing shame and disgrace to the family. The seven-item sub-scale yielded a Cronbach alpha of 0.78.

The pencil and paper self-reported questionnaire used a 4-item Likert scale, with a score of 1 being Not True of Me to 4 being Very True of Me.

## Method

### Sample

540 Secondary One and Two students attending the Express, Normal Academic and Normal Technical streams, from four secondary schools were surveyed. Of the 540 students, 255 were boys and 285 were girls. The schools were distributed in the central, eastern and western regions of the island. The first author had been school counsellor in two of these schools.

### Procedure

The questionnaire was administered by the first author during school hours and where necessary, assisted by the form teacher of the class. All testing occurred in September - October 1999.

## Results

Table 1 presents the correlations between the various variables.

*(1) Is there a relationship between social and academic self-regulatory processes?*

There is a significant positive correlation between academic and social self-regulation at  $r = 0.41$  ( $p < 0.01$ ).

*(2) Are the two self-regulatory processes related to the mediating variables of self-efficacy, and/or affiliation-based motives?*

Correlations between academic and social self-regulation and self-beliefs were also positive and significant, between  $r = 0.10$  (academic efficacy and social self-regulation) and  $r = 0.42$  (social self-regulation and affiliation-based motivation). Academic self-regulation was positively correlated with affiliation-based motivation ( $r = 0.41$ ), social efficacy ( $r = 0.38$ ) and academic efficacy ( $r = 0.34$ ). Social self-regulation was positively correlated with affiliation-based motivation ( $r = 0.42$ ), social efficacy ( $r = 0.34$ ) and academic efficacy ( $r = 0.10$ ). The correlation between social self-regulation and academic efficacy was low, being the only correlation to reach significance at the 0.05 level. Between the two self-belief systems, academic efficacy appeared to achieve the most modest correlations with both academic and social self-regulatory abilities and the other self-belief system (i.e. affiliation-based motivation).

**Table 1**  
**Correlations between Academic and Social Regulatory Abilities and Self-beliefs**

	<b>AE</b> (5) #	<b>ASR</b> (12)	<b>SE</b> (9)	<b>SR</b> (11)	<b>AM</b> (7)
Academic Efficacy (AE)	1.000				
Academic S-R(ASR)	.34	1.000			
Social Efficacy(SE)	.22	.38	1.000		
Social Regulation (SR)	.10*	.41	.34	1.000	
Affiliation Motives(AM)	.23	.41	.34	.42	1.000

N=540.

\* Correlation significant at the 0.05 level (2-tailed)

All other correlations significant at the 0.01 level (2-tailed)

# Number of items on sub-scale.

*(3) Are there differences in these motivational and self-regulatory processes across different ability groups?*

The means obtained for self-beliefs, and academic and social self-regulatory abilities were above average to high for all ability groups (Table 2). One-way ANOVA was used to assess for differences in the self-beliefs and self-regulatory abilities of the students attending the Express and both Normal streams.

### **Academic Efficacy**

Of the three streams, students in the Express stream had the lowest efficacy means while those attending Normal Technical obtained the highest scores. Significant differences in self-efficacy were noted between students in these two streams.

### Social Efficacy

Students in the Express stream had the highest mean scores while those attending Normal Technical had the lowest. Significant differences were noted between the Express stream and the other two ability streams. Further analysis of the sub-scale revealed that Express stream students exercised greater regulatory ability in the self-control ( $8_E=10.24$ ,  $8_A=8.71$ ,  $8_{NT}=8.40$ ,  $8_{total}=9.67$ ,  $SD=2.26$ ,  $F$  value = 36.74,  $p < 0.01$ ) and self-assertiveness ( $8_E=6.35$ ,  $8_{NA}=6.20$ ,  $8_{NT}=6.55$ ,  $8_{total} = 6.23$ ,  $SD = 1.32$ ,  $F$  value = 4.99,  $p < 0.01$ ) aspects of the sub-scale. There was no significant difference between streams when it came to interpersonal relationships.

**Table 2:**

**Means, Standard Deviations and One-way ANOVAS of Academic and Social Regulatory Abilities and Self-beliefs in the three academic streams.**

<b>STREAM</b>	<b>AE</b>	<b>ASR</b>	<b>SE</b>	<b>SR</b>	<b>AM</b>
<b>EXPRESS</b>					
<b>(N=354)</b>					
<i>Mean</i>	12.72	36.50	29.11	32.34	23.09
<i>SD</i>	2.56	5.02	4.15	4.78	3.45
<b>NORMAL ACAD.</b>					
<b>(N=118)</b>					
<i>Mean</i>	12.97	36.50	27.08	31.70	22.69
<i>SD</i>	2.05	4.39	3.96	4.90	3.90
<b>NORMAL TECH.</b>					
<b>(N=68)</b>					
<i>Mean</i>	13.68	36.72	26.00	29.84	21.99
<i>SD</i>	2.10	5.01	3.46	4.76	3.83
<b>TOTAL</b>					
<b>(N=540)</b>					
<i>Mean</i>	12.90	36.53	28.28	31.89	22.86
<i>SD</i>	2.42	4.88	4.20	4.86	3.61
<b>F value</b>	<b>4.56*</b>	<b>0.06</b>	<b>23.70*</b>	<b>7.87*</b>	<b>2.83</b>

**df between groups = 2, within groups = 537. \*p < .01 level (2-tailed)**

### Social Self-Regulation

Those attending the Express stream obtained the highest mean scores. Students in the Normal Technical had the lowest mean scores in their social self-regulatory ability. A statistical significance between them and those attending the Express stream and the Normal Academic stream was noted. Further analysis suggested that there was a positive and significant difference in the Responsibility component between the Normal Technical and the other two streams ( $\bar{X}_{NT}=11.44$ ,  $\bar{X}_E=12.97$ ,  $\bar{X}_A=12.86$ ,  $\bar{X}_{total}=12.76$ ,  $SD=2.41$ ,  $F$  value = 12.15,  $p < 0.01$ ). The Express stream obtained the highest means in this aspect of social regulatory behaviour.

### **Academic Self-Regulation And Affiliation-Based Motivation**

There were no significant differences between the streams in both the academic self-regulation and affiliation-based motivation aspects of the survey.

However, closer examination of the two components measured within the affiliation-based motivation sub-scale - academic fear of failure and social compliance - indicated that the Express stream had a higher academic fear of failure than those attending the Normal Technical ( $\bar{X}_E = 13.63$ ,  $\bar{X}_{NT} = 12.90$ ,  $\bar{X}_{total} = 13.47$ ,  $SD=2.16$ ,  $F$  value = 3.84,  $p < 0.05$ ).

*(4) Are efficacy beliefs or affiliation-based motives more important motivational processes for Singapore students in pursuing their academic and social goals?*

Table 2 showed that students from higher ability classes expressed lower academic efficacy beliefs than those attending lower ability classes. Instead, these students exhibited higher academic fear of failure and social efficacy to conduct relationships effectively, as compared to the other two Normal streams.

### **Discussion and Implications**

The results of this study highlight the association between academic and social self-regulatory processes, and students' beliefs about their academic and social competence. The ability to monitor and regulate one's social interactions appears to share similarities with the self-regulation of academic work, suggesting "an underlying process that is shared for an individual's self-regulation of academic and social engagement" (Patrick, 1997, p. 209). Educators should, therefore, pay closer attention to students' social development and appreciate the dual function of the self-regulatory process in facilitating learning and successful engagement in the classroom.

The study also provides further support to motivational research about the mediating role of students' self-beliefs on their academic performance and social competence. The major findings suggest an association between self-regulatory ability, self-beliefs and prior achievement. Students in the higher ability classes express more positive social efficacy beliefs, have a higher sense of affiliation-based motivation, and possess more positive social self-regulatory capacity to handle social situations. The significant association between academic efficacy in schoolwork and social efficacy to be effective with peers further underlines the importance for educators to regard students' social relationships more seriously, emphasizing that school is more than being about academic

achievement (Patrick, 1997; Wentzel, Weinberger, Ford & Feldman, 1990). The findings indicated that such self-perceptions are associated with both the social and academic lives of students. An implication arising from this finding to the low ability classroom is that teachers may need to adopt instructional and management practices that encourage and support the students' perceived social efficacy as a means to enhance self-regulatory capability and optimize learning outcomes. These practices could include encouraging cooperation and participation from all students, and providing opportunities for positive interactions through teamwork.

Although the academic self-regulatory ability of the Singapore students is well above average scores, there is no significant difference in the usage of different cognitive and metacognitive strategies between students from the various streams. This did not provide confirmatory evidence for Chang and Smith's (1999) study with secondary and junior college students, which found higher achieving students to exercise greater self-regulation in learning. However, both local findings found agreement with high level of engagement in self-regulated learning amongst Singapore secondary students. The preliminary findings therefore fail to support current research evidence that suggest a close relation between academic achievement and differential usage of self-regulatory strategies with different ability groups.

Contrary to overseas research that suggests an association between academic efficacy and academic performance, the preliminary finding in the present study indicates lower efficacy levels amongst higher achieving students. Instead, it lends support to Eaton and Dembo's (1997) argument that the fear of academic failure may be a more powerful motivator for these students than efficacy. Similarly, Smith & Chang's study (1999) with Australian and Singaporean engineering and teacher tertiary education students has found Singaporean engineering students to have lower efficacy beliefs than the other three groups of students. It is clearly evident that motivational beliefs elicit different responses in different cultural contexts. An awareness of this inhibitory motivational force in academic achievement should be helpful to educators in considering appropriate motivational strategies to counter learning blocks.

### **Conclusion**

This research showed promising results on the relationships between academic and social processes in Secondary One and Two students' learning. In particular, it has highlighted that, besides advocating direct strategies for enhancing academic performance and achievement motivation, teacher structuring of related social processes in the school and classroom could further support such outcomes.

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