

## SELF-REGULATED LEARNING STRATEGIES IN RELATION TO ACADEMIC RESILIENCE

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### Abstract

*The purpose of the present study was to examine the relationship between self-regulated learning strategies and academic resilience of students. The sample comprised of 162 adolescents from various public schools of Patiala, Ludhiana (Punjab) and Chandigarh. Motivated Strategies for Learning Questionnaire (MSLQ, Pintrich et al., 1991) and Motivation and Engagement High School Scale (Martin, 2012) were used to assess the relationship between dimensions of learning strategies (critical thinking, meta-cognitive self-regulation and peer learning) and academic resilience (self-belief, persistence, anxiety and uncertain control) respectively. It was hypothesized that dimensions of learning strategies would positively correlate with self-belief and persistence, dimensions of academic resilience and negatively correlate with anxiety and uncertain control, dimensions of academic resilience respectively. Pearson product moment correlation coefficient was used to analyze the data. Implications of the findings have been discussed.*

**Keywords:** *Self-regulated learning strategies, Academic Resilience, Adolescents.*

Students, today, are confronted with host of academic challenges that they have to overcome to succeed. Being persistent in the face of these challenges is what defines the psychological construct of resilience (Connor & Davidson, 2003). Empirically, researches by Luthar (1991), Masten et al. (1999), Meece et al. (2006) point towards personality, gender, parenting, school as being significant determinants of academic resilience. Despite strong theoretical associations of self-regulated learning strategies with various academic outcomes, little research has been conducted on exploring linkages between self-regulated learning strategies with academic resilience. Self-regulated learning strategies have been proved (Pintrich & Garcia, 1991, Zimmerman, 2002) to be significantly correlated with academic outcomes. Keeping in mind, the significance of self-regulated learning strategies in the domain of academics, it becomes essential to explore as to how do this factor is related to academic resilience.

### Academic Resilience

Resilience is defined as the ability to be competent despite threatening situations and refers to the ability to bounce back from psychological harm (Civita, 2000). In the context of academics, resilience is the ability of a student to deal effectively with academic setbacks, stress and study pressure (Finn & Rock, 1997). Academically resilient students are those who manage to sustain high levels of academic motivation and performance despite stressful events that put them at risk of school failure (Martin & Marsh, 2009). Resilient students are purported to have social competence, problem-solving skills, mastery, autonomy and a sense of purpose (Masten, Best, Garmezy, 1990, Rutter, 1987). In terms of Wang, Haertel, & Walberg (1994),

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“Academic resilience is the heightened likelihood of success in school and other life accomplishments despite environmental adversities brought about by early traits, conditions, and experiences.”

Martin (2001,2002,2003a,2003b) has worked extensively in the area of academic resilience. He has developed a model of motivation - the Student Motivation Wheel that reflects thoughts, feelings and behaviors underpinning academic engagement at school. Martin has talked about four components that measure academic resilience. This framework of academic resilience was used in the present study. The four components of academic resilience as described by Martin (2003a, 2003b) are as follows:

**Self-Belief-** It is the belief and confidence of students in their ability to do well in their academic assignments, to face the challenging situations and to perform to the best of their ability Martin (2003a).

**Persistence-** According to Bandura (1986), persistence is characterised by a refusal to give up when faced with difficulty.

**Anxiety-** Anxiety is a normal response of a student to stressful situations such as examination fear, speaking in front of group, entering into new social scenarios.

**Perceived Control-** In academic context, perceived control refers to the student's perception of control over their academic performance (Menec et al., 1994).

Academic Resilience goes a long way in enabling a student to face the obstacles in the domain of academics. It also equips a student to cope effectively with academic setbacks, stress and study pressure. A number of factors have been reported (Luthar, 1991, Alpert & Haber, 1960, O'Brien, 1991) to be significantly correlated with academic resilience. The present study assessed the role of self-regulated learning strategies in academic resilience.

### **Self-regulated Learning**

Self-regulated learning is an important aspect of student learning and academic performance in the classroom context (Corno & Rohrkemper, 1985). Learners use variety of learning strategies that helps in learning and applying the content. So, Self-regulated learning refers to the process of learners actively taking control and responsibility for their learning. Students, who use self-regulated learning, have a clear idea of how and why a specific self-regulatory strategy should be used. Pintrich (2000) defined, " self-regulated learning as an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate and control their cognition, motivation and behavior, guided and constrained by their goals and the contextual features in the environment."

### **Literature Survey**

Previous researches Bandura, 1986, Pintrich, 2005, Rutter, 1987, Schunk, 1985, Zimmerman, 1997 have reported an association between academic resilience and various components of self-regulated learning strategies. Momeni & Karimi (2010) found a positive relationship between the learning strategies used by resilient individuals and non-resilient individuals in a research on 317 students from Razi University and found the degree of resilience is higher in successful students as compared to unsuccessful students, which also implies that self-regulated learning strategies are more used by resilient students than non-resilient ones (Momeni &

Karimi, 2010). Thus, students who are resilient and believe in their ability to complete a task are more inclined to apply self-regulated learning strategies to improve and enhance their learning (Bandura,1986, Bandura & Rosenthal, 1978, Schunk, 1985, Zimmerman,1997).

### **Need of the Study**

In today's highly competitive era, it is essential that students are well equipped to deal with pressures and demands related to studies. In other words, to be able to cope with adverse situations in academics, students must be academically resilient. Because academic resilience has a critical role in academic achievement, it becomes essential to explore the correlates of academic resilience so that interventions in the domain of academics can be made more effective. There are researches that have explored significant role of self-regulated learning strategies in determining anxiety related to academic performance (Alpert & Haber, 1960, O'Brien, 1991), control beliefs of students (Lopez & Little, 1996) etc. However, not much researches have been conducted on role of self-regulated learning strategies in academic resilience. Self-regulated learning strategies are associated with better adaptation in the face of stressful situations. The regulation of positive emotions has been linked to resilience to such extent that they counteract negative emotional experiences and enhance positive thoughts and actions. Students with better self-regulatory abilities, have greater control on their emotions, thoughts and behaviour during stressful situations and experience greater resilience, than their counterparts with poorer self-regulation. This shows that self-regulated learning strategies are indeed a crucial predictor of academic success. Thus, the present study aimed at assessing the relationship of self-regulated learning strategies and academic resilience.

### **Objectives**

To assess the relationship between Critical thinking, Meta-cognitive self-regulation and Peer learning, dimensions of self-regulated learning strategies with academic resilience (i.e. self-belief, persistence, anxiety and uncertain control).

**Hypothesis:** Critical thinking, Meta-cognitive self-regulation and Peer learning, dimensions of self-regulated learning strategies would positively correlate with self-belief and persistence dimensions of academic resilience. Critical thinking, Meta-cognitive self-regulation and Peer learning, dimensions of self-regulated learning strategies would negatively correlate with uncertain control and anxiety dimensions of academic resilience.

**Method:** Design: The present study aimed at assessing the relationship between self-regulated learning strategies and academic resilience, where academic resilience is predictor and self-regulated learning strategies is a predicted variable. Pearson product moment correlation coefficient was used to analyze the data.

Sample: The sample consisted of 162 adolescents drawn from various public schools of Patiala, Ludhiana (Punjab) and Chandigarh. A total of 200 questionnaires were distributed, 38 questionnaires were incomplete and could not be used, leaving a total of 162 questionnaires available for analysis. Prior consent of the respective school principals and participants was taken. The age range of the subjects was 15 to 20 years, with the mean age of 17.5 years.

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Measures: Following measures were used for the present study:

Academic Resilience: Motivation & Engagement Scale High School (MES-HS) 12th edition (Martin,2012): For the present study, MES-HS (high school) version has been used. It is a 44 item instrument that measures eleven factors. Responses are marked on seven point Likert scale ranging from 1 ('Strongly Disagree') to 7 ('Strongly Agree'). Each student's response to the four items on each motivation area are aggregated and converted to a raw score out of 100. For the present study, four factors (self-belief, persistence, anxiety and uncertain control) that assess academic resilience (Martin 2003a, 2003b) were taken up. The reliability of all factors is as follows: Self-belief (Cronbach's alpha = .77), persistence ( $\alpha = .81$ ), anxiety ( $\alpha = .77$ ) and uncertain control ( $\alpha = .79$ ).

Motivated Strategies for Learning Questionnaire (MSLQ, Pintrich et al., 1991): This scale has been designed to measure student's motivational orientations and their use of different learning strategies. MSLQ comprises of 15 subscales in which six subscales are related to motivation and nine are related to learning strategies section. This instrument is completely modular, thus scales can be used together or individually, depending on the needs of the researcher. Keeping in mind the objectives of the present study, three (critical thinking, meta-cognitive self-regulation and peer learning) out of nine learning strategies were assessed. It is a 7 point Likert scale, in which students rate themselves from 1(not at all true of me) to 7(very true of me). High scores indicate greater level of the construct being measured. Pintrich, & De Groot (1990) reported the following reliability coefficients for internal consistency of the subscales: critical thinking ( $\alpha = .80$ ), metacognitive self-regulation ( $\alpha = .79$ ), peer learning ( $\alpha = .76$ ). It has been suggested (Pintrich, Smith, Garcia and McKeachie, 1991) that MSLQ has good internal reliability.

### Results and Discussion

In order to analyze the association between independent variable, self-regulated learning strategies (critical thinking, meta-cognitive self-regulation and peer learning) and dependent variable, i.e. academic resilience (self-belief, persistence, anxiety and uncertain control), Pearson Product moment was computed.

The results of the present study have been shown in Table No. 1. It is the correlation matrix depicting relationship between self-regulated learning strategies (critical thinking, meta-cognitive self-regulation and peer learning) and dependent variable that is academic resilience.

### Correlational Analysis

Table 1 - Correlation between Self-regulated Learning Strategies and Academic Resilience.

	CT	MSR	PL	SB	Per	UC	Anx
CT	1.00						
MSR	0.61**	1.00					
PL	0.48**	0.52**	1.00				
SB	0.39**	0.43**	0.31**	1.00			
Per	0.31**	0.38**	0.34**	0.36**	1.00		
UC	0.05	0.22**	0.28**	0.13	0.20*	1.00	
Anx	0.17*	0.07	0.17*	-0.11	0.10	0.31**	1.00

\*\* $p < 0.01$ , \* $p < 0.05$

CT-critical thinking, MSR-meta-cognitive self-regulation, PL-peer learning, SB-Self Belief, Per-Persistence, UC-Uncertain Control, Anx-Anxiety

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As shown in Table no 1, there was a significant correlation between dimensions of self-regulated learning strategies (Critical thinking, Meta-cognitive self-regulation and Peer learning) and dimensions of academic resilience (self-belief, persistence, anxiety and uncertain control). The correlation for critical thinking and self-belief was  $r = 0.39$  ( $p < 0.01$ ), for meta-cognitive self-regulation and self-belief was  $r = 0.43$  ( $p < 0.01$ ) and for peer learning and self-belief was  $r = 0.31$  ( $p < 0.01$ ). This means that higher the critical thinking, meta-cognitive self-regulation and peer learning, more is the self-belief in students.

The next finding of the present research reveals the significant positive correlation between the dimensions of self-regulated learning strategies (Critical thinking, Meta-cognitive self-regulation and Peer learning) and dimension of academic resilience i.e. persistence. The correlation for critical thinking and persistence was  $r = 0.31$  ( $p < 0.01$ ), meta-cognitive self-regulation and persistence was  $r = 0.38$  ( $p < 0.01$ ) and for peer learning and persistence was  $r = 0.34$  ( $p < 0.01$ ). This means that higher the critical thinking, meta-cognitive self-regulation and peer learning, more is the persistence in students.

The next finding of the present research reveals the significant positive correlation between the dimensions of self-regulated learning strategies and academic resilience i.e. anxiety. The correlation for meta-cognitive self-regulation and anxiety was  $r = 0.22$  ( $p < 0.01$ ) and for peer learning and anxiety was  $r = 0.28$  ( $p < 0.01$ ). The correlation for critical thinking and uncertain control did not come out to be significant. This means that higher is the uncertain control, lesser is the critical thinking.

Self-regulated learning strategies shared significant positive correlation with another dimension of academic resilience i.e. uncertain control. The correlation for critical thinking and uncertain control was  $r = 0.17$  ( $p < 0.05$ ), for peer learning and uncertain control was  $r = 0.17$  ( $p < 0.05$ ). This means that higher the critical thinking and peer learning, more uncertain control is shown by students.

### **Discussion**

The aim of the present study was to assess the relationship between self-regulated learning strategies with academic resilience. The independent variable in the present study was self-regulated learning strategies. It was hypothesized that various dimensions of self-regulated learning strategies would be significantly correlated with academic resilience. The findings show that most of the dimensions of self-regulated learning strategies are significantly correlated with dimensions of academic resilience. The findings get support from previous researches (Momeni, & Karimi, 2010) showing that self-regulated learning strategies are significantly related to academic resilience.

The hypothesis for the study was "*there would be positive correlation between dimensions of self-regulated learning strategies and self-belief.*" The findings for the present study can be explained on the basis of research carried out by (Pintrich, Smith, Garcia and McKeachie, 1991). The students who use self-regulated strategies are intrinsically self-motivated and prove to be autonomous learners. Such learners successfully make use of cognitive and meta-cognitive strategies and they are always engaged in self-regulated learning as well, knowing what to do, how to do and when to do. Thus, those students are more likely to persist in a task than students who do not believe they can perform the task. Having confidence in oneself supports the individual's

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ability to build and maintain healthy relationship with their peers. Thus, students who rely on self-regulated learning strategies have a higher sense of self-belief.

The next hypothesis was that *"there would be positive correlation with dimensions of self-regulated learning strategies and persistence."* The findings are in line with previous researches (Fincham & Cain, 1986, Paris & Oka, 1986, Schunk, 1985). Students who believe they are capable, engage in more meta-cognition, use more cognitive strategies and are more likely to persist at a task than students who do not believe that they are capable of performing the task. Such students set goals for themselves to manage their activities to be more persistent. However, when faced with academic challenges, these students are more likely to show adaptive motivational patterns, persistence and problem solving strategies (Dweck,1986; Mueller &Dweck,1998) than students who believe intelligence to be a fixed and uncontrollable trait.

It was hypothesized that *" there would be negative correlation between dimensions of self-regulated learning strategies and anxiety."* The research done by Gall (1985), lends significant support to the findings. Learners often perceive test taking as unpleasant or threatening. Too much anxiety prior to or during a test can cause distraction and disorientation. The finding get support from various researches (Alpert& Haber,1960, O'Brien,1991). Paradoxically, evidence showed that anxiety can be beneficial to learning. A moderate amount of anxiety can increase motivation, produce a heightened state of alertness as well as concentration, consequently improve performance. However, high level of anxiety can have detrimental effects on academic performance. Another rationale for the finding comes from the research done by (Benjamin, McKeachie, Lin & Holinger,1981). Although high anxious students seem to be as effortful and persistent as low anxious students, they appear to be very ineffective and inefficient learners who often do not use appropriate cognitive strategies for achievement. They are not persistent and avoid difficult tasks. For these reasons, anxiety is believed to be negatively related to self-regulated learning (Malpass, O'Neil & Hocevar,1999).

It was hypothesized that *"there would be negative correlation between dimensions of self-regulated learning strategies and uncertain control."* The findings can be explained on the basis of previous researches (Connor & Slear, 2009, Neill, & Dias,2001). Individuals with high uncertain control often perceive a lack of sense of control over their academic performance. They are mostly unsure of whether their efforts would be instrumental and bring success. Such a perception of lack of control has an adverse effect on their critical thinking. Such students are less motivated to improve competence in a task because they believe that their personal actions do not control outcomes and they are not able to use meta cognitive strategies. Thus, it can be inferred that those with high uncertain control have low efficacy beliefs.

### **Conclusion**

The findings of the present research have significant implications in the area of academics and counselling. By using self-regulated learning strategies, students develop various skills, like, effort, persistence, planning, organization etc. whereas non resilient students don't use such strategies and are resistant to do academic work. Such students can be helped by teachers and parents in replacing their self-defeating thoughts with self-enhancing ones.

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