

# RESOURCE MANAGEMENT STRATEGIES IN RELATION TO ACHIEVEMENT AND GENDER AMONG SECONDARY SCHOOL STUDENTS

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**Abstract-** The objectives of the study were: (i) to study the resource management strategies of Secondary school students, (ii) to study gender differences in the resource management strategies of secondary school students (iii) to study the relationship between resource management strategies and academic achievement of secondary school students. 1200 school students of Punjab were administered Motivational Strategies for Learning Questionnaire (Pintrich et al, 1999). The results show that significant differences have not been found between high and low achievers as well as between male and female school students on the various dimensions of resource management strategies; e.g.; time and study environment, peer learning and help seeking dimensions Even the interaction effect of gender and academic achievement was not found to be significant on these dimensions except the effort regulation dimension of resource management strategies. Here the difference between female students of high and low achievers is significant.

**Key words-** Resource Management Strategies, School Students, Academic Achievement

## I. INTRODUCTION

Our educational system at present focuses mainly on children's cognitive skills from the moment they enter the kindergarten classroom, however, virtually no emphasis is placed on educating the children in the management of their inner conflicts and unbalanced emotions they bring with them every day to their schools. Education is the foundation stone of nation's intellectual power which shapes the power profile of the nation in the community of word nation. Schools are powerful place where students can learn about themselves while preparing for entry into the large world. Organizing teaching learning is a goal directed process in which motivation plays a key role. The explanation of motivational processes are varied to take into account the biological needs, social motive and a host of cultural and contextual factors that shape human goals and strivings.

Resource management includes students' regulatory strategies for controlling other resources besides their cognition such as management of time (e.g. making a study schedule and stick to it and study environment, choosing the right place to concentrate on course work) along with focus on the use of others in learning: peer learning (e.g. using a study group of friends to help with learning) and help seeking. (e.g. seeking help from peers and instructors when needed). Time management involves scheduling a time to study. Effort regulation is self-management and reflects a commitment to completing tasks and achieving one's goals despite difficulties and distractions. Peer learning refers to the dialogue between and among peers and the intellectual exchange of ideas and information. The help seeking refers to the process whereby students ask peers and

instructors to clarify confusing course material and hence expedite achievement.

Although there are various approaches and models related to the theories of motivational beliefs and self-related learning (SRL) (Marcou and Phillippou, 2005), the models of Pintrich (1999) and Zimmerman (2004) incorporate both "skill" or cognitive and "will" of affective components of learning. According to Pintrich (1999), such strategies are general cognitive (rehearsing, elaborating, organizing), meta-cognitive planning, monitoring, regulating and resource management strategies (e.g. help-seeking). Zimmerman (2004) depicted graphically the theory of SRL as a cyclical procedure that incorporates the SRL strategies, task strategies and motivational beliefs. The "will" component refers to the notion of motivational beliefs such as self-efficacy, task value and goal orientation beliefs (Pintrich, 1999).

Pintrich et al. (1991) included resources management to cognitive and meta-cognitive aspects along with motivation to explain students learning approaches and styles. It may be pointed that meaningful learning takes place in a situation where there is an active inter play of 'knowledge held in mind' and knowledge obtained or recorded in form of notes, drafts, reference and records etc

Wolter et al. (1996) examined the relationship between three goal orientations, student's motivational beliefs and self-regulated learning, self-efficacy and test anxiety, as well as cognition including higher levels of cognitive strategy use, self regulation and academic performance. Results showed that adapting and extrinsic goal orientation

led to more maladaptive motivational and cognitive outcomes.

Vanderstoep et al. (1996) examined college students' knowledge, motivation and self-regulatory learning strategies in humanities, social science and natural science college courses. The results suggest that the components of knowledge, motivation and self-regulation do distinguish high from low achievers in social and natural science courses, but not in the humanities course.

Nielson (2004) reported the findings of a study investigating the learning and study strategies of advanced music students and the manner in which their self-efficacy beliefs relate to the employed. The findings indicate that music students high in self-efficacy were more likely to be cognitively and meta-cognitively involved in trying, to learning, the material compared with students low in self-efficacy.

Simsek and Balaban (2010) examined learning strategies of successful and unsuccessful university students. Results showed that successful students used more varied, and better learning strategies than unsuccessful students. Female students were more effective in selecting and using appropriate strategies than male students.

The objectives of the study were: (i) to study the resource management strategies of secondary school students, (ii) to study gender differences in the resource management strategies of secondary school students (iii) to study the relationship between resource management strategies and academic achievement of secondary school students. The hypotheses framed for this study were: (i) there are no significant differences in the resource management strategies of secondary school students on the basis of gender, (ii) there is no significant relationship between resource management strategies and academic achievement of secondary school student.

## II. METHOD AND PROCEDURE

Descriptive method of research was used for the conduct of the present study.

### SAMPLE

Secondary school students of Punjab affiliated with PSEB pursuing three streams (arts, science, and commerce) of study were the universe of the study. A sample of nearly 1200 secondary school students, from randomly selected 40 schools each were selected by giving due weightage to different streams and gender. Only those courses have been included which have matriculation examination as basic qualification.

## III. RESEARCH TOOLS

- Motivational Strategies for Learning Questionnaire (Pintrich, et al. (1991), had been employed to assess five cognitive and meta-cognitive learning strategies (rehearsal, elaboration, organization, critical thinking, meta-cognitive. self-regulation) and six motivational belief components (intrinsic goal orientation, extrinsic goal orientation, task value, control of learning, self-efficacy for learning and performance, test anxiety) of Secondary School students.
- Academic achievement was taken as percentage of marks of their matriculation.

## IV. RESULTS AND DISCUSSION

In order to study resource management strategies in relation to academic achievement of secondary school students showing across gender, ex-post facto factorial design was formulated as academic achievement x Gender (2x2 Factorial Design).

The distribution of academic achievement of secondary school students were used for identifying low and high achievers by  $Q_1$  and  $Q_3$  criteria ( $Q_1=58.13$  ;  $Q_3=74.58$ ) The secondary school students scoring below 58 were treated as low achievers and those scoring above 73 were treated as high achiever secondary school students. The secondary school students having academic achievement scores in the range of 58 to 73 falling in average were not considered in this research design. In the high achieving group of 260 students, there were 89 males and 171 females. In the low achieving group, males were 149 and 84 are females out of 233 students.

## V. RESOURCE MANAGEMENT STRATEGIES IN RELATION TO ACADEMIC ACHIEVEMENT AND GENDER AMONG SECONDARY SCHOOL STUDENTS

### I. Time and study environment: -

The means and SDs scores of time and study environment dimension of resource management in relation to academic achievement x gender of secondary school students are given in table 1.

**Table 1**  
**Means and SDs of Time and Study Environment of Resource Management Among (Academic Achievement x Gender Factorial Design) Secondary School Students**

Academic Achievement		Gender		
		Female	Male	Total
High Achiever	N	171	89	260
	Mean	36.04	35.46	35.84
	SD	9.92	11.74	10.58
Low Achiever	N	84	149	233
	Mean	35.58	35.72	35.67
	SD	9.32	8.85	9.025
Total	N	255	238	493
	Mean	35.89	35.62	35.76
	SD	9.73	10.03	9.88

This table 1 indicates that the total mean score of time and study environment dimension of resource management of the female secondary school students (M= 35.89) is almost equal to the male secondary school students (M= 35.62). Moreover it is indicated from Table that time and study environment score of high achiever secondary school students (M= 35.84) have comparatively little higher score in time and study environment than low achiever secondary school students (M= 35.67).

In order to study the main and interaction effect of academic achievement and gender on all dimensions of resource management of the secondary school students, two way ANOVA, (2x2 factorial design involving two types of gender i.e. female and male and achievement levels (high achievers and low achievers) was applied on scores of different dimensions of resource management. The summary of ANOVA in context to time and study environment dimension is given in table 2

**Table 2**  
**Summary of Analysis of Variance of Time and Study Environment Dimension of Resource Management among Secondary School Students (Academic Achievement x Gender)**

Source of Variance	df	Sum of Squares	Mean Sum of Squares	F-value
Academic Achievement (A)	1	3.65	3.65	0.04
Gender (B)	1	8.85	8.85	0.09
A x B	1	12.34	12.34	0.13
Within	489	48095.87	98.36	
Total	490	48120.71		

Note: None of the F-value is significant

**(i) Main Effects**

**1. Academic Achievement:-** This table indicates that the F-value for the main effect of academic achievement on time and study environment dimension of resource management came out to be 0.04, which is not significant at 0.05 level. This shows that high achiever and low achiever secondary school students did not differ significantly in the on time and study environment dimension of resource management (M=35.84; &35.67).

**2. Gender:-**Table 2 shows that F-value for the main effect of gender on time and study environment dimension of resource management turned out to be 0.09, which is not significant at 0.05 level. This shows that female and male secondary school students did not differ significantly in the time and study environment dimension of resource management (M=35.89;& 35.62).

**3. Interaction Effect of Academic Achievement x Gender:-** It may be observed from table 4.29 that F-value for interaction effect of academic achievement and gender on time and study environment dimension of resource management turned out to be 0.13, which is not significant at 0.05 level. This shows non significant main effect of academic achievement and gender are independent of each other to explain time and study environment dimension of resource management among secondary school students. It means that academic achievement and gender did not have any effect on this dimension.

**II. Effort Regulation:-** The means and SDs scores of effort regulation Dimension of resource management in relation to academic achievement x gender of secondary school students are given in Table 3

**Table 3**  
**Means and SDs of Effort Regulation of Resource Management Among (Academic Achievement x Gender Factorial Design) Secondary School Students**

Achievement		Gender		
		Female	Male	Total
High Achiever	N	171	89	260
	Mean	17.97	17.34	17.76
	SD	5.05	6.03	5.42
Low Achiever	N	84	149	233
	Mean	16.08	17.29	16.85
	SD	4.92	4.33	4.59
Total	N	255	238	493
	Mean	17.35	17.31	17.33
	SD	5.08	5.04	5.06

Table 3. indicates that the total mean score of effort regulation Dimension of resource management of the female secondary school students (M= 17.35) is almost equal to the male secondary school students (M= 17.31). Moreover, it is indicated from Table that

effort regulation score of high achiever secondary school students (M= 17.76) have comparatively higher effort regulation score than low achiever secondary school students (M= 16.85). The summary of ANOVA in context to effort regulation dimension is given in table 4.

**Table 4**  
**Summary of Analysis of Variance of Effort Regulation Dimension of Resource Management among Secondary School Students (Academic Achievement x Gender)**

Source of Variance	df	Sum of Squares	Mean Sum of Squares	F-value
Academic Achievement (A)	1	100.23	100.24	3.94*
Gender (B)	1	0.18	0.18	0.01
A x B	1	101.83	101.83	4.00*
Within	48	12449.53	25.46	
Total	49	12651.78		

\* Significant at 0.05 level.

**(i) Main Effects**

**1. Academic Achievement:-**This table 4 indicates that the F-value for the academic achievement on effort regulation dimension of resource management came out to be 3.94, which is significant at 0.05 level. This shows that high achiever and low achiever secondary school students differed significantly on effort regulation dimension of resource management (M=17.76; &16.85). Higher achiever secondary school students have comparatively possessed more effort regulation Dimension of resource management as compare to low achiever secondary school students. It means that academic achievement and gender have main effect on this dimension.

**2. Gender:-**Table 4 shows that F-value for the main effect of gender on effort regulation dimension of resource management turned out to be 0.01, which is not significant at 0.05 level. This shows that female and male secondary school students did not differ significantly in the effort regulation dimension of resource management (M=17.35; &17.31).

**3. Interaction Effects of Academic Achievement x Gender.** It may be observed from table 4. that F-value for interaction effect of academic achievement and gender on effort regulation dimension of resource management turned out to be 4.00, which is significant at 0.05 level. This shows that the main effect of academic achievement and gender are dependent each other to explain effort regulation dimension of resource management among secondary school students. Post has ANOVA has been done in the following table

**TABLE 5.**  
**The t- Value of Testing Significant of Mean Difference on Effort Regulation Dimension of Resource Management**

Male	N	Mean	SD	t-ratio
High Academic Achievement	89	17.34	6.03	0.068
Low Academic Achievement	149	17.29	4.33	
<b>Female</b>				
High Academic Achievement	171	17.97	5.05	2.859*
Low Academic Achievement	84	16.08	4.92	
<b>High Academic Achievement</b>				
Male	89	17.34	6.03	0.844
Female	171	17.97	5.05	
<b>Low Academic Achievement</b>				
Male	149	17.29	4.33	1.884
Female	84	16.08	4.92	

. It may be observed from table 5 that mean difference of effort regulation dimension of resource management is non significant between of high academic achievement and low academic achievement students in case of male secondary school students. But In case of females, mean difference of effort regulation dimension of resource management high and low achiever is much marked in case of female secondary school students(M=17.97 & 16.08; t=2.859) Further, table 5 reveals that in case of high academic group male & females did not differ better in effort regulation dimension in resource management. But this difference is not significant. Similarly the low academic achievement the same results were found between male and females.

**III Peer Learning:** - The means and SDs scores of peer learning dimension of resource management in relation to achievement x gender of secondary school students are given in Table 6.

**Table 6**  
**Means and SDs of Peer Learning of Resource Management Among (Academic Achievement x Gender Factorial Design) of Secondary School Students**

Achievement		Gender		
		Female	Male	Total
High Achiever	N	171	89	260
	Mean	13.94	13.65	13.84
	SD	4.17	4.51	4.29
Low Achiever	N	84	149	233
	Mean	13.23	13.51	13.41
	SD	3.93	3.7	3.79
Total	N	255	238	493
	Mean	13.71	13.56	13.64
	SD	4.11	4.02	4.07

This table 6 indicates that the total mean score of peer learning dimension of resource management of the female secondary school students (M= 13.71) is high the male secondary school students (M= 13.56). Moreover, it is indicated from Table that peer learning score of high achiever secondary school students (M= 13.84) have comparatively higher peer learning score than low achiever secondary school students (M= 13.41).The summary of ANOVA in context to peer learning dimension is given in table 7..

**Table 7.**  
**Summary of Analysis of Variance of PL (Peer Learning) Dimension of Resource Management among Secondary School Students (Academic Achievement x Gender)**

Source of Variance	df	Sum of Squares	Mean Sum of Squares	F-value
Academic Achievement (A)	1	22.30	22.30	1.34
Gender (B)	1	2.50	2.50	0.15
A x B	1	6.59	6.59	0.40
Within	48	8140.06	16.68	
Total	49	8171.45		

Note: None of the F-value is significant

#### (i) Main Effects

**1. Academic Achievement:-**This table indicates that the F-value for the main effect of academic achievement on peer learning dimension of

resource management came out to be 1.34, which is not significant at 0.05 level. This shows that high achiever and low achiever secondary school students did not differ significantly on peer learning dimension of resource management (M=13.84; &13.41).

**2. Gender:** Table 7 shows that F-value for the main effect of gender on peer learning dimension of resource management turned out to be 0.15, which is not significant at 0.05 level. This shows that female and male secondary school student did not differ significantly in the peer learning dimension of resource management (M=13.71; &13.56).

**3. Interaction Effects of Academic Achievement x Gender.** It may be observed from table 7 that F-value for interaction effect of academic achievement and gender on peer learning dimension of resource management turned out to be 0.40, which is not significant at 0.05 level. This shows non significant main effect of academic achievement and gender are independent of each other to explain peer learning dimension of resource management among secondary school students. It means that gender and academic achievement did not have any effect on this dimension.

**IV Help Seeking:-**The means and SDs scores of help seeking Dimension of resource management in relation to academic achievement x gender of secondary school students are given in Table 8

**Table 8**  
**Means and SDs of Help Seeking Dimension of Resource Management Among (Academic Achievement x Gender Factorial Design) of Secondary School Students**

Achievement		Gender		
		Female	Male	Total
High Achiever	N	171	89	260
	Mean	17.52	16.75	17.26
	SD	5.52	6.47	5.88
Low Achiever	N	84	149	233
	Mean	17.85	17.36	17.54
	SD	5.24	5.03	5.12
Total	N	255	238	493
	Mean	17.63	17.13	17.39
	SD	5.44	5.62	5.53

This table indicates that the total mean score of help seeking Dimension of resource management of the female secondary school students (M= 17.63) is higher than the male secondary school students (M= 17.13). Moreover, it is indicated from Table that help seeking score of high achiever secondary school students (M= 17.26) have comparatively less in help seeking score than low achiever secondary school students (M= 17.54).The summary of ANOVA in context to help seeking dimension is given in table 9

**Table 9**  
**Summary of Analysis of Variance of Help Seeking**  
**Dimension of Resource Management among**  
**Secondary School Students (Academic**  
**Achievement x Gender)**

Source of Variance	df	Sum of Squares	Mean Sum of Squares	F-value
Academic Achievement (A)	1	9.88	9.88	0.32
Gender (B)	1	30.36	30.36	0.99
A x B	1	17.45	17.45	0.57
Within	48	15052.1	30.78	
	9	7		
Total	49	15109.8		
	2	7		

Note: None of the F-value is significant

### (i) Main Effects

**1. Academic Achievement:-**This table indicates that the F-value for the main effect of academic achievement on help seeking dimension of resource management came out to be 0.32, which is not significant at 0.05 level. This shows that high achiever and low achiever secondary school students did not differ significantly on the help seeking dimension of resource management ( $M=17.26$ ; &  $17.54$ ).

**2. Gender:-**Table 9 shows that F-value for the main effect of gender on help seeking dimension of resource management turned out to be 0.99, which is not significant at 0.05 level. This shows that female and male secondary school students did not differ significantly in the help seeking dimension of resource management ( $M=17.63$ ; &  $17.13$ ).

**3. Interaction Effect of Academic Achievement x Gender:-**It may be observed from Table 9 that F-value for interaction effect of academic achievement and gender on help seeking dimension of resource management turned out to be 0.57, which is not significant at 0.05 level. This shows that non significant main effect of academic achievement and gender are independent of each other to explain help seeking dimension of resource management among secondary school students. It means that gender and academic achievement did not have any effect on this dimension.

### CONCLUSION

**1.** On the dimension of time and study environment of resource management, significant differences did not exist between high and low achievers as well as male and female secondary school students. No interaction effect of gender and

achievement was seen on this variable. The mean scores ranged between 35.46 to 36.04.

**2.** Significant difference on effort regulation of resource management was found between high and low achievers students, but on the basis of gender, difference was not significant between male and female school students. However, interaction effect of gender and achievement was found to be significant. The mean scores ranged between 16.08 to 17.97. The female high and low academic achievement students also differed significantly.

**3.** No significant differences were observed on the peer learning of resource management between high and low achievers as well as male and female school students. Similarly no interaction effect of gender and achievement was found significant. The mean scores on this dimension ranged between 13.23 to 13.94.

**4.** Significant differences did not exist on help seeking dimension of resource management between high and low achievers as well as male and female school students. Similarly, no interaction effect of gender and achievement was seen on this dimension. The mean scores ranged between 16.75 to 17.85.

### REFERENCES

- [1] Marcou, A. & Philippou, G. (2005). Motivational believes, Self-regulated learning and Mathematical problem solving. In H. L. Chick, & J. L. Vincent (Eds.), Proc. 29th Conf. of the Int. Group for the Psychology of Mathematics Education (Vol. 3, pp. 297-304). Melbourne, Australia: PME.
- [2] Nielsen, S.G. (2004). Strategies and self-efficacy beliefs in instrumental and vocal individual practice: a study of students in higher music education. *Psychology of Music*, 32 (4), 418-431. doi: 10.1177/0305735604046099
- [3] Pintrich, P. R. & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance, *Journal of Educational Psychology*, 82, 33-40.
- [4] Pintrich, P.R., Smith, D.A., Garcia, T. & McKeachie, W.J. (1991). *A manual for use of motivated strategies for learning questionnaire (MSLQ)*. The University of Michigan: Ann Harbour, Michigan, USA.
- [5] Simsek, A., & Balaban, J. (2010). Learning Strategies of successful and unsuccessful university students. *Contemporary Educational Technology*, 1 (1), 36-45.
- [6] VanderStoep, S.W., Pintrich, P.R., & Fagerlin, A. (1996). Disciplinary differences in self regulated learning in college students. *Contemporary Educational Psychology*, 21, 345- 362.
- [7] Wolters, C.A., Yu, S., Pintrich, P.R. (1996). The relation between goal orientation and students' motivational beliefs and self-regulated learning. *Learning and Individual Differences*, 11, 281-299.
- [8] Zimmerman, B. J., & Schunk, D. H. (Eds.). (2001). *Self-regulated learning and academic achievement: Theoretical perspectives* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates, Inc

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