Gender Wise Academic Problem Solving Style of Secondary Students: A Survey Study

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Abstract:

Problem is an essential criterion of environment which stimulates to invent something new; it provides some opportunities to develop own skills to cope with the changes. It is an essential target of life to be fit in always changing situation to make own self as an eligible being for the effective exploration of humanistic resources. To develop individual personality pattern, it is needed to be fit as well as eligible in the rapidly changing situation. Adjustment is an important agenda to every living components of the world to resist the non-desirable crisis and also to sustain the growth of positivity. Problem helps to apply own capabilities in the practical situation to find out the real as well as pragmatic ways which are more significant to manifest own abilities in terms of the requirement of situation. Education is an important stimulating system based on the basic targets of life; it helps to find out valuable keys for the effective development as well as effective enrichment of human resources. To make a human being as resources, effective nurturing of the probabilities or abilities is needed to examine. Academic problem stimulates the corresponding approaches of academic activities done by academic personnel. In this study, investigator has selected the problems of students which are basically considered as the academic problems. To assess the gender wise academic problems, present study has been designed. A survey type research methodology has been implemented to describe the situation associated with the academic problems of secondary students. After completing this task, investigator has found some relevant aspects regarding the issue of present study. Higher level of problem solving style has been noticed in this study among both male and female secondary students. Insignificant mean difference has been found in terms of academic problems of secondary students. The corresponding scale has been developed with the help of predetermined reviewed based four dimensions as related to the academic problem solving style. In the case of dimension wise mean difference, investigator has noticed the significant dimension wise mean difference in respect to male as well as female secondary students. At the end of the study, it has been concluded that gender wise problem solving style is as same as between the groups.

Keywords: **Gender, Academic Problem, Problem Solving Style**

1.0. Introduction

Problem is a part of life which nurtures every potentialities of a man by which he/ she will be able to develop own originality. That originality will build an effective identity in the world. Therefore, problem produces identity to human being in respect to enrich own abilities in respect to the effective utilisation of resources. Without presence of problem, an individual will not be able to examine own potentialities or probabilities in respect to the diversification of environment. In education system, presence of diversity in different academic activities has been observed in every society of the world. To cope with said types of diversification of the environment helps to be effective with efficient manners for the ultimate mainstreaming of human existences. Education system has a lot of basic interrelated factors which are needed to integrate properly in favour of the human identity. Diversification of education system can produce a lot of difficulties and provides a lot of obstacles in front of the students' performance in respect to nurture the goals of education. To fulfil the educational aims, it is needed to maintain educational objectives appropriately; in this circumstances, a student will be needed to perform adequately with the help of effective integration of own psycho-physiological characteristics. Educational system provides a lot of opportunity to develop an effective personality pattern which is considered as an important

parameter for human development. Education has a lot of interactive factors namely curriculum, examination, evaluation, teaching and learning etc. In the study of educational system, an investigator has faced a lot of issues of academic problems which play an important role to divert an individual student. Test anxiety is an important problem which can divert the individual personality towards the non-desirable directions. Due to the different matter of facts associated with the academic problems faced by students in the existing educational systems. Inappropriate time management can produce a lot of problem feeling to deal with the difficulties related to the low achievement. Inadequate efficiency, scarcity of academic resources, inappropriate selection of academic resources, excessive uses of distractor, low motivation, inappropriate information processing, inadequate interest in academic activities, and inadequate concentration ability etc. are some vital issues responsible to develop different types of academic educational problems. Due to the concept of individual differences, presence of diversified abilities have been observed among students; due to this reasons, diversity of adequate efficiency related to the academic activities has been observed among students. Due to this inadequate efficiency, an individual student will face a lot of academic problems in where he/ she need to perform effectively for the benefit of corresponding society. A common problem of education system of developing country is scarcity of effective academic resources which is an essential factor to develop different types of academic problems in the said system. Due to inappropriate selection of academic resources in respect to the nature of academic activities, an individual pupil will face a lot of crisis in the existing system of education; those crisis needs to solve properly. To minimise the problems of academic activities, an educational system will need to take efficient steps to solve this problem. Due to excessive use of distractor, an individual will be diverted from the base line of educational activity and corresponding targets of education. Inclusion of social media in life, a lot of man-made problems has been developed; they are running in the existing educational system. Excessive uses of distractor by the students have developed a lot of educational problems. There are so many factors related to the basic characteristics of students' psychology namely motivation, interest and concentration which are more functional in the field of education. Due to inappropriate application of those psychological properties, an individual will be faced a lot educational problems. Language is an essential factor which plays an essential role in the educational systems to make an effective communication among students as well as between students and teachers. Due to inappropriate skills regarding the language, students' speaking and learning processes will be diverted in the corresponding educational system. Influences of mother tongue will create academic problems in respect to communicate within the educational system (*Ferris, D., Tagg, T.,1996*). In the educational system, the students' participation in corresponding educational systems plays a functional role to develop academic resilience (*Finn, J. D., & Rock, D. A.,1997*). Development of academic resilience will help to handle with the educational problems. In the development of academic performance in persistence form, development of significant relationship between self- efficacy and academic performance will be required to solve academic problems (*Multon, K. D., Brown, S. D., Lent, R. W.,1991*). In the case of solution of academic problems, self –esteem plays an important role; effective relationship between self –esteem and expectation will provide a keys to solve the academic problems (*Skaalvik, E. M.,1990*). In this study, investigator has designed an approach to find out the styles of students to solve the academic problems as per the parameter of gender.

2.0. Objectives of study

At the end of the study, investigator wants –

- To measure gender wise academic problem solving style of secondary students

- To find out the gender wise difference in respect to execute academic problem solving style by the secondary students.
- To determine dimension wise mean difference regarding the variable of present study.

3.0. Description of Data Collection System

To find out the representative data against the variable of present study, investigator has developed a scale of Academic Problem Solving Style. This scale has also been standardised by assuring the presence of validity, reliability, objectivity and norms. With the help of content validity, the scale validity has been determined; with the help of test –retest method, the measurement consistency has been assured; with the help of predetermined scoring key. The objectivity of the scale has been specified; and with the help of development of interpretation index, the norm of the said scale has been determined. In this way, the said scale has been standardised.

3.1. Norm:

An interpretation index has been developed to interpret the meaning of corresponding score which is presented below.

Table -1 Interpretation Index

Score	Interpretation
Above 90	High
70 -89	Above Average
50 -69	Moderate
30 -49	Below Average
Below 30	Low

3.2. Dimensions of the study:

Four fundamental dimensions have been developed in respect to the corresponding scale. Those dimensions have been presented below.

- Intuitive Problem Solving Style
- Analytical Problem Solving Style
- Rational Problem Solving Style
- Avoidance problem Solving Style

4.0. Terms Define

In this study, two fundamental terms have been used to describe the corresponding study namely problem and problem solving style.

4.1. Problem:

Problem is an individual perception about own inefficiency in respect to solve difficulty feeling or to handle a situation.

4.2. Problem Solving Style:

Problem solving style is an approach to solve perceived problem in respect to meet the need of situation. It specifies the strategy to simplify the difficulty situation.

5.0. Analysis and Interpretation

Collected data has been interpreted in respect to academic problem solving style obtained by secondary students.

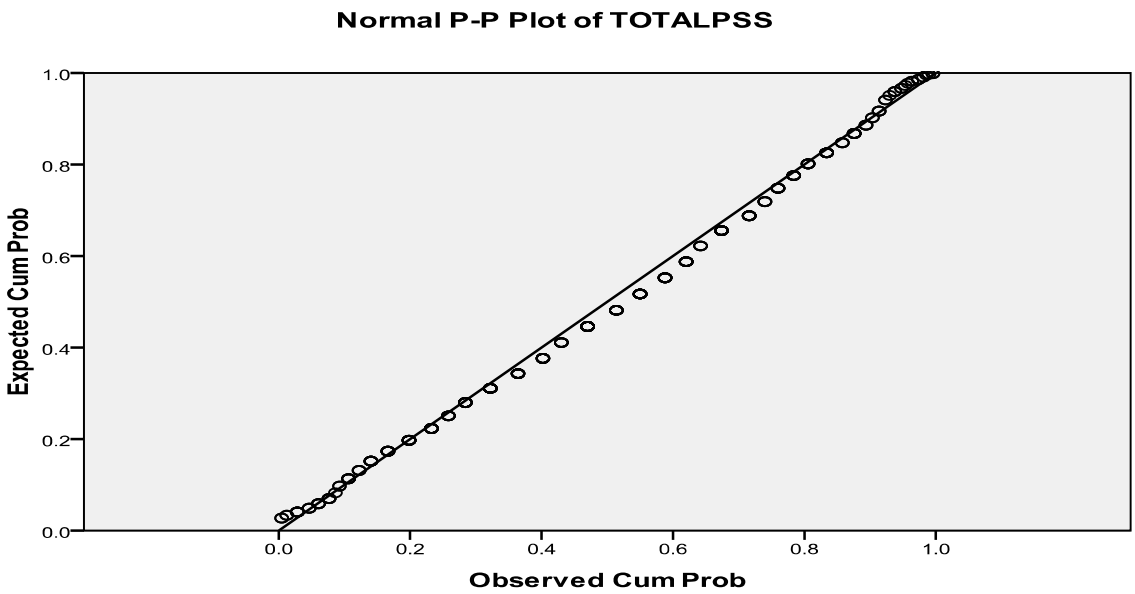
Table -2 Descriptive Analysis of Problem Solving Style

	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
PSSM	125	77.00	131.00	97.9120	1.10272	12.32884
PSSF	125	78.00	129.00	99.1360	.88779	9.92581
TOTALPSS	250	77.00	131.00	98.5240	.70749	11.18633

***PSSM → Problem Solving Style of Male secondary students, PSSF → Problem Solving Style of Female secondary students, TOTALPSS → Problem Solving Style of Total secondary students.*

From the table -2, it has been observed that value of mean is nearer to each other; difference between minimum and maximum score is 54 in respect to male secondary students; difference between minimum and maximum score is 51 in respect to female secondary students. In both cases higher level of application of positive problem solving styles have been implemented.

Figure -1 Normal P –P Plot of Total of PSS



From the above figure, it has been observed that corresponding distribution has the basic characteristics of normality. Plots on the graph has been touched the normal line of the distribution.

Table - 3 Analysis of Gender wise Mean Difference of Problem Solving Style of secondary students

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
PSSM - PSSF	-1.2240	15.98632	1.42986	-4.05409	1.60609	-.856	124	.394

From the above table -3, it has been observed that there exists insignificant mean difference in respect to deal with academic problems. Value of SEm has specified the authenticity of the measurement. Problem solving style adopted by male as well as female students has been found in insignificant difference.

To find out the dimension wise mean difference in respect to Problem Solving Style reflected by male as well as female secondary students has been analyzed below.

Table -4 Dimension based Descriptive Analysis of Problem Solving Style of male students

	N	Minimum	Maximum	Mean	Std. Deviation
D1PSSM	125	11.00	35.00	24.9040	5.34673
D2PSSM	125	14.00	41.00	28.1280	5.45654
D3PSSM	125	9.00	28.00	20.8080	4.07727
D4PSSM	125	6.00	23.00	14.6800	4.31912
D5PSSM	125	4.00	18.00	9.9200	3.81339

On the basis of above analysis of the dimensional mean difference of male secondary students regarding the application of problem solving style, it has been found that said sample has less applied the fifth technique to overcome the problems associated with the human life and also humanistic operations. They have used more the analytical problem solving styles to overcome the daily problem positively. By observing the value of standard deviation it has been clearly stated that there exist uniformity in the case of scatter distribution of the individual score.

To find out the dimension wise mean difference in respect to problem solving style adopted by male secondary students has been done and presented below.

Table -5 Dimension based Analysis of Mean Difference of Problem Solving Style of male students

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	***D1PSSM - D2PSSM***	-3.22400	7.29877	.65282	-4.51612	-1.93188	-4.939	124	.000
Pair 2	***D1PSSM - D3PSSM***	4.09600	6.31489	.56482	2.97806	5.21394	7.252	124	.000

Pair 3	***D1PSSM - D4PSSM***	10.2240	6.89069	.61632	9.00413	11.44387	16.589	124	.000
Pair 4	***D1PSSM - D5PSSM***	14.9840	6.48445	.57999	13.83604	16.13196	25.835	124	.000
Pair 5	***D2PSSM - D3PSSM***	7.32000	6.51252	.58250	6.16707	8.47293	12.567	124	.000
Pair 6	***D2PSSM - D4PSSM***	13.4480	5.72974	.51248	12.43365	14.46235	26.241	124	.000
Pair 7	***D2PSSM - D5PSSM***	18.2080	6.42738	.57488	17.07015	19.34585	31.673	124	.000
Pair 8	***D3PSSM - D4PSSM***	6.12800	6.02679	.53905	5.06106	7.19494	11.368	124	.000
Pair 9	***D3PSSM - D5PSSM***	10.8880	5.69835	.50968	9.87921	11.89679	21.363	124	.000
Pair 10	***D4PSSM - D5PSSM***	4.76000	5.44385	.48691	3.79626	5.72374	9.776	124	.000

From the above table – 5, it has been observed that in every pair of the analytical segments regarding the mean difference in respect to problems solving style significant men difference has been found. In all cases significant mean difference has been found at 0.01 level of significant. Therefore, corresponding assumption regarding difference has been sustained. Therefore, dimensional mean difference among different dimensions of problem solving styles presented by the male secondary students.

Table -6 Dimension based Descriptive Analysis of Problem Solving Style of female students

	N	Minimum	Maximum	Mean	Std. Deviation
D1PSSF	125	13.00	33.00	25.6560	3.98000
D2PSSF	125	18.00	39.00	28.4880	4.50021
D3PSSF	125	7.00	28.00	19.4320	4.04478
D4PSSF	125	6.00	23.00	14.8400	3.44402
D5PSSF	125	4.00	17.00	10.8080	3.08141

In the case of dimension no 2, female secondary students has explored higher performance. In the case of dimension 5, low performance has been observed. By observing the value of standard deviation it has been clearly stated that there exist uniformity in the case of scatter distribution of the individual score.

To find out the dimension wise mean difference in respect to problem solving style adopted by female secondary students has been done and presented below.

Table -7 Dimension based Analysis of Mean Difference of Problem Solving Style of female students

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	**Std. Deviation**	**Std. Error Mean**	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	***D1PSSF - D2PSSF***	-2.8320	5.41166	.48403	-3.79004	-1.87396	-5.851	124	.000
Pair 2	***D1PSSF - D3PSSF***	6.22400	5.71340	.51102	5.21254	7.23546	12.180	124	.000
Pair 3	***D1PSSF - D4PSSF***	10.8160	5.13116	.45894	9.90762	11.72438	23.567	124	.000
Pair 4	***D1PSSF - D5PSSF***	14.8480	4.86769	.43538	13.98626	15.70974	34.104	124	.000
Pair 5	***D2PSSF - D3PSSF***	9.05600	5.93826	.53113	8.00474	10.10726	17.050	124	.000

Pair 6	***D2PSSF - D4PSSF***	13.6480	5.11048	.45710	12.74328	14.55272	29.858	124	.000
Pair 7	***D2PSSF - D5PSSF***	17.6800	5.31219	.47514	16.73957	18.62043	37.210	124	.000
Pair 8	***D3PSSF - D4PSSF***	4.59200	5.11811	.45778	3.68593	5.49807	10.031	124	.000
Pair 9	***D3PSSF - D5PSSF***	8.62400	4.44258	.39736	7.83752	9.41048	21.703	124	.000
Pair 10	***D4PSSF - D5PSSF***	4.03200	4.69374	.41982	3.20106	4.86294	9.604	124	.000

From the above table, it has been specified that in all cases significant mean difference has been found at 0.01 level of significant. Therefore, corresponding assumption has been sustained. Therefore, dimensional mean difference among different dimensions of problem solving styles presented by the female secondary students.

Table -8 Dimension based Descriptive Analysis of Problem Solving Style of total sample

	N	Minimum	Maximum	Mean	Std. Deviation
D1TOTALPSS	250	11.00	35.00	25.2800	4.71876
D2TOTALPSS	250	14.00	41.00	28.3080	4.99449
D3TOTALPSS	250	7.00	28.00	20.1200	4.11111
D4TOTALPSS	250	6.00	23.00	14.7600	3.89913
D5TOTALPSS	250	4.00	18.00	10.3640	3.48829

From the table -8, it has been observed that in the case of dimension no 2, total secondary students has explored higher performance in the measurement of problem solving style. In the case of dimension 5, low performance has been observed. By observing the value of standard deviation it has been clearly stated that there exist uniformity in the case of scatter distribution of the individual score.

Table -9 Dimension based Analysis of Mean Difference of Problem Solving Style of Total sample

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	***D1TOTALPSS - D2TOTALPSS***	-3.0280	6.41497	.40572	-3.82708	-2.22892	-7.463	249	.000
Pair 2	***D1TOTALPSS - D3TOTALPSS***	5.16000	6.10339	.38601	4.39973	5.92027	13.367	249	.000
Pair 3	***D1TOTALPSS - D4TOTALPSS***	10.5200	6.07001	.38390	9.76389	11.27611	27.403	249	.000
Pair 4	***D1TOTALPSS - D5TOTALPSS***	14.9160	5.72223	.36191	14.20321	15.62879	41.215	249	.000
Pair 5	***D2TOTALPSS - D3TOTALPSS***	8.18800	6.28000	.39718	7.40574	8.97026	20.615	249	.000
Pair 6	***D2TOTALPSS - D4TOTALPSS***	13.5480	5.41896	.34273	12.87299	14.22301	39.530	249	.000
Pair 7	***D2TOTALPSS - D5TOTALPSS***	17.9440	5.89030	.37254	17.21028	18.67772	48.167	249	.000
Pair 8	***D3TOTALPSS - D4TOTALPSS***	5.36000	5.63252	.35623	4.65839	6.06161	15.046	249	.000
Pair 9	***D3TOTALPSS - D5TOTALPSS***	9.75600	5.22356	.33037	9.10533	10.40667	29.531	249	.000

Table -9 Dimension based Analysis of Mean Difference of Problem Solving Style of Total sample

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	***D1TOTALPSS - D2TOTALPSS***	-3.0280	6.41497	.40572	-3.82708	-2.22892	-7.463	249	.000
Pair 2	***D1TOTALPSS - D3TOTALPSS***	5.16000	6.10339	.38601	4.39973	5.92027	13.367	249	.000
Pair 3	***D1TOTALPSS - D4TOTALPSS***	10.5200	6.07001	.38390	9.76389	11.27611	27.403	249	.000
Pair 4	***D1TOTALPSS - D5TOTALPSS***	14.9160	5.72223	.36191	14.20321	15.62879	41.215	249	.000
Pair 5	***D2TOTALPSS - D3TOTALPSS***	8.18800	6.28000	.39718	7.40574	8.97026	20.615	249	.000
Pair 6	***D2TOTALPSS - D4TOTALPSS***	13.5480	5.41896	.34273	12.87299	14.22301	39.530	249	.000
Pair 7	***D2TOTALPSS - D5TOTALPSS***	17.9440	5.89030	.37254	17.21028	18.67772	48.167	249	.000
Pair 8	***D3TOTALPSS - D4TOTALPSS***	5.36000	5.63252	.35623	4.65839	6.06161	15.046	249	.000
Pair 9	***D3TOTALPSS - D5TOTALPSS***	9.75600	5.22356	.33037	9.10533	10.40667	29.531	249	.000
Pair 10	***D4TOTALPSS - D5TOTALPSS***	4.39600	5.08553	.32164	3.76252	5.02948	13.668	249	.000

From the table -9, it has been observed that in all cases significant mean difference has been found at 0.01 level of significant. Therefore, corresponding assumption regarding difference has been sustained in respect to the response of total sample of the study. Therefore, dimensional mean difference among different dimensions of problem solving styles presented by the total secondary students.

6.0. Conclusion

From the above analysis of the problem, it has been concluded that gender wise problem solving style has been found in similar level; gender wise difference regarding the said types of styles in respect to handle with the academic problems has been found. Four types of problem solving styles have been studied in this study namely intuitive problem solving style, analytical problem solving style, rational problem solving style and avoidance problem solving style respectively. In these styles are difference to one another significantly.

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