

## Attitude towards research of university students, A Multivariate analysis

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### **Abstract**

**Objective:** The objective of this study is to determine the student's attitude towards research. The sample of students is selected from University of the Punjab. **Methods:** Factor analysis applied to extract important research factors. Descriptive statistics and inferential analysis is applied to have a better understanding of the students' attitude towards research. Responses were analyzed by applying mean, Man Whitney U test and Kruskal Wallis H test. **Results:** Overall the students have a positive attitude towards research. The male students are more positive compared to their female counterparts. As predicted those with a high degree display a high positive attitude towards research. **Conclusion:** Participants of PhD and MPhil were significantly better than participants of Masters and BS (hons) on factor 1 "positive attitude towards research", and factor 2 "research usefulness for profession".

**Keywords:** Students, research, analysis, factor.

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### **INTRODUCTION**

In today's fast changing world, research has become one of the most important intellectual possessions for every human being to change his way of life in accordance to the needs and demands of the society. It is a key ingredient in shaping up the world that man lives in and the new experiences they see and encounter in their surroundings. It opens new frontiers to many fields like education, business, economics, medicine, and science. Truly, research in itself had made a significant contribution in man's giant leap towards the future.

A number of researches have been conducted to explore the attitude towards research. Results showed that attitudes towards research are generally not positive.

Students think that it is tough and dry to study the research (Adams & Holcomb, 1986). They do not understand the concepts of research and its importance in their professional life. Emphasizing the importance of research, encouraging students, and providing a research friendly and supportive environment have been identified as increasing the research interest of students (Kirk & Rosenblatt, 1981; Secret, *et al.*, 2003).

Patak and Naim, (2012) found that the attitude of students of English as Second Language and English as Foreign Language towards visiting library was very poor. They lack basic research skills ranging from searching and evaluating literature sources to paraphrasing and giving citations. Siemens, Punnen, Wong, & Kanji, (2010) conducted a study on the medical students to explore their attitudes towards the research and found that though the majority of the students felt that the research would be beneficial in their career, fewer than half of the

students were significantly involved in any research activity during their medical school. Students who realize the need of spending more time on research activities are even fewer. About one fourth of the student reported no interest in any such activity. Sabzwari, Kauser and Khuwaja, (2009) conducted a study on junior faculty in the medical profession in Pakistan and found that though the majority of them perceive research a difficult endeavor but they have positive attitude towards the research.

Papanastasiou, (2005) found negative attitude towards research among undergraduate students. Siemens, Punnen, Wong and Kanji, (2010) found that involvement in research was significantly enhanced in the fourth year medical students compared to the second year medical students. Zan & Martino, (2007) also found that the performance of postgraduate students towards the research was better compared to the undergraduate students. The reason may be that undergraduate students think research as a tough and difficult course and want to avoid this course. Conversely, it is possible that they assumed research in negative manner because they had to face several obstacles and could not understand the concepts of the research. On the other hand, postgraduate students may take research course more positively and seriously because they may think that it would help them in their professional life.

Butt and Shams (2013) found that students enrolled in self-support evening programs have significantly better attitude towards the research than those enrolled in morning programs. The reason might be that evening students come to this field with more enthusiasm. Similarly, the prospective students with premedical background were found to have significantly better attitude towards the research than those who have arts and computer science as their previously studied subjects at higher secondary level. The reason according to Butt and Shams (2013) might be that experimentation during their previous pre-medical study might have developed a positive attitude towards the research among prospective teachers.

As Orgun jr *et al.*, (2014) stated, male students have more positive attitude as compare to the female students. Correspondingly, Shaukat *et al.*, (2014) also argued that the male has significantly positive attitude towards research than the females. Also Deepa, (2014) found that the research attitude of male students is higher than the female students. Al Ghamdi *et al.*, (2014) studied perception, attitude, and practices of medical students towards research. They conclude that the majority of the students agreed that research is important in the medical field.

They believe research should be compulsory for all medical students. The problems that prevented the students from conducting research included lack of professional supervisors, lack of training courses, lack of

time and lack of funding. Although the majority of students believe that research is important in medical field. Rubin & Babbie (2011) found that students of social work have negative attitudes toward research. Social work educators know that students do not entirely hold on research. Weinstock, (1994) mentioned that students have no interest in taking a research classes.

### Objectives of the Study

- i). To determine the student's attitude towards research.
- ii). To assess the student's attitude towards research in relation to research usefulness and research anxiety.
- iii). To study the student's attitude towards research in context to their educational qualification.
- iv). To study the attitude of students towards research in context to their gender.

### MATERIAL AND METHODS

The present study conducted on students studying in the University of the Punjab. Sample size was calculated using G power analysis. For a moderate effect size = 0.25 with 5 % level of significance and 95 % power of test, the resulting sample size was 280. Frequencies tables and graphs were used to present frequency and percentages for the representation of the data. Factor analysis was applied to summarize the large number of variables i.e. 32 variables into 5 factors and Man Whitney U Test, Kruskal Wallis Test and Pearson Product Moment correlation were applied to explore the student's attitude towards research.

The questionnaire named "Punjab University students attitude towards research" contains 45 items. First 13 questions were used to collect personal information of the respondents and the remaining to measure respondent's attitude towards research consists of five point Likert scale. The scale was comprised of both negative worded and positive worded items and a higher score represented higher level of attitude.

### Pre-Testing

Pre-testing in the present research was done to see the working capability of the questionnaire at a small scale before actual data collection. A sample of 20 students was taken for this purpose. After pre-testing some changes were made on the basis of responses. The scale of the questionnaire was changed from 7-point Likert scale to 5-point Likert scale as it was difficult for respondents to understand the 7-point Likert scale. The questions were easily understood by the students as simple vocabulary was used.

## RESULTS AND DISCUSSION

In this study it is observed that majority of the respondents were female (65.7%). Most of the respondent's age lies between 20 to 30 years. Majority of the participants belong to urban area i.e. 73.9%. (34.3%) were the students that are currently studying in Master Program. Most of the participants Father's education was Bachelors while Mother's education was Matric.

Table 1: Descriptive of respondent's demographic information depicts that the monthly family income of most of the respondents 32.5% was greater than 60,000. In our research, most of the students 75.0% were those who have ever taken up research project/report/thesis and majority of the students (75.7%) said that they are interested in research work if they have a choice. Majority of the students like and enjoy involving in research activity which indicates positive attitude of students towards research. Students showed high attitude towards research usefulness and low level towards research anxiety. It was found that students do not face trouble and find it easy to understand the research process and majority of the students perceived research relevance to their daily lives.

### Factor Analysis

As Shown in Table 2: Factor loading matrix for the five factors identified in the study population from the questionnaire 5 factors were extracted. All variables are well represented by the 5 chosen factors, given that the corresponding communalities are generally high. The 5 chosen factors explain most of the variation (50.055%) of data.

First factor that is Positive attitude towards Research consists on following questions Research should be taught to all students, I enjoy research, Research is interesting, I like research, I love research, I am interested in research, Research is pleasant. Second factor that is Research usefulness for profession consists on following questions Research is connected to my field of study, most students' benefits from research, Research is very valuable, The skills I have acquired in research will be helpful to me in the future, Research is useful to every professional, Knowledge from research is as useful as coursework, Research is irrelevant to my life, I will employ research approaches in my profession, I am inclined to study the details of research procedures carefully, Research oriented thinking plays an important role in my daily life

Third factor that is Research anxiety consists on following questions Research is stressful, Research makes me nervous, Research is complicated, Research is difficult, Research is a complex subject. Fourth factor that is Research difficulty consists on following questions I feel insecure concerning the

analysis of research data, Research scares me, I find it difficult to understand the concepts of research, I make many mistakes in research, I have trouble with arithmetic. Fifth factor that is Relevance to life consists on following questions I use research in my daily life, Research should be indispensable in my professional training, Research thinking does not apply to my personal life.

Table 3: Mean and Standard deviation of factors depicts that the mean scores for each of the five factors: positive attitude towards research, research usefulness for profession, research anxiety, research difficulty and relevance to life. The data was collected by using a five-point Likert scale. The median for the scale was 3. The mean for first factor "positive attitude towards research" is 3.5417 (0.79152). This shows majority of the students like and enjoy involving in research activity which indicates positive attitude of students towards research.

The second factor "research usefulness for profession" explored the student's opinion about the value of research in their professional lives and career achievement. The mean for this factor is 3.6747 (0.65148) which shows high students attitude towards research usefulness. The third factor "research anxiety" explored student's opinion about "tension, stress, fear and difficulties in understanding research. The mean score 2.8036(0.77865) indicates low level of research anxiety. The forth factor looked into the students opinion about the "research difficulty".

The mean value 3.0457(0.50366) can be interpreted as the students do not face trouble and find it easy to understand the research process. The last factor explored student's opinion about the "relevance to life". The mean of this category is 3.0060 (0.66211) which reveals majority of the students perceived research relevance to their daily lives. Hence overall it indicates that students have positive attitude towards research.

Table 4: Man Whitney U Test between gender and factors shows that for factor 1, factor 2 and factor 4 p-value<0.05 so we reject our null hypothesis and conclude that there is significant difference in the mean scores of male and female student's attitude towards research on factor 1 "positive attitude towards research", factor 2 "research usefulness for profession" and factor 4 "research difficulty". And for Factor 3 and factor 5 p-value>0.05 so we accept null hypothesis and conclude that there is insignificant difference in the mean scores of male and female student's attitude towards research on factor 3 "research anxiety" and factor 5 "relevance to life".

**Table 1:** Descriptive of respondent's demographic information

Attributes	Category	Frequency (%)
Age	Less than 20	29(10.4)
	20-30	239(85.4)
	Greater than 30	9(3.2)
Gender	Male	96(34.3)
	Female	184(65.7)
Marital status	Single	258(92.1)
	Married	22(7.9)
Residential Area	Rural	73(26.1)
	Urban	207(73.9)
Education	BS(Hons)	92(32.9)
	Masters	96(34.3)
	M.Phil.	74(26.4)
	PhD	18(6.4)
Faculties	Social Sciences	65(23.2)
	Sciences	76(27.1)
	Management Sciences	66(23.6)
	Life Sciences	73(26.1)
CGPA	Less than 3.0	55(19.6)
	3.0-3.3	62(22.1)
	3.3-3.7	107(38.2)
	Greater than 3.7	45(16.1)
Father's Education	Illiterate	27(9.6)
	Primary	3(1.1)
	Middle	14(5.0)
	Matric	58(20.7)
	Intermediate	57(20.4)
	Bachelors	73(26.1)
	Masters	39(13.9)
	M.Phil.	5(1.8)
	PhD	4(1.4)
	Illiterate	48(17.1)
Mother's Education	Primary	21(7.5)
	Middle	18(6.4)
	Matric	63(22.5)
	Intermediate	53(18.9)
	Bachelors	54(19.3)
	Masters	18(6.4)
Mother's employment status	M.Phil.	4(1.4)
	PhD	1(0.4)
	Jobholder	24(8.6)
	Housewife	256(91.4)
	below 20,000	22(7.9)
Family monthly income in (Rs)	20,000-40,000	84(30.0)
	40,000-60,000	82(29.3)
	above 60,000	91(32.5)
	No	70(25.0)
Have you ever taken up research project/report/thesis?	Yes	210(75.0)
Will you like to opt for research thesis if you have a choice?	No	68(24.3)
	Yes	212(75.7)

**Table 2:** Factor loading matrix for the five factors identified in the study population

	Component				
	1	2	3	4	5
Research should be taught to all students.	.396				.316
I enjoy research.	.800				
Research is interesting.	.764				
I like research.	.809				
I feel insecure concerning the analysis of research data.				.642	
Research scares me.	.474			.586	
I find it difficult to understand the concepts of research.			-.362	-.577	
I make many mistakes in research.			.311	.519	
I have trouble with arithmetic.				.581	
I love research.	.789				
I am interested in research.	.725	.385			
Research is connected to my field of study.	.445	.484			
Most students benefit from research.		.582			
Research is stressful.			.714		
Research is very valuable.		.571			
Research makes me nervous.			.535	.468	
I use research in my daily life.	.310				.360
The skills i have acquired in research will be helpful to me in the future.		.695			
Research is useful to every professional.		.703			
Knowledge from research is as useful as course work.		.725			
Research is irrelevant to my life.		.480			
Research should be indispensable in my professional training.					.567
Research is complicated.			.746		
Research thinking does not apply to my personal life.					.478
I will employ research approaches in my profession.		.600			
Research is difficult.			.553		
I am inclined to study the details of research procedures carefully.		.450			-.419
Research is pleasant.	.465		.403		
Research oriented thinking plays an important role in my daily life.		.517			
Research is a complex subjects.			.600		

**Table 3:** Mean and Standard deviation of factors

	N	Mean	Std. Deviation
Positive attitude towards Research	279	3.5417	.79512
Research usefulness for profession	277	3.6747	.65148
Research anxiety	280	2.8036	.77865
Research difficulty	280	3.0457	.50366
Relevance to life	278	3.0060	.66211

**Table 4:** Man Whitney U Test between gender and factors

	F1: positive attitude	F2: research usefulness	F3: research anxiety	F4: research difficulty	F5: relevance to life
Mann-Whitney U	6563	7048	8121	7459.5	8434.5
Wilcoxon W	23583	23884	25141	24479.5	25270.5
Z	-3.415	-2.464	-1.110	-2.152	-.412
P-value	.001	.014	.267	.031	.680
a. Grouping Variable: Gender					

**Table 5:** Kruskal Wallis between Degree and Factors

	F1:positive attitude	F2:research usefulness	F3: research anxiety	F4: research difficulty	F5: relevance to life
Chi-Square	20.460	17.733	4.025	1.264	4.851
Df	3	3	3	3	3
P-value	.000	.000	.259	.738	.183
a. Kruskal Wallis Test					
b. Grouping Variable: Education					

Table 5: Kruskal Wallis between Degree and Factors depicts that for factor 1 and factor 2 p-value<0.05 so we reject null hypothesis and conclude that there is significant difference in the mean scores of students enrolled in different programs of study on attitude towards the research on factor 1 “positive attitude towards research”, and factor 2 “research usefulness for profession”. While for factor 3, factor 4 and factor 5 p-value>0.05 so we accept null hypothesis and conclude that there is insignificant difference in the mean scores of students enrolled in different programs of study on attitude towards the research on factor 3 “research anxiety”, factor 4 “research difficulty” and factor 5 “relevance to life”.

## CONCLUSION

This study explored the effects of demographic variables on the student's attitude towards research. It was observed that students like and enjoy involving in research activity which indicates positive attitude of students towards research.

Another finding of this study is that male students held positive attitude towards the research than females. This study has also examined the relationships that existed between the five factors that were produced in this study. There is strong correlation between positive attitude towards research and research usefulness and there is weak correlation between positive attitude and research anxiety. This also shows that students perceived research usefulness in their professional lives. Results also showed that participants of Ph.D. and MPhil were

significantly better than participants of Bachelor on factor 1 “positive attitude towards research”, and factor 2 “research usefulness for profession”.

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