Gender Differences in Research Attitudes: Comparison of Public and Private Sector Postgraduate Students’ Attitude towards Research

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Abstract
Quality research, in one way or the other, depends upon the research attitudes of the researchers involved in the process. But, male and female researchers’ may have different attitudes about research. The present study focuses upon the determination and comparison research attitudes of male and female MS/MPhil level students. Randomly selected 218 male and female students from public and private sector universities were delivered students’ research attitude scale developed by Papanastasiou, (2005). Analysis of data revealed that significant difference exists between research attitudes of male and female students. Male students possessed relatively more positive research attitude as compared to that of the females. Moreover, in public sector universities difference was found in the research attitudes of male and female students but it did not exist in the private universities.

Keywords: Research attitudes, university, male and female students, gender differences.

I. Introduction
In everyday life people persevere at activities they believe are possible. Convinced they have the ability to accomplish a task, they surely attempt it. But, Uncertainty makes them reluctant. The same is the case with the researchers. If they have positive attitude towards research, they will complete the research pleasantly and it will be of good quality. Research attitude is researchers’ positive or negative orientation towards research (Saleem, Saeed, & Waheed, 2014). In other words research attitudes describe the researchers’ interest or liking regarding research process.

Attitudes of males and females had been under study since long in difference fields of study. Girls’ and boys’ views on gender roles and corresponding areas of activities have changed considerably in recent years (Kaiser-Messmer, 1993). That is they think and exhibit different behaviors while performing the same task. As research is an exhaustive
and continuous process of investigation of certain aspect, therefore, it requires positive attitude to accomplish in good quality.

In Pakistani universities gender differences prevail in the field of research e.g. selection of research topic, adoption of research method, selection of research supervisors (Saleem, Saeed, & Waheed, 2014). Little information is there about students’ attitude towards, especially gender variations in research attitudes. Therefore, the present study was carried out to determine whether this difference actually exists and if it is so what is the extent of difference.

II. Review of the Literature

Research is the process of collecting and analyzing information to increase our understanding of the phenomenon under study (Swindoll, 2012). Comprehensive definition of attitude includes emotions, beliefs, behaviors and their interaction (Zan & Martino, 2007). The attitude towards research basically means a detailed study of thinking, feeling and the person’s behavior towards research. Papanastasiou (2005) infers that it is important to study the attitudes towards research so that positive attitudes can be developed among the both group of gender. Also, some aspects from the general social life came into developing research attitude by the both groups of gender. The literature suggest that gender differences matter in developing attitudes in conducting research and in studying research courses. The literature suggests that the attitudes have been found explaining a significant portion of the variance in learning toward research (Ma, 1995). Therefore, there is a need to explore how gender show attitude towards research. Successively, these attitudes influence the amount of effort on learning of a subject, which also influences the advancement in research courses more than minimum requirements. Thus, exploring gender’ attitudes (both groups of gender) toward a research is important in order to develop research courses.

At the moment, despite some changes, women still battle inequalities in political, social, and economic arenas. Though attitudes have been changed, women may still be viewed as needing more help or expected to suppress assertive behaviors. They run the risk of being labeled dependent when expressing needs and/or they may generally be seen as weak. Men may be regarded as weak or even disturbed if they do not present traditional male roles and characteristics. Over the past four decades, attitudes have been changing concerning inclusion of women in research in medical research as well as other areas of social sciences. In addition, women participation was deficient in most of the research because they were viewed as a weak population requiring special protection, and there was concern that their participation would result in harm. Another fear was that participation of women in research would result in increased liability risk for the researchers.

Moreover, differences in communication styles between males and females potentially impact the research process. Several studies (Henly, 1995; Langlois et al., 1994) highlighted different patterns in communication that appear to be gender specific. The findings from these researches indicate that men interrupt women more than women interrupt men. The literature suggests that one of the main problems of these negative attitudes is that they have been found research as obstacles to their learning (Wise, 1985; Waters et al., 1988). Moreover, these negative attitudes have been found to be associated
A number of researches showed that male and female attitudes towards research are generally different. Males are more likely inclined to do research than females. Both group of gender are more likely to believe that it is tough and dry to study the research courses and conduct research (Sabzwari et al., 2009). This is because they do not understand the importance of research in their professional life. Females think that the reasons to take less interest in reading research literature and the reasons behind are lack of time, lack of understanding of research process, non-availability of suitable literature, and lack of trust in research findings.

Moreover, Holloway and Wolleat (1994) emphasized the differences on the attitude towards supervision. It was noted that the supervision is becoming an empowering experience for women, who in their cultural contexts may not often be given this opportunity. Differences interestingly, both male and female supervisors are more likely to tell their female supervisees what to do (Granello, Beamish & Davis, 1997). Hence, male and female supervisors believe that their female supervisees require more concrete direction and/or are not capable of making their own decisions. Moreover, Nelson & Holloway (1990) found both male and female supervisors less likely to reinforce a female supervisee's attempt to take on a powerful role. The previous research explored issues on the attitude of males and females on the supervision. This indicates a gap that there is a need to explore that what male and female postgraduate students' attitude towards conducting research.

Granel et al. (1997) noted a difference between supervisors’ tendency towards male and female supervisees. Such as male and female supervisors ask for male supervisee's opinions and suggestions more than twice as often as they do female supervisees. During longer supervisory relationships, females were more often explained being less accepted autonomous by their supervisor (Granello, Beamish, & Davis, 1997). Pope (1994) noted female in touching behavior more with female than male. Several researchers indicated differences in nonverbal behavior between females and males. Particularly this gap arises when there is a need to engage in gendered behavior because they need to bring about this liking (Abbey & Melby, 1986; Gilbert & Scher, 1999; Hall, Harrigan & Rosenthal, 1995).

Some of the literature addressing the gender differences deals with the expressiveness and instrumentality towards research attitude. Expressiveness is linked to more feminine characteristics while males are better in instrumentality and addresses such traits as goal direction, independence, and self-confidence. Moreover, Romans (1990) tested Stoltenberg & Delworth (1987) hypothesized that females are more affective while males are more cognitive. Thus, the results of these studies indicate that the females have more emphasis on feeling while males have more emphasis on thinking.

In the contemporary trend in Pakistan, many challenges to the traditional research are currently encountered in the public and private educational institutions in Pakistan (Akhter, 2013, Ali, 2008; Lodhi, 2011). Moreover, there are complaints about current culture in the universities that could affect the quality of research, raising questions about poor participation into research process, fake data/responses, dishonest opinions and the
issues on the gender (e.g. Mohammed, 2006; Ali, 2008). According to the current culture in Pakistani universities, the teachers and students lack the ability to research and take less interest in the research process (Lodhi, 2011). Moreover, the literature suggests that females typically tend to view research-related courses with negative attitudes and feelings more than males, particularly when data analysis using statistics is involved (Adams & Holcomb, 1986; Wise, 1985). Accordingly, there is a need to uncover research attitude regarding the gender differences.

As concerned with the gender on the participation into the research process, both of the genders find themselves in an inappropriate environment to conduct research as well as participate into research activities (Lodhi, 2012). Therefore, they do not develop the confidence, initiative, and abilities required to take part into research activities particularly in the public sector universities of Pakistan. As discussed above, the majority of research-participants are unfamiliar with the process of research (Weiss et al., 2001). Additionally, the literature indicates that the requirements in participating into research mainly present two challenges. Firstly, research courses have not been a prominent feature of students’ preparation (Mohammed, 2006; Lodhi, 2011). Secondly, the students have never been exposed to research-based activities. More likely, the students are engaged in research courses at postgraduate level. Therefore, they do not necessarily understand it. Literature showed that students are not prepared to incorporate research process into their teaching practices; therefore, they are likely to have a limited personal understanding of the process of research (Lodhi, 2012; Halai, 2010). Thus, this indicates a need to know the difference in research attitude of males and females in the public and private sector universities.

It has been noticed by many studies that woman found more reluctant in participant the research studies, particularly, participating into interviews rather man (Akhter, 2013; Elabbar, 2011). As well, women seemed nervous in expressing their views on the issues. Also, unfamiliarity of the tools used in the research and the recording devices made them uncomfortable. Moreover, the consent form and plain language statement also made their participation a bit confusing. Although women take a little interest and participation into the research process, both genders can equally participate into the research process. Also they lack in understanding the research process, mostly a lower level of initiation into participating into qualitative research, and feel inferior to be perceptive than man. Hence, the role of man seems more participative, thoughtful and initiative than woman in conducting research.

The literature on the gender difference on the attitude informs us that the male students are more likely held positive attitude towards the research (Costello, 1991; Shaukat et al., 2014). Hence it seems that research is male dominated domain. A possible reason for this, finding may stem from the fact that the males assume that the research is useful for their professional career (Butt & Shams, 2013). Females are usually supposed to look after domestic responsibilities so they consider research subject as a degree requirement. Another reason of the positive attitudes of males towards the research may be that they are more inclined towards mathematics, statistics and economics than the females (Lindsay, Breen & Jenkins, 2010). Therefore, they held less fear in conducting data analysis and have a high computer literacy than the females. Another reason of feeling that research is an uncomfortable and complex process is that the both of gender do not focus on the understating of the consent form and information explained to them
about the research project (Lodhi, 2012; Akhter, 2013). The participation of women in a research study is based on the expectation that she will consider carefully her own interests. Thus, women may find themselves under pressure to participate in research that carries risk to them.

Having looked on the literature, there is a limited amount of information regarding gender differences towards the research attitude and particularly the differences in research attitude in the public and private institutes in Pakistan. What is clear is that there are complex differences between the way male and female approach to the research process, the way supervisors are viewed, and their impact on male and female supervisors.

III. Purpose and Scope of the Study

Several studies suggest that the liking and disliking, interests and attitudes of male and female attitudes vary, sometimes are contradictory to each other, in different fields of life. However, there is scarcity of research that compares the male and female students’ research attitudes. Therefore, it is important to learn more about the differences in order to provide the courses of research, appropriate supervision possible and in turn help the researchers of tomorrow be competent and effective. Thus this study seeks to fill in the gaps regarding gender differences towards the research attitude and particularly a difference in attitude in the public and private institutes in Pakistan.

The present study is an effort to determine male and female students’ research attitudes and to compare the attitudes of students studying at MS/MPhil level in public and private sector universities of Pakistan. The comparison of research attitudes will be made on five different aspects of research attitude as described by Papanastasiou, (2005).

These factors are as under:
1. Research usefulness for profession
2. Research anxiety
3. Positive attitude towards life
4. Relevance to life
5. Research difficulty

A. Research Questions

1. Is there any significant difference between male and female students’ attitude towards research?
2. Is there any significant difference between male and female students’ attitude towards research in the public and private universities?

B. Methodology

The present study is descriptive type quantitative research. A survey was carried out to collect data. Survey research designs are procedures in quantitative research in which investigators administer a survey, i.e. a questionnaire, to a sample or to the entire population of people to describe the attitudes, opinions, behaviors, or characteristics of the population (Creswell, 2012).Fraenkel & Wallen (2009) also described that in a survey study information is collected from a group of people in order to describe some aspects or
characteristics (such as abilities, opinions, attitudes, beliefs, and/or knowledge) of the population of which that group is a part.

Population of the study was MPhil/MS level students enrolled in the social sciences and humanities departments of public and private sector universities of Pakistan during academic year 2013-14. Multistage sampling technique was used to draw a representative sample. From all the 160 universities and degree awarding institutions in Pakistan (HEC, 2013) ten universities, including five public and five private, were randomly selected. From the selected universities one department/institute offering MPhil/MS was again randomly taken for the study. Fifty percent students of the selected departments offering MPhil/MS constituted the sample of the study. The sample configuration is shown in the figure below;

Figure 1: Gender wise distribution of sample

A research scale viz. “Students’ Attitude Research Scale” was adapted for the purpose of data collection. The scale was originally developed by Elena C. Papanastasiou (Papanastasiou, 2005). This scale comprised of 32 items divided into five different aspects of attitude towards research i.e. research usefulness, research anxiety, positive attitude, relevance to life and research difficulty. Before final administration the scale was tried out in two universities including one public and one private university. The coefficient of reliability was calculated as 0.880 which is considered as high reliability for data collection instruments in social sciences (Cohen, Manion, & Morrison, 2007). The scale was finally administered to the selected sample for data collection.

Both the descriptive and inferential statistics were used to analyze the collected data using a software namely Statistical Package Social Sciences.

IV. Findings/Results

The analysis of data revealed the following results. Comparison of male and female students’ attitude towards research reflected that a significant difference exists in the research attitude of both the sexes ($p=.014<.05$). Male respondents showed relatively positive attitude as compared to the females ($\bar{x} = 4.34 > 4.01$). The difference in the attitudes is statistically significant as the effect size (0.343) is modest (Cohen, Manion, &
Morrison, 2007). Table 1 below shows the statistical calculations for the difference in male and female research attitude.

<table>
<thead>
<tr>
<th>Table 1: Comparison of male and female students’ research attitude</th>
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<tbody>
<tr>
<td><strong>N</strong></td>
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<tr>
<td>Male</td>
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<tr>
<td>Female</td>
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</table>

While comparing the research attitude of male and females students from public and private universities it was emanated that the research attitude of male and female students from public universities were significantly different ($p=.000<.05$) whereas no significant difference was observed in the research attitudes of male and female students studying in private sector universities ($p=.745>.05$). A moderate effect size (0.752) for difference of male and female student’s attitude reflects that the magnitude of difference found is quite considerable and it was not because of any other factor like large sample size etc. The same is shown in the table below;

<table>
<thead>
<tr>
<th>Table 2: Comparison of male and female students’ research attitude in public and private universities</th>
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</thead>
<tbody>
<tr>
<td><strong>Universities</strong></td>
</tr>
<tr>
<td>Public</td>
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<tr>
<td>Male</td>
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<tr>
<td>Female</td>
</tr>
<tr>
<td>Private</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
</tbody>
</table>

Comparison of male and female students’ research attitude subscales reflects that significant difference was observed for positive attitude ($p=.007<.05$) and relevance to life ($p=.007<.05$). The effect size for both the differences (0.371 & 0.368) specifies the differences observed were moderate. The statistical calculations i.e. t-test analysis, is given in the table below;

<table>
<thead>
<tr>
<th>Table 3: Factor vise comparison of male and female students’ research attitude</th>
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</thead>
<tbody>
<tr>
<td><strong>Research Attitude Factors</strong></td>
</tr>
<tr>
<td>Research usefulness</td>
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<tr>
<td></td>
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<tr>
<td>Research anxiety</td>
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<tr>
<td></td>
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<tr>
<td>Positive attitudes</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Relevance to life</td>
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<tr>
<td></td>
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<tr>
<td>Research difficulty</td>
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</table>
As the research attitude difference for private sector male and female students was not significant therefore comparison of subscales of research attitude is made only for the public sector students. The results in the below table shows that for all the sub factors of research attitude there exists significant difference in male and females’ attitude. It is worthy to note that large effect size for research anxiety (0.814) and moderate effect size for positive attitude towards research (0.649) and relevance to life (0.616) indicates very obvious difference in the male and female student’s disposition towards research. The effect size for remaining factors is small which reflects that although the difference in attitudes do prevails but it is not as large as the said three factors. The detailed calculations are given below.

Table 4: Factor vise comparison of male and female students’ research attitude in public universities

<table>
<thead>
<tr>
<th>Research Attitude Factors</th>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Mean Difference</th>
<th>t</th>
<th>df</th>
<th>Significance</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research usefulness</td>
<td>Male</td>
<td>61</td>
<td>4.84</td>
<td>1.04</td>
<td>0.45</td>
<td>2.351</td>
<td>129</td>
<td>.020</td>
<td>0.416</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>70</td>
<td>4.39</td>
<td>1.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research anxiety</td>
<td>Male</td>
<td>61</td>
<td>4.61</td>
<td>0.71</td>
<td>0.62</td>
<td>4.607</td>
<td>129</td>
<td>.000</td>
<td>0.814</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>70</td>
<td>3.99</td>
<td>0.81</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive attitudes</td>
<td>Male</td>
<td>61</td>
<td>5.00</td>
<td>1.13</td>
<td>0.73</td>
<td>3.740</td>
<td>129</td>
<td>.000</td>
<td>0.649</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>70</td>
<td>4.27</td>
<td>1.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relevance to life</td>
<td>Male</td>
<td>61</td>
<td>4.85</td>
<td>1.06</td>
<td>0.65</td>
<td>4.298</td>
<td>129</td>
<td>.000</td>
<td>0.616</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>70</td>
<td>4.20</td>
<td>1.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research difficulty</td>
<td>Male</td>
<td>61</td>
<td>3.26</td>
<td>1.25</td>
<td>-.24</td>
<td>-2.62</td>
<td>129</td>
<td>.010</td>
<td>0.298</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>70</td>
<td>3.68</td>
<td>1.55</td>
<td></td>
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</tbody>
</table>

V. Conclusions

The study revealed that significant difference exists in the research attitude of male and female MS/MPhil level students. The attitude of males is comparatively more positive as compared to the females. Moreover, significant difference between male and female student’s research attitudes was found for the public universities whereas in the private universities no such difference was detected. Comparison on the sub-factors of research attitude scale reflects that male and female students possess difference in attitude regarding positive attitude towards research and relevance of research to the life. The public sector male and female students have significant difference in attitude about all the sub-scales. Male students feel more research anxiety as compared to the females. In the same way male students showed high positive attitude towards research and consider research more relevant to their lives as compared to the female students. But, females consider research more difficult for them.

VI. Discussion

It is important to note that male and female students have difference in their research attitudes. This finding of the study is in line with different studies conducted in various parts of the world (Lindsay, Breen & Jenkins, 2010; Lodhi, 2012; Akhter, 2013). Similarly Costello (1991) and Shaukat et al. (2014) supports the finding of the present study that male students possess more positive attitude towards research as compare to the female students. Another reason for having positive research attitude among male students, according to Saleem, Saeed, & Waheed (2014), lies in the culture of Pakistan.
Females, usually, avoid field work and shun from interaction with strangers. In the same way Butt & Shams (2013) also concludes that males consider research more relevant to their lives supporting the same result of the present study. Another reason for this difference is again the specific culture of Pakistan. Females often involve themselves in research only for the academic purpose whereas males find it supportive for their professional lives (Saleem, Saeed, & Waheed, 2014).

It is also inferred that in private sector no research attitude difference is found. Moreover, research attitude of public sector universities is relatively more positive. An obvious reason behind this outcome is that in most of the private sector universities research work is optional. The MS/MPhil level students usually opt to study courses instead of choosing research thesis. But, on the other hand public universities usually do not offer such provisions. Consequently the students lose their interest in research resulting in poor research attitude.

As females consider research more difficult therefore, they lack interest in it and consequently have poor research attitude. Main reason of the outcome, according to Weiss et al. (2001 is that most the researchers are not sufficiently equipped with the research skills. The lack of research skills make them run away from the research of accomplishing poor quality research.

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