Relationship of Perceived Stress and Self-Efficacy with Satisfaction of Dissertation Process among Ph.D. Students

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ABSTRACT

Stress and self-efficacy directly affects the satisfaction of Ph.D. students. This research was designed to examine the relation of perceived stress and self-efficacy with satisfaction of the dissertation process among Ph.D students in University of the Punjab, Lahore, Pakistan. Two hundred and fifty doctoral students who were working on their dissertations participated in this study. For data collection, three instruments were used and the Cronbach's alpha coefficient value of internal consistency for Perceived Stress Scale was 0.75 and that of Dissertation Self-Efficacy Scale was 0.95. The results revealed that Ph.D. Students perceived low-level stress and had a high level of self-efficacy regarding dissertation structural tasks. Doctoral students were moderately satisfied with dissertation process. It was also found that females felt more stress and anxiety than males and both had the same level of self-efficacy and satisfaction. Study revealed significant difference in efficacy of completers and non-completers of dissertation. Self-efficacy and satisfaction had positive relationship with each other while stress was negatively related to satisfaction and self-efficacy. Ph.D. students with had high self-

efficacy and less stress were satisfied with their
dissertation than students having stress on them.

Introduction

For obtaining Ph.D. degree, it is compulsory for all doctoral
students to complete the dissertation. In the doctoral program, the
dissertation is considered a multidimensional task. From student to a scholar,
many people consider dissertation as being the rite of passage. The
dissertation is the final and hectic part of the doctoral program, after that a
person is recognized as an expert in the field of study (Gray, 2014). The
completion of the dissertation depends on the association of students with it
and doctoral graduates may consider the dissertation a pleasure and an
experience of learning (Boulder, 2010). Chaudhary (2016) identified that
about 10 private and 11 public sector universities in the country have failed
to confer a single Ph.D. degree annually for the last five years, which is a
matter of concern.

In University of the Punjab, the proportion of M.Phil and Ph.D.
students has raised from 1.1% in 2008 to 14.89% in 2015 (Fact-Book
University of the Punjab, 2015). About one-third of the doctoral students
failed to complete a dissertation, although they have been completed the
required coursework. It has been observed that students who have a sense of
frustration, stress, loneliness, and self- doubt might be led them to a negative
attitude towards the dissertation process (Johnson & Conyers, 2001).

For the successful completion of the doctoral degree, students face
many challenges and hurdles on the journey to the dissertation (Blum, 2010).
Pritchard and Wilson (2003) identified stress and self-efficacy is the most
important social cognitive factors that help in the completion of task.
Student satisfaction refers to the condition when needs and expectations of
students have been met. Satisfaction of doctoral students is positively
associated with the relationship of advisors for successful completion of the
dissertations. The attrition rates are increased when doctoral students do not
complete their degrees and both students and programs suffered (Neale-
McFall & Ward, 2015). For many doctoral students dissertation generate a
certain level of fear and stress that often seems to be caused by inadequate
training in research, lack of previous research experiences, and negative
attitudes toward research. Therefore, it is appropriate to examine the
student's progress at the dissertation stage within framework of the self-
efficacy theory (Rakow & Ethington, 1999). Many factors influence on the
dissertation completion. Researchers found students satisfaction particularly
in term of their advisors support positively related with dissertation
completion (Hoskins & Goldberg, 2005; Noel-Levitz, 2011; Spaulding,
Rockinson & Szapkiw, 2012; West, Gokalp, Pena, Fisher, & Gupton,
2011;). As a potential variables of perceived stress and self efficacy is
directly effect on task completion. Researchers discovered that self efficacy
positively linked with students' satisfaction and when students' work hard

for accomplishing the task it preserve for a long time (Pritchard & Wilson, 2003; Zimmerman, 20000). Moreover, studies have found that stress is inversely associated with dissertation completion. It is also found that optimal level of stress enhances the task completion process (Kaplan & Sadock, 2000; Pritchard & Wilson, 2003; Russell & Petrie). Conversely, high level of stress is related with low level of academic satisfaction (Pinugu, 2013).

However, very few studies have been conducted on the combined effect of stress and self-efficacy of doctoral student's satisfaction with the dissertation. This knowledge enables us for better understanding of perceived stress and research self efficacy and minimizing the factors that could hinder the research process. This study might be helpful for the academic institutions, advisors and also for faculty that how can they increase postgraduate students' efficacy and reduce the stress level during dissertation process. Therefore, the goal of this research was to investigate the association of the perceived stress and self-efficacy with satisfaction for dissertation work among Ph.D. graduates. The answers of the research questions based on the aim of study were ; (1) What are the levels of potential variables as financial security, advisor support, perceived stress, self-efficacy, satisfaction and dissertation progress index of doctoral students? (2) What is the difference in male and female doctoral students perceived stress, self-efficacy, and satisfaction of dissertation? (3) What is the difference in non-completers and completers of dissertation students with reference to perceived stress, self-efficacy, and satisfaction of dissertation? (4) Is there any relationship, if any exist among perceived stress, self-efficacy, and satisfaction with the dissertation? (5) To what extent stress and self-efficacy are related with satisfaction?

Effect of Self-Efficacy on Academic Achievements and Satisfaction

The most important key element of the social cognitive theory is self-efficacy that has been defined by Bandura (2001) and the most essential aspect of this theory is individual's judgment about their capabilities to manage and accomplish a given task to produce positive outcomes. Self-efficacy plays a significant role in academic performance (Zimmerman, 2000), more specifically on dissertation progress and dissertation completion (Colvin, 2012; Dumitrescu, 2016; Harch, 2008; Varney, 2010). Some studies found significant and positive association between self-efficacy beliefs and satisfaction of life in general (Civitci, 2015; Tong & Song, 2004), as well as job satisfaction (Gkolia, Belias, & Koustelios, 2014; Klassen & Chiu, 2010). Conversely, limited researches have been conducted on self-efficacy and satisfaction among postgraduates. Those studies that are available indicate that students who have high levels of efficacy are more satisfied with their academic performance (Ansari & Khan, 2015; Coffman & Gilligan, 2002), and dissertation process (Rakow & Ethington, 1999;

Dumitrescu, 2016), and are more likely to complete their dissertations (Colvin, 2012; Harsch, 2008).

Effect of Perceived Stress on Academic Achievements and Satisfaction

Stress is unavoidable and part of daily routine matters. There are positive and negative effects of stress in academic situations (Stevenson & Harper, 2006). Lazarus proposed (1966) that stress would exist when there is transaction among persons and their environment. For stress, a negative correlation has been observed between task completion and academic performance. When a comparison made between completers and non-completers, it had been reported that non-completers and withdrawal from the doctoral program were positively correlated with critical periods of stress (Felsten & Wilcox, 2009; Pritchard & Wilson, 2003). The researchers emphasized that academic pressure, comprehensive exams and work pressures are major source of stress which can differentiate in non-completers and completers (Feick, 2010; Tierce, 2008; Wood, 2008). Moreover, non-completers reported that critical periods were the reason for financial issues, general discouragement, and family problems (Feick, 2010). Pinugu (2013) looked at the influence of stress on academic satisfaction and his findings suggested that students who experienced academic stress tend to have high levels of anxiety, depression, lack of coping skills, and dissatisfied because they perceived negative experiences of learning. Few researches have discovered how stress and self-efficacy affect the satisfaction of doctoral students. Coffman and Gilligan (2002) concluded that students who had high-level efficacy could cope with the stress in a better way and more satisfied with the dissertation.

Factors Influencing Satisfaction

Student satisfaction is an important element because it influences the completion of doctoral program (Hesli, Fink, & Duffy, 2003). Satisfaction also relates to student perception of academic experiences (Elliot, Shell, Henry, & Maeir, 2005). This study examined the doctoral student satisfaction with their dissertation for completing the degree. Previous researches point out that completion of doctoral degree and student satisfaction are positively related with the doctoral program (Lovitts, 2008). Many doctoral students who completed their program reported high-level satisfaction with academic program, instructions, and coursework (Ducette, 2009). Many students reported that their advisors were very encouraging, took personal interest, had regular meetings and there were fewer delays in obtaining feedback (Mengel, 2016), they perceived their expectations had been met (Cooke, Sims, & Peyrefitte, 2005) and they received social support from friends and family that gave them motivation and satisfaction for completing the program and dissertation (Mahanta & Aggarwal, 2013).

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Doctoral students who received inadequate advising and unavailability of the advisor or showed lack of interest for active guidance (Lovitts, 2008) and those who received poor quality of instructions, teaching styles and strategies, management problems, faculty issues and lack of ICT facilities did not complete their dissertation and doctoral program successfully (Abbasi, Malik, Chaudhry, & Imdadullah, 2011).

Methodology

       The study was quantitaive and correlational research design was used to explore the relationship of perceived stress and self-efficacy with satisfaction of dissertation process.

Participants

       The target population was all Ph.D. students in University of the Punjab, Lahore who were enrolled in the session 2011-2015. There were13 academic faculties and 5124 Ph.D students were enrolled in 2011- 2015 session in University of the Punjab, Lahore (Fact-book of University of the Punjab, 2015). Multistage sampling technique was used. At the first stage, six academic faculties in University of the Punjab, Lahore was selected by using table of random numbers and then 250 Ph.D students who were working on their dissertation were selected by using convenience sampling.

Measures and Procedures

       In this regard, three closed-ended questionnaires adopted as a research instruments for assessing the perceived stress, self-efficacy, and the demographic characteristic of doctoral students. The Perceived Stress scale version 10 consisted on 5 point Likert-scale was used and statements start with "In the last month, how often have you felt" for the purpose of this study (Cohen, Kamarck & Mermeistein, 1983).

       Dissertation Self-Efficacy Scale is used for assessing the ability of students to complete the dissertation. It specifically measures the students' dissertation self efficacy and the ability for accomplishing the dissertation tasks effectively. Dissertation self efficacy scale comprised on 16 items and ranged from 0 "not all confident" to 10 "completely confident" (Varney, 2003). One straightforward question was asked for measuring the satisfaction of students with their dissertations by using 5 point Likert-scale developed by Dumitrescu in 2016. Demographic characteristic questionnaire was based on personal information and dissertation status of Ph.D. students. The Cronbach Alpha value of internal consistency of Perceived Stress Scale was measured 0.75 and that of the Dissertation Self-Efficacy Scale was computed 0.95. The researchers personally visited to the concerned academic faculties and their relevant departments for data collection. The researchers confirmed the availability of PhD students in their concerned

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departments by administrative staff and their supervisors and then distributed the questionnaires among PhD students.

Data Analysis

Data analysis was carried out by SPSS and the results were interpreted using Descriptive analysis, Pearson coefficient of correlation, Independent samples t-test, and Linear Regression.

The response rate of the doctoral students in total sample was 92% because 2.4% doctoral students had missed gender information and 5.6% missed values on all the estimated variables were excluded during the analyses. The final sample consisted of 230 Ph.D. students, 101 (43.91%) males and 129 (56.08%) females with a mean value of 31.67 (SD = 4.03).

Results

The researchers evaluated the results from statistical analysis at a significance level of $p < .05$.

Table 1

Dissertation Progress Index (N = 230)

Characteristics	f	%
Completed coursework/ deciding a topic	7	3.0
Completed comprehensive exams/ deciding upon a topic	16	6.9
Writing dissertation proposal	43	12.7
The proposal approved, data not collecting	12	5.2
Data collecting	20	8.8
Data analyzing	24	10.4
Writing the final chapters of the dissertation	59	25.7
Defend the dissertation	28	12.2
Dissertation submit	21	9.1
Total	230	100

Dissertation progress index shows the dissertation stages in which students were working on dissertations. The descriptive statistics revealed that majority of doctoral students were writing the final chapters of their dissertations and closer to defend the dissertation for completing the doctoral degree.

Table 2

Means and Standard Deviations of Potential Variables Effect on Dissertation Process (N =230)

Variables	M	SD	Skewness
Financially secure	3.82	1.08	-.826
Advisor support	3.44	0.67	-.057
Dissertation progress index	5.11	1.05	-.584
Satisfaction with dissertation	3.80	0.87	-.550
Perceived stress	3.05	0.98	.091
Self-efficacy	6.65	1.68	-.044

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Financially secure 1-5 (not at all secure to completely secure), advisor support 1-5 (None to Exceptional), dissertation index 1-8 (deciding topic to submitted dissertation), perceived stress 1-5 (never to very often), self-efficacy 1-10 (no confidence at all to completely confidence), and satisfaction 1-5 (not at all satisfied to completely satisfied).

As seen in Table 2, doctoral students were moderately secure financially (*M*=3.82, *SD*=1.08) and average level of advisor emotional support was (M=3.44, SD=0.67). Dissertation progress score (*M*=5.11, *SD*=1.05) indicated that majority of doctoral students was analyzing data of their dissertations and they were closer to defend their dissertations. Satisfaction level of doctoral students was moderate (*M*=3.80, *SD*=0.87) and stress level was somewhat (*M*=3.05, *SD*=0.98) while doctoral students had high level of self-efficacy regarding dissertation process (*M*=6.65, *SD*=1.68).

Table 3

Comparison between Male and Female Doctoral Students on Perceived Stress, Self-Efficacy and Satisfaction with Dissertation Using Independent Samples t-Test (N= 230)

Gender	Male (n=101)		Female (n=129)		Independent samples t-test		
	M	*SD*	*M*	*SD*	*t(228)*	*P*	η^2
Perceived stress	2.65	0.82	3.36	0.99	5.73	.001	.125
Self-efficacy	6.99	1.57	6.39	1.72	-2.78	.007	.031
Satisfaction with dissertation	3.99	0.81	3.85	0.92	-1.71	.089	

Note: **p <.01, *p <.05, perceived stress 1-5 (never to very often), self-efficacy 1-10 (no confidence at all to completely confidence) and satisfaction 1-5 (not at all satisfied to completely satisfied).

Table 3 illustrates significant difference in perceived stress for male (*M*=2.65, *SD*=0.82) and female doctoral students *(M*=3.36, *SD*=0.99; t (228) = 5.73, p<.001) and effect size of perceived stress is large (η^2.125). Self-efficacy of males (M=6.99, SD=1.57) is different from females (M=6.39, SD=1.72; t (228) = -2.78, p=.007) with a small effect size (η^2= .031). On the other hand, no significant difference exists in satisfaction level of males (M=3.99, SD=0.81) and females (M=3.85, SD=0.92; t (228) = -1.71, p>.05).

Table 4

Comparison between Non-Completers and Completers dissertation students on Perceived Stress, Self-Efficacy, and Satisfaction of Dissertation Using Independent Samples t-Test (N= 230)

Variables	Non-completers (n=181)		Completers (n=49)		Independent samples t-test		
	M	*SD*	*M*	*SD*	*t(228)*	*P*	η^2
Perceived stress	3.18	0.50	3.11	0.53	0.77	.053	
Self-efficacy	6.43	1.64	7.47	1.57	-3.94	.000	.073

Satisfaction with dissertation	3.73	0.87	4.04	0.84	-2.19	.029	.021

Note: **p <.01, *p <.05, perceived stress 1-5 (never to very often), self-efficacy 1-10 (no confidence at all to completely confidence) and satisfaction 1-5 (not at all satisfied to completely satisfied).

Doctoral students were divided into two groups of dissertation stages. Students who were deciding on their topic, writing proposal, data collecting, data analyzing and writing final chapters of the dissertation considered non completer in the dissertation process. While, students who were defended and submitted the dissertation were considered completer group of dissertation stage. In Table 4, the results reveal no significance difference in perceived stress for non-completers and completers of dissertation; t (228) = 0.77, p=.053. While the results of self-efficacy illustrate a significant difference in self-efficacy score for non-completers (M=6.43, SD=1.64) and completers (M=7.47, SD=1.57); t (228) = -3.94, p<.001 and η^2=.073 which shows moderate mean difference in scores of non-completers and completers. Satisfaction with dissertation process indicates significant difference between non-completers (M=3.73, SD=0.87) and completers (M=4.04, SD=0.84); t (228) = -2.19, p=.029. The results of satisfaction reveal a small mean difference for non-completers and completers of the dissertation η^2 =.021.

Table 5
Correlation among Perceived Stress, Self-Efficacy, and Satisfaction with the Dissertation (N=230)

Pearson correlation	*M*	*SD*	1	2	3
1. Perceived stress	3.16	0.55	-	-.236**	-.082
2. Self efficacy	6.65	1.68		-	.353**
3. Satisfaction with dissertation	3.80	0.87			-

Note: ** p < .01, * p < .05, perceived stress 1-5 (never to very often), self-efficacy 1-10 (no confidence at all to completely confidence) and satisfaction 1-5 (not at all satisfied to completely satisfied).

As seen in Table 5, Bivariate correlation explored that perceived stress had a small negative significant relationship with self-efficacy (r= -.236, p<.001) while, stress was negatively related to satisfaction. The results of self-efficacy demonstrated a moderate significant relationship with satisfaction of the dissertation (r= .353, p<.001).

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Table 6
Multiple Regressions Showing the Effect of Perceived Stress and Self-Efficacy on Satisfaction with the Dissertation

Regression	B	SE	B	T	P
(Constant)	2.57	.433		5.98	.001**
Perceived Stress	.024	.010	.011	.016	.106
Self-efficacy	.182	.033	.352	5.52	.001**

**p <.01

In table 6, the results reveal that self-efficacy is significantly related with satisfaction and indicating that those students who had high-level self-efficacy are more satisfied with dissertation process whereas perceived stress is negatively related with the satisfaction. The two predictors model of perceived stress and self-efficacy reported 12.5% variation in satisfaction with the dissertation process; $F(2, 228) = 16.16$, $p < .05$.

Discussion

This research synthesized the literature to examine the relation of stress and self-efficacy with satisfaction of doctoral students regarding their dissertations. This study helps to sort out many issues that have been explored in previous studies and provide information not only to students but also to the institutions to make the process of dissertation more satisfying and pleasant. It also opened the important questions that have gone unanswered.

What are the levels of potential variables during the dissertation stages?

Majority of the respondents reported a moderate level of financial security and received average level advising support. Majority of doctoral students were analyzing the data of their dissertations and they were closer to complete their dissertations. Doctoral students perceived optimal stress regarding dissertational tasks and had a high level of self-efficacy for completing the dissertation. Majority of the students were moderately satisfied with the dissertation process. All the findings support the existing literature that doctoral students who are satisfied with their program, instructions, and have advisor support more likely to complete their dissertation successfully (Lan & Williams, 2005; Lovitts, 2008; Mason, 2012).

What is the difference in perceived stress, self-efficacy, and satisfaction with reference to gender?

The analysis of variance revealed that females felt more stress during the dissertation process than male doctoral students. Male doctoral students managed the stressful situations whereas females reported more upset and

felt anxiety. The finding is also supported from the results of (Misra & Castillo, 2004; Pritchard & Wilson, 2003) studies that both male and female doctoral students had same level self-efficacy and satisfaction with dissertation process. However, Dumitrescu (2016) supports in a way that magnitude difference exists in male and female self-efficacies.

What is the difference in perceived stress, self-efficacy, and satisfaction with reference to non-completers and completers of dissertation students?

Findings revealed no difference in perceived stress of non-completer and completer doctoral students' dissertation. Doctoral students who completed their dissertation had a high self-efficacy and satisfied with their theses process. The finding is consistent with existing literature and suggests that doctoral students who have high-level of efficacy and satisfaction with their dissertation process are more likely to complete their dissertation than those who do not have (Lan & Williams, 2005; Lovitts, 2008; Mason, 2012). Harsch (2008) conducted a study on the construct of dissertational self-efficacy and found a significant difference in non-completer and completers of dissertation. Completers reported a high-level of self-efficacy because they had successfully completed their dissertations and the results might be based on mastery experiences of Bandura's theory (1986).

Is there any relationship between perceived stress and self-efficacy as satisfaction with the dissertation?

Stress negatively correlated with self-efficacy and satisfaction while self efficacy and satisfaction positively related with each others. The studies by other researchers have supported the findings that both self-efficacy and satisfaction positively related while stress has negative relationship with efficacy and satisfaction (Colvin, 2012; Harsch, 2008; Varney, 2010; Pinugu, 2013).

To what extent stress and self-efficacy do have an effect on satisfaction?

Stress and self-efficacy both directly affect student's satisfaction and it indicates that doctoral students who have a high level self-efficacy are more satisfied than those students who faced stress during the dissertation process. Hence, the two predictors model of stress and self-efficacy show 12.5% variation in satisfaction. For the academic satisfaction, self-efficacy is a major predictor. The satisfaction level will be higher when students consider themselves as capable for completing the dissertational tasks and their perception is more positive towards academic experience whereas a higher level of stress relates to dissatisfaction with the dissertation process. Pinugu (2013) conducted a study on the combined effects of stress and self-efficacy on satisfaction and concluded that both predict the satisfaction level of students.

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Limitations and Future Work

Results of this study were restricted by the use of the convenience sampling employed to doctoral students in University of the Punjab, Lahore Pakistan. Furthermore, a descriptive correlational study was conducted and no causality was implicated among the variables. Future researches would focus on the longitudinal feature of the dissertation regarding stress and efficacy influence on the thesis. The idea of student satisfaction with the thesis would be suitable for qualitative study to understand postgraduates student behaviors, emotions, and in order to shed a light on the various elements that are related with the satisfaction of students and point out those factors which play a fundamental role in completing the program.

Conclusion and Recommendations

The study identified that Ph.D. students in University of the Punjab, Lahore had low level stress regarding their dissertations. Doctoral students had a high level of self-efficacy and moderately satisfied with dissertation process. However, self-efficacy was positively associated with satisfaction. On the other hand, stress negatively associated with self-efficacy and students satisfaction. It is concluded that dissertation progress, perceived stress and self-efficacy directly affect on the satisfaction level of doctoral students. High-level dissertational self-efficacy and low level of stress can enhance the rate of dissertation completion. Academic institutions should spotlight on this issue for increasing the level of dissertational self-efficacy and satisfaction by improving their research-training programs. For this purpose, educational institutions should organize workshops, seminars, and research conferences. Academic faculties of the educational institutions should include research as a subject in postgraduates coursework so that before going to dissertation stage, students would be conscious about the basics of research and not take it as a headache. As well, academic faculties of University of the Punjab, Lahore Pakistan should make great effort to maintain the efficacy and satisfaction level of doctoral students by enhancing the quality of academic instructions and research training programs. Advisors should maintain a positive and supportive relationship with doctoral students in their dissertation process, held face to face meetings and give quick feedback. The directors, chairpersons, and administrators of the post-graduate programs should examine the students yearly to assess the satisfaction level of doctoral students with their programs.

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