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Role of Supervisors' Research Expertise in Improving Academic Satisfaction and Research Skills of Supervisees

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Abstract- The current study is about to investigate the role of supervisors' research expertisein improvingacademic satisfaction and research skills of scholars. The main objective of the study is to find out that how supervisors' research attitude effects the academic satisfaction of supervisees and play role in enhancing their research skills and command. For this purpose, study is conducted at M.Phil and PHD research scholars. Population of study is students enrolled in universities across the Pakistan. Especially the provincial and federal capital of Pakistan. 471 scholars participated in study as a sample. Data is collected through the questionnaire-based survey technique. This study adopts the partial least square (PLS) software to measure structural equation modeling (SEM) in term structural model and measurement model. The results of current study show strong relationship and effect of supervisors' research support to scholars develop positive social and academic satisfaction among students. Research skills among students promote due to the expertise and proper guidance of supervisors to their supervisees.

Key Words: Supervisors' Research Expertise, Academic satisfaction, Research Skills

I. INTRODUCTION

The concept of supervision is derived from personality theories of psychology and qualities of better researchers (Ellett&Teddlie, 2003). According to Nolan (1997), supervision is an organizational role intends to promote scholars' development in learning environment and performance as a result of award of doctoral degree. It is designed to create a complete judgment concerning with scholars' competence and performance. In the view point of Glickman, et al. (2004), supervisory role intends to support and assist the scholars in professional development and improvement in research work. There are five ways of supervision. They are collaborative leadership, acceptable goals, democratic supervision, application of research in solution of problems and improved classroom instructions (Sullivan &Glanz, 2000).The study of Gibbs (1988) revealed that feelings, description, evaluation, action and conclusions are required. The supervisor is helpful for promoting research attitude and research skills among research scholars. The social aspect of the scholars should also be considered during the completion of research degree (Gillespie, 2007).The research skills and attitude may improve and affect the research processes. The teacher-researcher interaction is a challenge faced by supervisors to improve the teaching learning process which in terms of profession (Girod&Pardales, 2001). The development of new research skills and strategies positively influence the research practices. The researchers are responsible for implementation of research methodology to promote social interaction. These research skills are used for students' learning outcomes for ensuring deliberate change (Mowbray&Halse, 2010).

II. REVIEW OF RELATED LITERATURE

Hockey's study (1996) revealed that the supervision quality is inclined with many factors. One is the attitude of research scholars toward their supervisor. According to Wao (2011),supervisory relationship is the most important feature for effectiveness. No difference was found between genders of scholars with their attitude toward their supervisor. All students have same attitude toward their supervisors.Different research

methodologies and experiences by different supervisors influenced a lot of their research attitude. In most advanced countries, the doctoral degree is the certificate to financial and social progress (Malfroy, 2005). At international level, there is a need to specify the attitudes, behaviors, and goals for higher educational institutions (Johnson, 2005). For this purpose, the colleges and universities are responsible for promoting regional communities (Ferrer de Valero, 2001). The design and delivery of research activities in many countries like Malaysia and India after 2000 have been changed with respect to practice and reflection(Mowbray&Halse, 2011). All the countries are trying to strengthen research capacity toboost up knowledge-driven economy (Craswell, 2007). The policy makers are still unable to improve capacity building at higher educational level (Zhao, Golde, & McCormick, 2007).

Many researches for example (Murphy, Bain, & Conrad, 2007) justified the difference among organizational. At individual level, researchers are needed to be competent in particular discipline and area. Institutional capacity building needs strong organizational structures (Vitae, 2010b). National capacity building research refers to development of articulate policies and effective coordination among governmental, non-governmental sectors for transparent and ceaseless funding for educational access (Mason, 2012). The social network theory according to Craswell, 2007, is about the notion of interpersonal and inter-organizational capacity building. The Western research experts assumed that non-Western researchers had poor research skills (Roberts, 2002). They are incompetent in recognizing the different ways of generating knowledge (Green, 2005). The competent researchers found in countries with low research capacity. The researchers of West fail to admit necessary skills for successful research in various environments (Langer, 2009). The PhD scholars' satisfaction is linked with supervision of research (Ives & Rowley, 2005). There is a need to explain who research supervisors are allotted to research scholars (Neumann, 2003; Zhao, Golde, & McCormick, 2007).

There are great concerns about the attrition, retention, and outcomes of research scholars are the prime measures of effectiveness and quality in higher educational institutions (Hatcher, Kryter, Prus, & Fitzgerald, 1992; Redd, 1998). Different policies provide encouragement and incentives for higher educational institutions to trace out the effect of overall quality and effectiveness of such programs. To retain the academic satisfaction among higher degrees' students at university level is perhaps one of the most important reasons behind the quality indicators (Bailey, Bauman, &Lata, 1998; Love, 1993). The retention and recruitment of research scholars are the core responsibilities of higher educational institutions. Students' satisfaction is directly linked to scholars' retention and recruitment (Hatcher, et al., 1992; Love, 1993). The students' satisfaction with learning environment motivates the students to stay in the educational institutions and complete their research work. The institutional effectiveness is integrated with students' performance (Bailey, Bauman, &Lata, 1998).

In the view points of Heath (2002) and Manathunga (2009), continuous meetings and feedback has positive role in completion of scholars' degree and academic satisfaction. These findings are also proved by many researchers as (Heath, 2002; James & Baldwin, 1999; Reidy & Green, 2005). Positive academic relationship between supervisor and supervisee leads to improved scholars' success and satisfaction (Boucher & Smyth, 2004; Malfroy, 2005; Wisker, Robinson, &Shacham, 2007). There is a positive relationship between supervision satisfaction and degree completion (Ferrer de Valero, 2001; Haksever&Mainsali, 2000).The effective supervision has significant element that is responsible for timely and successful completion. According to supervision is a prime indicator in doctoral progress (Murphy, Bain, & Conrad, 2007). According to Lee (2008), the supervisor can make or break doctoral scholar. The role of supervisor is crucial that utilizes the outcomes of doctoral journey. This paper looks at supervisory practice and extends an earlier model for research supervisory practice (RIP: Relationality, Intellectualism, Physicality) (Green, 2005) to now become RIPE to encompass issues of emotionality more explicitly. The notion of mindfulness (Langer, 2009; Langer &Moldoveanu, 2000) is suggested as a key element in the quest to produce a "completion context" in which timely, successful completion is the main goal.

Many researchers and practitioners have pointed the difficulty and complexity of supervision of research scholars (Johnson, 2005). The current process of supervision of research scholars has deficient, emotional and psychological problems among supervisees and supervisors. There is a lack of knowledge, skills and attitude that effect of late completion and low retention rates (Buttery, Richter, &Filho, 2005). According to Cullen, et al. (1994), the supervisor effectiveness has four major areas. The importance of academic competence of supervisors was identified by (Moses, 1994; Skerritt, 1994; ESRC, 2001; Zhao, 2003).Roberts (2002) introduced the need of funded skills for research scholars in the development process in the country.

Despite of the benefits of the programs for doctoral scholars (Vitae, 2010b), a great criticism arose for skills development method (Manathunga, et al., 2007; Mowbray&Halse, 2010).

Boucher & Smyth (2004) said that many countries has adopted various approaches of transferable skills among doctoral scholars. According to Gardner, 2009, PhD graduates are needed relevant skills in different disciplines likethesis writing, information skills, communication, analysis and synthesis and professional development for career development.In the USA, the standard skills among doctoral scholars are less centralized than in Australia and UK. A number of essential competencies among doctoral graduates have been identified (Gardner, 2009). These skills include, content, career development commitment, team work and teaching skills, and ability to show the impact of research on society. Doctoral graduates are needed ethical rules and mentoring processes. Some researchers developed skills in specific time of PhD project (Craswell, 2007; Mowbray&Halse, 2011). Developing researchers' capacity building to improve their ability to utilize resources for achievement of objectives in a supportable way is a crucial task (Mason, 2012). It is the ability to conduct research properly (Golde, 2000).

Roberts, (2002) indicated that those scholars who were bestowed with active and competent research supervisors showed higher degree completion rates. According to Ives and Rowley (2005), the scholars who were compatible with supervisor's research expertise completed their research projects without major observations. The role of research supervisor is an important factor to the success of research scholars. He may be good news of success or bad news of failure. They are the major hindrance in the completion of research degrees of their supervisees.According to Boucher & Smyth (2004), the research scholars with poor educational background exhibited low success rates. The psychological qualities enhance the ability to work autonomously and progress self-efficacy (Roberts, 2002). More supervisors' availability and proper response is associated with enhanced scholars' evaluations and supervision of quality (Hockey, 1991; Kam, 1997; Zhao, Golde, & McCormick, 2007). The doctoral scholars showed more satisfaction in case of emotional support provided by their research supervisor and feel accepted and valued (Hockey, 1991; Zhao, et al., 2007). The learning and academic satisfaction of research scholars is assessed by effective supervision. The research scholars who perceived ambiguous procedures hinder their success (Gardner, 2007). The doctorate students' academic satisfaction with research skills affects successful accomplishment (Gardner, 2009; Hesli, et al., 2003; Wao, 2011). The competent supervisor makes the research scholars positively satisfied (Holbrook, et al. 2006; Mason, 2012). The positive relationship between supervisor and research scholar is the heart of skillful supervision (Golde, 2000; Zhao, et al., 2007).

Objectives of Study

Following research objectives were designed.

1. To investigate the role of supervisors' research expertise.
2. To find out the academic satisfaction of research scholars.
3. To explore the research skills of research scholars.

Theoretical Framework of Study

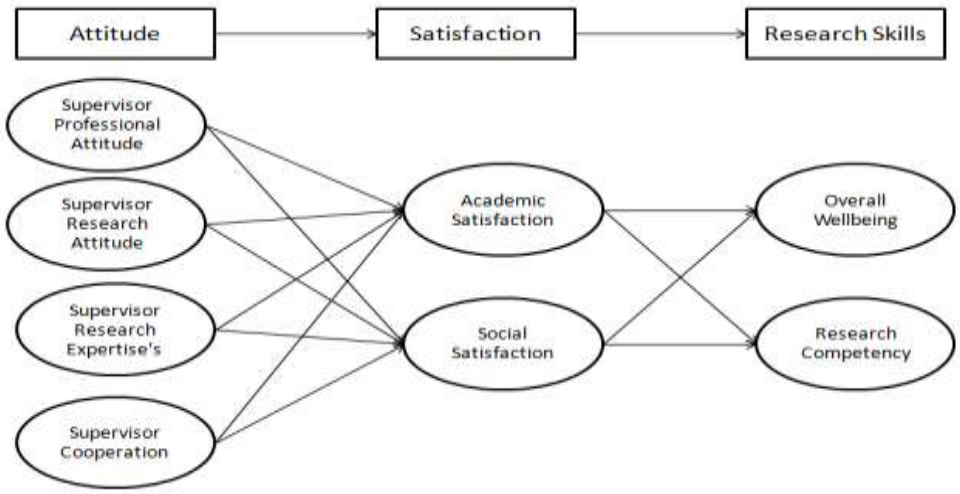

Figure 1. The theoretical framework of study.

III. METHODOLOGY

The methodology presents the empirical tools and practices used in this study to test the hypothesis. First, data is collected through the questionnaire-based survey technique. All the questionnaire items are enacted from the literature to ensure the construct reliability. Second, the data collection methods and demographic profile of the respondents is presented in tabular form. Third, the statistical software and techniques observed for the data analysis are given.

Instrumentation

To collect the data, a structured questionnaire survey was used and all the items of questionnaire were measured through the Likert 7-point scale (strongly disagree (1) to strongly agree (7). Likert 7-point scale is a common measuring tool for quantitative analysis. to maintain the construct validity, all the questionnaire items were adapted from the existing body of the literature. The scale for supervisor professional attitude and supervisor research attitude is adapted from (REF) and (REF) accordingly. The scales for supervisor research expertise and supervisor cooperation were adapted from (REF) and (REF) respectively. Similarly, the scale for academic satisfaction and social satisfaction is adapted from the (REF) and (REF). In last the scale for overall wellbeing and research competency are adapted from the studies of (REF0 and (REF). The table-1 presents all questionnaires with appropriate variable name, reference and items.

Data Collection

The data is collected through the structured questionnaire survey. The questionnaire is developed from the existing literature. The data is collected from the MS and PhD students enrolled in universities across the Pakistan. Especially the provincial and federal capital of Pakistan (Lahore, Karachi, Peshawar, Quetta and Islamabad). The data was collected through the convenience sampling techniques and respondents were randomly chosen. MS and PhD candidates were the potential respondents, while considering the nature of study as they were interacting with the research activities and engaged with different supervisors. The respondents ranged from an age of 20 to 45 years. To motivate the respondents to complete the questionnaire with due focus, the author offered a small incentive to the respondents. For data collection MS and PhD students were hired as they have the preliminary knowledge of research and survey techniques. Moreover, a total 500 questionnaires were sent out and received back 471 in total. After screening 37 more questionnaires were found incomplete and removed from data entry process. A total of 434 questionnaires were received complete in perspective and they were considered for further statistical analysis.

Table 1.

Demographic Profile of the Respondents

Measures		**Frequency**	**(%)**
Gender	Male	234	58.4
	Female	200	41.6
Age	20-25	121	45.62
	26-33	113	23.50
	34-41	100	20.04
	42 & Above	100	10.83
Education	Graduation	204	47
	Post-Graduation	230	15.90

Statistical Methods

This study adopts the partial least square (PLS) software to measure structural equation modeling (SEM) in term structural model and measurement model (Ellett & Teddlie, 2003). This technique is known as advance stage tool to test and verify the measurement and structural model simultaneously with the regression and component factor analysis (CFA). This study uses SmartPLS 3.2.8 to measure the PLS estimations.

IV. RESULTS

This section brings the statistical results to support the hypotheses and their findings. The results fallow the structure of well-established studies ensuring the findings.

Common Method Bias

Variance inflation factor (VIF) is used to measure the common method bias, which is a critical key issue for the social scientists over the years. The minimum threshold level of VIF is 3.3 as explained by the Kock, (2015). For current study the value of VIF ranges between 1.7 and 2.79. After these results, this study does not have any issue of common method bias that enhances the study validity and credibility and improves the statistical standing of the study.

Measurement Model

A four-step procedure is observed by the authors to ensure the study reliability and validity of the constructs considered for this study. These procedures include internal consistency, convergent validity and discriminant validity. To do so, this study measures the Cronhach's alpha (α), factor loading (FL), composite reliability (CR) and average variance extracted (AVE). The minimum threshold value of the Cronbach's alpha (α) value is 0.7. Whereas, for factor loading the minimum level of FL is 0.6 and for the AVE the minimum threshold value is 0.5. All the values of these factors for this study are within the given standards. The table-3 presents the detailed results of these observed values. Whereas, the table presents the AVE value that is the correlation between the variables that ensure the handsome discriminant validity.

Constructs	Items	Loadings	α	CR	AVE
Supervisor's Professional Attitude	SPA1	0.778	0.819	0.872	0.541
	SPA2	0.791			
	SPA3	0.847			
	SPA4	0.736			
	SPA5	0.793			
	SPA6	0.430 (Removed)			
	SPA7	0.507(Removed)			
Supervisor's Research Attitude	SRA1	0.851	0.882	0.914	0.680
	SRA2	0.807			
	SRA3	0.821			
	SRA4	0.843			
	SRA5	0.800			
Supervisor's Research Expertise	SRE1	0.792	0.952	0.960	0.728
	SRE2	0.792			
	SRE3	0.916			
	SRE4	0.914			
	SRE5	0.863			
	SRE6	0.862			
	SRE7	0.220(Removed)			
	SRE8	0.312(Removed)			
	SRE9	0.511(Removed)			
	SRE10	0.910			
	SRE11	0.912			
	SRE12	0.687			
	SRE13	0.411(Removed)			
Supervisor's Cooperation	SC1	0.697	0.723	0.749	0.552
	SC2	0.786			
	SC3	0.651			
	SC4	0.563 (Removed)			
	SC5	0.711			
	SC6	0.721			
	SC7	0.501 (Removed)			
Academic Satisfaction	AS1	0.715	0.756	0.815	0.593
	AS2	0.214(Removed)			

	AS3	0.792			
	AS4	0.796			
	AS5	0.777			
	AS6	0.676			
	AS7	0.664			
	AS8	0.654			
Social Satisfaction	SS1	0.622	0.886	0.909	0.560
	SS2	0.823			
	SS3	0.582(Removed)			
	SS4	0.419(Removed)			
	SS5	0.801			
	SS6	0.742			
	SS7	0.843			
	SS8	0.799			
	SS9	0.219(Removed)			
	SS10	0.287(Removed)			
	SS11	0.632			
	SS12	0.686			
	SS13	0.654			
	SS14	0.701			
Research Competency	RC1	0.840	0.839	0.892	0.675
	RC2	0.777			
	RC3	0.833			
	RC4	0.834			
	RC5	0.801			
	RC6	0.792			
	RC7	0.691			
	RC8	0.399(Removed)			
Overall Wellbeing	OW1	0.774	0.739	0.851	0.657
	OW2	0.833			
	OW3	0.770			

Table 3. ***Construct Validity.***

Fornell and Larcker Criterion

The Fornell and Larcker criterion develop in 1981. The method states that the square root value of AVE of constructs should be greater than the variance of the variables with each other. The results are shown in the **table 4** which shows that all the values.

	AS	**OW**	**RC**	**SS**	**SC**	**SPA**	**SRA**	**SRE**
Academic Satisfaction (AS)	**0.830**							
Overall Wellbeing (OW)	0.806	**0.811**						
Research Competency (RC)	0.710	0.651	**0.821**					
Social Satisfaction (SS)	0.758	0.647	0.654	**0.748**				
Supervisor Cooperation (SC)	0.562	0.520	0.532	0.423	**0.771**			
Supervisor Professional Attitude (SPA)	0.610	0.515	0.664	0.501	0.538	**0.735**		
Supervisor Research Attitude (SRA)	0.517	0.516	0.512	0.534	0.416	0.468	**0.825**	

Supervisor Research Expertise (SRE)	0.589	0.405	0.542	0.495	0.527	0.593	0.719	**0.853**

Structural Model

To evaluate the hypotheses, we measure the path coefficients of the structural model. The table-4 presents the path coefficient of the study framework. The supervisor professional attitude makes positive contribution to the both academic (β = 0.366, p < 0.001) and social satisfaction (β = 0.366, p < 0.001) respectively. Hence, H1 and H1a are supported. Supervisor research support also contributes positively to the academic satisfaction (β = 0.366, p < 0.001) and social satisfaction of respondents. So, H2 and H2a are supported. This trend is followed by the supervisor research expertise and it makes positive contribution to the academic satisfaction (β = 0.366, p < 0.001) and social satisfaction (β = 0.366, p < 0.001) of respondents. So, H3 and H3a are supported. Supervisor cooperation also makes positive contribution to the academic (β = 0.366, p < 0.001) and social satisfaction (β = 0.366, p < 0.001) of the respondents. Hence H4 and H4a are also supported. Whereas, academic satisfaction positively adds to the overall wellbeing (β = 0.366, p < 0.001) and research competency (β = 0.366, p < 0.001). So, H5 and H5a are supported. In the end, the social satisfaction contributes positively to the research competency (β = 0.366, p < 0.001) but for overall well-being it does not supports. So, H6 is supported and H6a is not supported.

R2 is a statistical procedure that indicates the fit of indices and observes how variance in dependent variables is explained by the independent variables in a regression model. The R2 value of more than 0.2 is considered as satisfactory in term of behavioral science study. In this study the coefficient of determination value (R2) for academic satisfaction is 0.526, for social satisfaction is 0.429, for overall wellbeing is 0.653 and for research competency is 0.536.

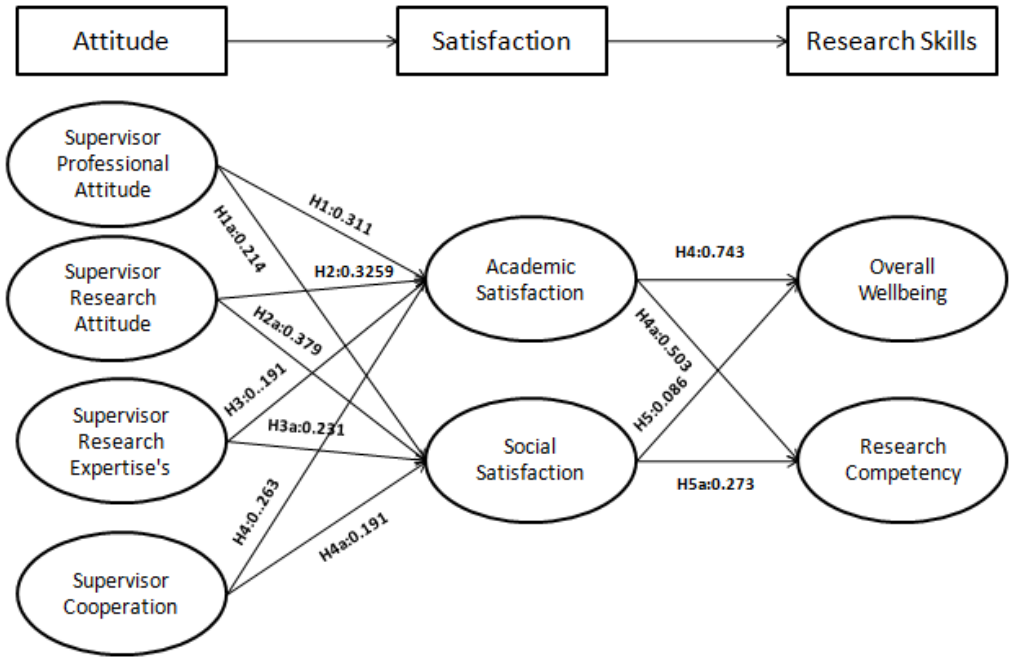

Figure 2: The figure presents the path analysis of the study.

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