Relationship of Graduate Students with their Academic Supervisors: A Study of Public and Private Sector Universities of Pakistan

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This study is aimed to observe different aspects of working relationship between supervisees with their academic supervisors from the supervisees' perspective. Respondents were inquired about networking, instrumental, and psychosocial help received from their supervisors; their satisfaction level with their supervisors; and about their behavioural intentions. Supervisees' satisfaction was used as a mediator here. A descriptive study was carried out in public and private sector universities. Respondents were 350 MS and PhD level students. Linear Regression was used to analyze relationships among variables. Full mediation was observed in private sector universities, whereas partial mediation was found in public sector universities. Independent sample *t*-test was employed to observe significant mean differences between public and private sector universities. Significant mean scores differences were observed in independent samples *t*-test in instrumental and psychosocial help between these two types of universities.

Keywords. Supervisee, supervisor, satisfaction, behavioral intensions, Pakistan

For supervisees, supervision is a significant resource for both to learn and practice (Stevenson et al., 1984). Common comprehension for supervisor and supervisee's relationship is critical on the grounds that it is useful for staying away from issues which ran over in thesis

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journey and it additionally gives fulfilment and adaptability (Pyhältö, Vekkaila, & Keskinen, 2015). There are various studies on tutor protégé connections by the researchers over numerous years, particularly in the corporate and scholarly settings (Paglis, Green, & Bauer, 2006). Supervision has been characterized ordinarily with various words however all they have something comparative. Various scientists are settled upon that successful supervision must be accomplished if administrators have thought regarding their parts they play (Sidhu et al., 2013). In the course of recent decades, both academic and well known enthusiasm for supervising has expanded significantly. Taking after the lead of Kram (1985), a developing number of researchers have analyzed the progression of formative relationships inside modern and scholarly associations.

Supervising has been defined as "a deliberate pairing of a more skilled or experienced person with a lesser skilled or experienced one, with the agreed-upon goals of having the lesser skilled person grow and develop specific competencies" (Murray, 1991 p. xiii). Anderson and Shannon (1988, p. 40) defined supervising as "A nurturing process in which a more skilled or more experienced person, serving as a role model, teaches, sponsors, encourages, counsels and befriends a less skilled or less experienced person for the purpose of promoting the latter's professional and/ or personal development".

To build up ones' ability and to be effective in one' profession, it is essential to have a supervisor (Bird, 2001). Supervising is a deliberate, sustaining, understanding and strong process (Anderson & Shannon, 1988). Supervising is the expert connection as well as includes in individual relations (Linde'n & Brodin, 2013). A decent correspondence bond is essential for the two (Phillips & Pugh, 2000). Including into the supervisor procedure, workforce supervisors expresses that they additionally have a tendency to develop with the supervisees. The more seasoned is the supervisor, the more extensive is the connection (Busch, 1985). At the point when there is acknowledgment, support and consolation in the relationship, the positive supervising can be normal. The person who needs to have all the more supervising ought to step up (Clark, Harden, & Johnson, 2000). The men do jump at the chance to have same sex's supervisor than the ladies who need to have inverse supervisor more probable (Johnson, 2003). On the off chance that a man didn't encounter the supervising at graduate level, he is not liable to experience it in its career as well (Swerdlik & Bardon, 1988). Another purpose of the exploration is that the supervising spending plan is higher and points of interest are less when mentees are female (Kram, 1983).

Supervising and supervision both have a part in the foundation in connection to post graduate student learning. Supervising focuses on self-improvement; supervision focuses on the execution of authoritatively decided instructive objectives. The joint point of postgraduate research supervision and supervising is to upgrade, screen and assess the student's learning knowledge (Chiappetta & Watt, 2011). Besides, numerous unmistakable creators contend that compelling supervision is a type of supervising (Pearson, 2001; Pearson & Brew, 2002; Wiskeret al., 2003). As indicated by this understanding of supervision instructional method, postgraduate supervisors manage and encourage their students' steady improvement into free analysts through compassionate discourse and by demonstrating proper disciplinary-based research conduct (Manathunga, 2007). Additionally, supervision/exhorting simply guarantees that students meet the necessities for graduation (Cronan-Hillixet et al.,1986; Peyton et al., 2001), though supervising includes an individual relationship in which an employee guides, prompts, backings and difficulties the graduate student toward the "advancement of a solid expert personality and clear proficient fitness" (Johnson, 2002, p. 88).

Successful supervising programs in academic higher education institutions benefit supervisors, mentees and higher education institutions (Scandura et al., 1996). In summary, mentees achieve better academic performance (Campbell & Campbell, 2007) and supervisors are able to develop personal relationships with their supervisees (Eby & Lockwood, 2005). Universities benefit through a decrease in dropout of enrolled students via better counseling (Campbell & Campbell, 2007).

Ives and Rowley (2005) completed a longitudinal study which focused on allotment of supervisors to students and continuity of supervision in connection to thesis work of students and satisfaction with the supervisor. Altogether, 21 full-time PhD students and their supervisors were talked thrice, separately, during three years. Altogether, 12 of the 21 students chose their supervisors themselves, though other nine students were distributed supervisors through different procedures. Students who select their supervisors, whose subjects were coordinated with their supervisor's skill, who grew great interpersonal working associations with them will probably gain great ground and were happy with their supervision. These results were expanded when supervisors were senior scholastics and experienced ones.

Creighton et al. (2010) watched that around half of enlisted students in PhD programs neglect to finish their degrees and the

effective ones take a surprisingly long time-to-degree fulfillment. After literature review, they found that a critical calculate the low-finish rates is regardless of whether the understudy/student has a conferred and devoted supervisor. Graduating doctoral students overwhelmingly report their success because of nearness of a supervisor amid their program of study. They are of the view that a tutor tends to both individual and scholarly conformity to a PhD program and helps in profession after graduation.

Lunsford (2012) examined the degree to which doctoral consultants gave coaching to their students and if guidance influence doctoral understudy results (distributions). Altogether, 477 members from two American colleges recognized that supervision was essential for them to achieve goals and generally people answered to have different supervisors, including their counsellor. Psychosocial tutoring was discovered altogether identified with satisfaction with supervisor, while vocation/career supervising was altogether identified with publications, presentations and degree programs.

Malik and Malik (2015) carried out a descriptive research in a public university of Pakistan. Respondents were Master of Science (MS) and PhD level students actively engaged in research projects/ theses with their supervisors. Their findings suggest that at MS level, supervisees being novice in research receive extensive guidance from their supervisors who guide them step by step in phases of area selection, data collection/experiments, and thesis writing, whereas at PhD level it is perceived that supervisees must have learned research basics at MS level and thus focus of supervisors is on building a strong working relationship with their supervisees. Besides, at PhD level supervisors mostly prefer to work with students willing to carry out research in their specific research areas, so they are eager to maintain a healthy working relationship with them, whereas at MS level most students after completion of course work get engaged in professional jobs and very few of them proceed for further studies.

The present study is further extension of study of Malik and Malik (2015), where instead of only public sector, both public and private sector universities are approached and instead of descriptive, analytical statistical analysis is used along with independent samples t-test to observe significant mean difference between both types of universities with respect to supervisor's support. Furthermore, in this study, impact of supervisors' help on supervisees' behavioral intensions is also measured by introducing supervisee satisfaction as a mediating factor.

Supervisors' Help

Supervisors generally offer three types of help to their supervisees; psychosocial help, instrumental help (Kram, 1988), and networking help (Tenenbaum et al., 2001). Instrumental help enhances one's career, whereas psychosocial help is full of elements that make supervisor as a role model (Eby, McManus, & Simon, 2000). The Instrumental help makes an increment in the supervisees' productivity while the psychological and Socio-emotional help makes increment in satisfaction. Psychosocial help not only makes supervisee satisfied with its supervisor but also with the graduate school where the one is admitted (Tenenbaum et al., 2001).

Psychosocial help is generally received by the female supervisors which leads female mentees' to satisfaction and Instrumental help leads mentees' towards more productivity and is received when supervisors are male (McGuire, 1999). Male supervisors give more Networking help and Instrumental help and their supervisees' engage in good working relationship and they have better future plans. The male supervisees' get more instrumental help and psychosocial help while women supervisees' tend to have good working relations with their supervisors. The mentees' who chose their supervisors themselves, they receive more help than to those whom the supervisors are allocated by any other mean (Malik & Malik, 2015). Talking about the amount of Psychosocial help and Instrumental help, some researchers have concluded that the both male supervisees and female supervisees receive those equally (Ragins & McFarlin, 1990).

Supervisees' Satisfaction

Kam (1997) contends that given the exceedingly customized nature of the supervision procedure, it is essential to utilize satisfaction as a pointer for the nature of the supervision. Moreover, Ives, and Rowley (2005) found in their study with PhD students that disappointed students are less liable to complete their thesis.

When it comes about supervision, Satisfaction is above one's liking or disliking. It is a complex phenomenon. Satisfaction is an important part of Supervision process. Satisfaction tells about the supervisees' growth and development which a supervisor has provided. Satisfaction gives the idea about what exactly are going on and what changes are needed in Supervisor's style and the like (Ladany, Molinaro, & Wolgast, 1999). Supervisees' satisfaction does not necessarily depend upon the Supervisors' gender (Vonk, Zucrow, & Thyer, 1996); whether the supervisor and supervisee have the same characteristics or not, the relationship between the two determines the satisfaction between them (Cheon et al., 2008). Supervisor's behavior

helps in increasing the supervisee's confidence which in turns satisfies supervisee (Heppner & Roehlke, 1984). A negative relationship between the two can only damage productivity (Glaser, 1980). Furthermore, the unsatisfactory relationship between the two will create tensions with only a few solutions in the mind of supervisee (Jeanquart-Barone, 1996). The supervisors who provide different resources to their Supervisees have the most satisfied Supervisees. Those supervisees who contact more often to their supervisors face fewer problems in their thesis journey (Pyhältö, Vekkaila, & Keskinen, 2015). With the end goal of this study, we focused particularly on students' satisfaction with their supervisors as a mediating variable.

Behavioral intention can easily predict the retention (Steel & Griffeth, 1989). Intentions are the quick review of behavior (Igbaria & Greenhaus, 1992). Dissatisfaction leads one to think about quitting (Mobley, 1977). The people change their behavior because of the dissatisfaction and they intent to quit (Waters & Moore, 2002). If there is a perceived supervisor's support then there will not be any intention to quit and satisfaction will be there and if there is no perceived supervisor's support then there will be a high intention to quit and no satisfaction as well (Firth et al., 2004).

Table 1

Concepts and Definitions of Variables

Key Terms	Definitions
Psychosocial Help	"Psychosocial Help includes role modeling, empathizing and counseling." (Tenenbaum et al., 2001, p. 237)
Instrumental Help	"Instrumental Help includes coaching, sponsorship, exposure and opportunities for challenging assignments." (Tenenbaum et al., 2001, p. 237)
Networking Help	"Networking help is about challenging assignments for personal development and help in interacting experts in the relevant field of supervisor." (Tenenbaum et al., 2001, p. 237)
Supervisees' Satisfaction	"The Supervisee's perception of the overall quality of supervision and the extent to which supervision met the needs and facilitated the growth of the counsellor." (Ladany, Molinaro, & Wolgast, 1999, p.448)
Behavioral Intentions	"Intentions are assumed to capture the motivational factors that influence a behavior; they are indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior." (Ajzen, 1991, p. 181)

After analyses of literature, following research hypotheses are deduced:

1. There is a significant relationship between supervisor's help and supervisees' behavioral intentions.

2. There is a significant relationship between supervisor's help and supervisees' satisfaction.

3. There is a significant relationship between supervisees' satisfaction and behavioral intentions.

4. Supervisee's satisfaction mediates the relationship between supervisor's help and behavioral intentions.

   4a. Supervisees' satisfaction mediates the relationship between networking help and behavioral intentions.

   4b. Supervisees' satisfaction mediates the relationship between instrumental help and behavioral intentions.

   4c. Supervisees' satisfaction mediates the relationship between psychosocial help and behavioral intentions.

5. There is a significant mean difference between supervisor's help provided by both public and private universities of Pakistan.

Sample

The respondents were inquired about supervisor gender, age, selection, level, and meetings with him. Furthermore, respondents were asked to provide info about their gender, degree program, status, and department. In supervisor gender wise results, Male supervisors were way ahead from female supervisors that is, 70% in private sector and 60% in public sector universities. Majority of the supervisors were older from the supervisees (private 82.6% and public 72.5%). It was inquired as after Higher Education Commission scholarships, majority of fresh PhDs are youngsters. In supervisor allocation question, majority informed that they selected the supervisor (private 58.4%, and public 56.1%), remaining were allocated the supervisors by the concerned departments. According to supervisor level results, majority of supervisors were Assistant professors, followed by associate and full professors. In a question regarding meetings with supervisors, most of supervisees used to meet their supervisors once/twice or more than once a week in both sector universities. Table 2 depicts demographic information of the respondents.

Table 2
Demographic Characteristic of the Sample (N=450)

Variables	Private Universities (*n*=161)		Public Universities (*n*=189)	
	f	*%*	*f*	*%*
Supervisor Gender				
Male	132	70.0	97	60.0
Female	57	30.0	64	40.0
Supervisor Age				
Younger than you	28	17.4	52	27.5
Older than you	133	82.6	137	72.5
Supervisor Selection				
Selected by you	94	58.4	106	56.1
Allocated to you	67	41.6	83	43.9
Supervisor's Level				
Assistant professor	66	41.0	91	48.1
Associate professor	58	36.0	69	36.5
Full professor	37	23.0	29	15.3
Meeting with Supervisor				
More than once a week	47	29.2	32	16.9
Once a week	49	30.4	71	37.6
Bi weekly	29	18.0	28	14.8
Once a month	20	12.4	35	18.5
Once a quarter	13	8.1	23	12.2
Less than once a quarter	3	1.9		
Supervisees Gender				
Male	88	54.7	90	47.6
Female	73	45.3	99	52.4
Supervisee Degree Program				
MS	111	68.9	149	78.8
PhD	50	31.1	40	21.2
Supervisee Status				
Full time student	97	60.2	100	52.9
Part time student	52	32.3	78	41.3
Faculty on leave	12	7.5	11	5.8
Department				
Management sciences	72	44.7	73	38.6
Mathematics	31	19.3	39	20.6
Computer sciences	20	12.4	19	10.1
Electrical Engineering	17	10.6	24	12.7
Bio sciences	21	13.0	33	17.5
Physics	-	-	1	0.5

According to supervisees demographic results, male supervisees in private sector were higher (54.7%) as compared to public sector (47.6%). It first shows that there is no major difference gender wise in

both universities and second, that in public universities, more females are enrolled in graduate programs, as compared to private sector universities. Degree program wise, majority of students were enrolled in MS/MPhil program (private 68.9% and public 78.8%) as compared to their counterparts (PhD program). Status wise, majority of students were full time (private 60%, Public 52.9%). Department wise, majority of students belonged to Management Science and minimum from Physics department

Instrument

The data for present research were collected using a single questionnaire that comprised of two parts. The first part sought information about questions containing a five point Likert scale ranging from 1=*not at all to* 5=*to a very large extent* for psychosocial, instrumental, and networking help. For mediating variable, supervisees' satisfaction, and dependent variable, behavioral intensions, a 5-point Likert Scale ranging from 1=*Not too well* to 5=*Very well was used*. The second section inquired about demographic information.

The items of Supervisors' Help including Psychosocial help (10 items), Instrumental Help (6 items), and Networking help (2 items) were extracted from Dreherand Ash (1990). These items were later used in studies of Tanenbaum et al. (2001) and Malik and Malik (2015). The items of Supervisee's Satisfaction (3 items), the mediating variable, were taken from the studies of Furman and Buhrmester (1992). The items of dependent variable namely Behavioral Intensions (2 items) were borrowed from Lai and Chen (2001).

Procedure

In this study population comprised of 5 universities (3 Public and 2 Private), all operating within vicinity of Islamabad, the Capital of Pakistan; the unit of analysis were MS/MPhil and PhD level supervisees, working on their theses after completing their course work. After seeking formal approval from the concerned universities for data collection, program officers of the departments offering graduate programs were approached and handed over survey questionnaires, and who further distributed and collected filled questionnaires from the recipients on voluntary basis. Questionnaires before distribution were examined by Professors/Supervisors for content validity and were later filled by few supervisees as a pilot

study, in order to know whether questions are understandable in terms of their language and meaning.

Non probability convenience sampling technique was applied and due to larger and unknown population and the sample size was drawn with the formula of taking 10 times of the total items in the questionnaire, which were 44 and taking its 10 times made the sample size of 440 (Roscoe, 1975). So, a total of 450 questionnaires were distributed among the supervisees equally between public and private sector universities i.e., 225 each. Universities were selected primarily on the basis of ranking by Higher Education Commission of Pakistan (HEC) and top ranking universities were selected. Researcher was able to gather a response of students, 190 from public and 160 from private sector universities, yielding a response rate of 78%.This data collection took around three months.

Results

Data Screening and Statistical Analysis

Data were properly screened before analysis. Missing values and outliers were addressed. For data analysis, IBM SPSS version 25was used. Descriptive analysis, correlation, and regression analysis was used. Independent samples *t*-test was also employed to check significant mean differences between public and private sector universities.

Reliability, Descriptive, Correlation and Common Method Biasness Results

Cronbach's α test was employed to test internal consistency among variables indicating how good the items are positively related with other items and that whether the scale is reliable or not (Bland & Altman, 1997). Reliability scores of private and public sector universities are given in Table 3 and 4 respectively. Scores of public and private sector universities are given separately. According to results, all the scores are above .6 and are within the acceptable range (Hair et al., 1995).

Mean and standard deviation results are also given. Results indicate that in all three types of help (Networking, Instrumental and Psychosocial), private sector students are more satisfied from their counterparts. Similarly, in satisfaction and behavioral intension, they are more satisfied and are more willing to recommend their supervisor and to work further in future with him/her from public sector students.

The correlation results of both private and public sector universities show that all the variables are positively and significantly related to each other. Highest correlation was observed between Satisfaction and Behavioral intensions and lowest between Networking help and both Satisfaction & Behavioral intensions.

Table 3

Reliability, Mean and Correlation Coefficients of Private Sector Universities (N=350)

Variables	k	α	M	SD	1	2	3	4	5
1. Networking Help	2	.67	3.36	.10	-				
2. Instrumental Help	6	.79	3.43	.77	.56**	-			
3. Psychosocial Help	10	.86	3.58	.73	.48**	.74**	-		
4. Supervisee's Satisfaction	3	.92	3.57	1.00	.18**	.41**	.47**	-	
5. Behavioral Intension	2	.93	3.63	1.09	.15**	.31**	.39**	.84**	-

$^*p < .05.$ $^{**}p < .01.$

Table 4

Reliability, Mean and Correlation Coefficients of Public Sector Universities (N=350)

Variables	k	α	M	SD	1	2	3	4	5
1. Networking Help	2	.74	3.31	.98	-				
2. Instrumental Help	6	.78	3.19	.75	.62**	-			
3. Psychosocial Help	10	.78	3.34	.67	.65**	.75**	-		
4. Supervisee's Satisfaction	3	.88	3.51	.81	.34**	.39**	.40**	-	
5. Behavioral Intension	2	.88	3.50	.98	.35**	.46**	.44**	.83**	-

Harman's (1960) single factor analysis was employed to check common method variance (CMV) by adding all the variables into a single factor and constrained that there is no rotation (Podsakoffet al., 2003). According to results, the new common latent factor explains variance of 33.083 percent which is less than 50 percent of threshold and showing that there is no issue of common method variance

Regression Analysis

According to research framework, the regression results of private sector universities are given in Table 5. Model-1 (IV-DV) depicts Total Supervisor help has a positive and significant relationship with dependent variable (β = .319, p < .001) while individual effect of supervisor help dimensions like Psychosocial Help (β = 0.379, p < 0.01) has a positive and significant relationship with

Behavioral Intension, whereas Networking help has an insignificant and negative relationship (β = -0.060, p > 0.05), and Instrumental help has a positive but insignificant relationship (β = 0.059; p > 0.05). In Model-2 (IV-MV), total supervisor help is positively related with mediating variable (β = 0.394, p < 0.001) while in individual dimensions, it yielded results similar to Model-1, where only Psychosocial help has a significant positive relationship with mediating variable Supervisee Satisfaction (β = 0.372, p < 0.001). In Model-3 (MV-DV), supervisee satisfaction has a significant positive relationship with behavioral intentions (β = 0.844, p < 0.001) (see Table 5 for details).

Table 5

Model Summary of Regression Analysis for Public Sector Universities (N=350)

Independent Variables	Model-1		Model-2		Model-3		Model-4	
	(IV-DV)		(IV-MV)		(MV-DV)		(IV+MV-DV)	
	β	t	β	t	β	t	β	t
Networking Help	-0.060	0.584	-0.107	1.260	-	-	0.002	0.035
Instrumental Help	0.059	2.765	0.196	1.763	-	-	-0.050	-1.064
Psychosocial Help	0.379**	1.917	0.372***	3.558	-	-	0.001	0.018
Total Supervisor's Help	0.319***	7.235	0.394***	5.412	-	-	-0.017	-0.359
Supervisee's Satisfaction	-	-	-	-	0.844***	19.84	0.851***	18.321
F	9.838***		16.059***		393.527***		195.750***	
R^2	0.158		0.235		0.712		0.712	
ΔR^2	0.142		0.220		0.710		0.709	
Durbin Watson	2.007		1.802		1.811		1.926	

Note. DV (Dependent variable) = Behavioral Intension; MV (Mediating variable) = Overall Satisfaction, and IV (Independent Variables) = Networking Help, Instrumental Help, Psychosocial Help, Total Supervisor's Help, Supervisee's Satisfaction.

Group-II results of public sector universities are given in Table 6. Model-1 (IV-DV) depicts that total supervisor help is positively related to dependent variable (behavioral intention) (β = 0.468, p < 0.001) and in its individual dimensions, only instrumental help has a positive and significant relationship with behavioral intension (β = 0.279, p < 0.01), whereas networking and psychosocial help have a positive but insignificant relationship. In Model-2 (IV-MV), total supervisor help is positively related to supervisee satisfaction (mediating variable) (β = 0.422, p < 0.001) and in its individual dimensions, only psychosocial help is positively and significantly related to supervisee satisfaction (β = 0.219, p < 0.05). In Model-3 (MV-DV), supervisee satisfaction has a significant positive

relationship with behavioral intentions ($\beta = 0.829$, $p < 0.001$) (see Table 6 for details).

Table 6

Model Summary of Regression Analysis for Public Sector Universities (N=350)

Independent Variables	Model-1 (IV-DV)		Model-2 (IV-MV)		Model-3 (MV-DV)		Model-4 (IV+MV-DV)	
	β	t	β	t	β	t	β	t
Networking Help	0.051	0.584	0.101	1.116	-	-	0.080	1.863
Instrumental Help	0.279**	2.765	0.157	1.509	-	-	0.166***	3.882
Psychosocial Help	0.199	1.917	0.219*	2.046	-	-	0.128**	2.930
Total Supervisor's Help	0.468***	7.235	0.422***	6.366	-	-	1.43**	3.257
Supervisee's Satisfaction	-	-	-	-	0.829***	20.295	0.752***	16.896
F	18.886***		16.788***		411.877***		221.819***	
R^2	0.234		0.183		0.688		0.705	
ΔR^2	0.222		0.170		0.686		0.701	
Durbin Watson	1.797		1.581		1.845		1.961	

Note. DV (Dependent variable) = Behavioral Intension; MV (Mediating variable) = Overall Satisfaction, and IV (Independent Variables) = Networking Help, Instrumental Help, Psychosocial Help, Total Supervisor's Help, Supervisee's Satisfaction.
*$p<0.05$; **$p<0.01$; ***$p<0.001$.

Mediation Analysis

Mediation was tested using Baron and Kenny (1986) multiple regression steps analysis for the hypothesis 4 which states that Supervisee Satisfaction mediates the relationship between Supervisor Help and Behavioral Intentions.

This three step process in which first step states that the relationship between independent and mediating variable should be statistically significant (Path A). The second step requires that the independent and dependent variables should be related to each other (Path C), whereas, third step (Path B) explains the effect of both independent and mediator on the dependent variable. Here, if the mediator is statistically significant and the independent variable is now no longer significantly different from zero, it shows complete or full mediation while partial mediation depicts when regression coefficients of independent variables goes down in magnitude but still statistically significant (James & Brett, 1984).

Model 4 in Table 5 explains mediating effect of supervisee's satisfaction between supervisor total help and behavioral intentions in private sector universities. Results suggest that supervisee satisfaction fully mediates the relationship between total supervisor help and

behavioral intentions (β = -0.017, p > 0.01). All the three individual dimensions also shown full mediation; networking help (β = 0.002, p > 0.01), instrumental help (β = -0.050, p > 0.01), and psychosocial help (β = 0.001, p > 0.01). Thus, these results provide support for all hypotheses that supervisee's satisfaction mediates the relationship total supervisor help dimensions and behavioral intentions (see Table 5 for details).

Model 4 in Table 6 explains mediating effect of supervisee's satisfaction between supervisor total help and behavioral intentions in public sector universities. Results suggest that supervisee satisfaction partially mediates the relationship between total supervisor help and behavioral intentions (β = 1.43, p < .01). Among three individual dimensions, networking help showed full mediation (β = 0.080, p > .05), whereas instrumental help (β = 0.166, p <.001) and psychosocial help (β = 0.128, p < .01) showed partial mediation. Thus, these results provide support for all hypotheses that supervisee's satisfaction mediates the relationship total supervisor help dimensions and behavioral intentions (see Table 6 for details).

Independent Sample *t*-test

Independent sample *t*-test explains the descriptive statistics of each of the variables which show the mean values, standard deviation, equality of means, and variances. The results (Table 7) suggest that there is no significant difference in networking help between public and private universities (M (private) = 3.36, M (public) = 3.31, p>.05), whereas, significant differences were observed in both Instrumental Help (M (private) = 3.43, M (public) = 3.17, p<.01) and Psychosocial Help (M (private) = 3.58, M (public) = 3.33, p<.01). So these results provide support for partial acceptance of hypothesis 5 which states that there is significant difference supervisor's help between private and public sector universities.

Table 7

Independent Sample t-test for Comparing Private and Public Sectors' Universities (*N*=350)

Variables	Private (*n*=166)		Public (*n* =189)			
	M	*SD*	*M*	*SD*	*t*	*p*
Networking Help	3.36	0.999	3.31	0.928	0.410	.68
Instrumental Help	3.43	0.773	3.17	0.726	3.194	.00
Psychosocial Help	3.58	0.729	3.33	0.670	3.437	.00

Table 8
Item wise Independent Sample t-test Results (Private Vs Public Sector Universities) (*N* = 350)

	Items	Private Sector (*n* =166)		Public Sector (*n* =189)			Cohen's *d*
	To what extent has your supervisor	*M*	*SD*	*M*	*SD*	*t*	
1	given you challenging assignments that present opportunities to learn new skills?	3.32	1.16	3.42	1.03	-0.80	-0.09
2	helped you meet other people in your field?	3.39	1.13	3.21	1.05	1.52	0.16
3	helped you finish assignments/tasks or meet deadlines that otherwise would have been difficult to complete?	3.47	1.04	3.31	1.07	1.35	0.15
4	protected you from working with other faculty, lecturers, or staff before you knew about their likes/dislikes, opinions on controversial topics etc.	3.35	1.23	3.24	1.16	0.81	0.09
5	gone out of his/her way to promote your career interests?	3.44	1.06	3.30	1.08	1.25	0.13
6	conveyed feelings of respect for you as an individual?	3.81	1.00	3.67	0.95	1.33	0.14
7	conveyed empathy (understanding/sympathy) for the concerns and feelings you have discussed with him/her?	3.78	1.05	3.50	1.01	2.55[*]	0.26
8	encouraged you to talk openly about anxiety and fears that detract from your work?	3.81	1.14	3.35	1.07	3.79[***]	0.41
9	shared personal experiences as an alternative perspective to your problems?	3.58	1.13	3.30	1.08	2.32[*]	0.20

Continued…

	Items	Private Sector (*n* =166)		Public Sector (*n* =189)			Cohen's
	To what extent has your supervisor	*M*	*SD*	*M*	*SD*	*t*	*d*
10	discussed your questions or concerns regarding feelings of competence, commitment to advancement, relationships with peers and supervisors or work/family conflicts?	3.51	1.04	3.16	1.09	3.01**	0.32
11	shared history of his/her career with you?	3.42	1.11	3.24	1.14	1.52	0.15
12	encouraged you to prepare for advancement?	3.63	1.04	3.35	1.07	2.39*	0.26
13	served as a role model?	3.48	1.20	3.20	1.11	2.27*	0.24
14	displayed attitudes and values similar to your own?	3.53	1.13	3.18	1.15	2.83**	0.30
15	given you authorship on publications?	3.29	1.16	2.78	1.15	4.14***	0.44
16	helped you improve your writing skills?	3.60	1.08	3.13	1.06	4.08***	0.43
17	helped you with a presentation (in department or at a conference)?	3.48	1.11	3.37	1.03	0.93	0.10
18	explored career options with you?	3.37	1.14	3.18	1.01	1.61	0.17

*$p<.05$; **$p<.01$; ***$p<.001$.

Table 8 depicts independent sample *t*-test results (item wise) of both private and public sector universities. The items in which significant differences were of instrumental and psychological help as mentioned in attribute wise results in Table 6. No significant differences were observed in networking help.

Discussion and Conclusion

According to demographic information, the proportion of male and female supervisors in private and public sector universities was 70:30 and 60:40 percent respectively, showing a higher presence of female PhD faculty in public sector as compared to private sector universities, this further justifies in supervisee's gender, where in

private and public sector universities, gender wise male and female supervisee participants were 55:45 and 48:52 percent respectively. Female supervisees were close in private sector numbers wise, but were ahead from their counterparts in public sector universities, showing a positive trend of acquisition of higher education in females in a rather conservative environment of Pakistan. Majority of supervisors were older from their supervisees (private 83% and public 73%). This question was asked as with the help of local and foreign scholarships and on self-finance, many scholars have, in last couple of years, joined universities and many are in queue. Subsequently, according to recent trend, there are supervisees who are of age; among them majority are faculty members. In supervisor selection, majority of supervisees in both types of universities selected/chose their supervisors themselves (private 58%, public 56%). This is also a positive sign and shows availability of sufficient supervisors (PhDs) in the relevant department. Majority of supervisees used to meet their supervisors once a month, and were comprised of full-time students in both types of universities (private 60%, public 53%).

In regression results, focus was to observe the existence of association among three dimensions of supervisors help, (Networking help, Instrumental help and Psychosocial help), supervisee satisfaction (mediating variable), and behavioral intentions. As expected, the results varied between these two types of universities. Full mediation was observed in private sector universities, whereas, partial mediation was found in public sector universities. In independent samples *t*-test, significant differences were observed in instrumental help and psychosocial help between these two types of universities. A higher mean score was also found in Networking, Instrumental, Psychosocial help and supervisee's satisfaction in private universities as compared to their counterparts.

Practical Implications

In literature, major research made on supervisees and supervisors' relationship was of qualitative nature. This research which tried descriptive and analytical approach showed it results statistically and was able to get feedback from 350 participants which in qualitative research not possible. These research findings will be useful for supervisees, supervisors, and the administration. Supervisees will be able to know about nature and level of assistance provided by the supervisors in public and private sector universities; supervisors will be able to know satisfaction and behavioral intentions

of supervisees; and administration can benefit from these findings in formulating their future strategies.

Research Limitations and Directions for Future Research

This study holds some limitations like as this study was carried in only one city of Pakistan that is, Islamabad, the Capital of Pakistan, so issue of generalizability can arise; although three public and two private universities were approached. Moreover, sample according to number of universities participated, was quite low though multiple soft reminders were given to respondents. This study was cross-sectional, so for future studies, longitudinal study can be conducted and such examples are available in literature, especially in qualitative research. Furthermore, some new constructs should be tested to assess supervisees' satisfaction.

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