

# **The effect of Leadership Support on Research Motivation: The Gendered Role of Teaching Workload and Self-efficacy in Motivating Researchers**

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## **KEY WORDS**

Supportive Leadership,  
Research Motivation,  
Teaching Workload, Self-  
efficacy

## **ABSTRACT**

This study intends to explore the gendered moderating effects of supportive leadership on research motivation mediated by teaching workload and self-efficacy. The sample of study consisted of 204 randomly selected teachers of university of Sargodha. The participants were from different departments and working at different levels from lecturer to professor. A Likert type questionnaire was developed as research instruments to measure supportive leadership, research self-efficacy beliefs, teaching workload perceptions and research motivation. Expert consultation was sought about the instrument to check the validity to improve the instrument. Reliability of the instrument was established through Cronbach alpha coefficient which ranged from 0.79 to 0.91. Data was analyzed through SPSS Process Macro mediation model 4 and moderated mediation model 58 (Hayes, 2017). Result revealed positive correlation among supportive leadership, research motivation; research self-efficacy and teaching workload of university teachers. Teachers were working with less supportive leaders and moderate workload. Their belief about their self-efficacy was not very strong and were moderately motivated. The results indicated significant indirect effect of leadership support and research motivation through workload, which indicated partial mediation of workload as mediator. The results also showed insignificant indirect effect of supportive leadership and research motivation through self-efficacy which indicated full mediation of self-efficacy as mediator. According to conditional effects there was less association between leadership support and workload of males relative to females. Workload was found to moderate the effect of leadership support and research motivation for females as

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opposed to males and the overall moderated mediation model was supported. According to conditional effects there was a strong association between leadership support and self-efficacy for both males and females. Self-efficacy was found to mediate the effect of leadership support and research motivation for both females and males but the effect size was greater for females. It is submitted that heads need to improve their supportive leadership role for building a healthy research culture and for improving teachers' research self-efficacy and increasing their confidence to be competent and motivated researchers.

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## **Introduction**

Research has played and continues to play a vital role in growth and development of any country. It plays a significant role in driving government policies, corporate strategies and social change. Thus, in knowledge-based economies higher education institutions are the basic pillar of any research and innovation system. So, it came as no surprise that HE institutions are ambitious to promote research culture in universities. Universities recruit high quality faculty who are productive and are actively publishing in reputed journals. All this demand higher level of motivation to conduct research on the part of academics. The dependent variable measured in this study was research motivation. Teachers' motivation was assessed in terms of degree and the extent to which the teachers were ready and motivated to contribute in the field of research, complete their research on time, increase their research knowledge, publish their research articles in HEC recognized national and international journals and describe themselves as being self-motivated to conduct research. In Pakistani universities a major factor which the researchers consider important for conducting research, to complete targeted number of papers, is its linkage with their promotion as specified by Higher Education Commission (HEC) Pakistan. Researchers examined the impact of numerous motivational factors on the productivity of researchers and found out that their motivation to conduct research was greatest when they believed their research output would lead to rewards (Chen, Ho, Huang, & Nien, 2009). Mishra and Smyth (2013) Tien and Blackburn (1996) found junior academics more productive because they were extrinsically motivated to achieve tenure, while seniors participated in research because of their intrinsic research motivation.

Heads who demonstrate higher support, coordinate and collaborate with teachers (Awan, 2003) can create a research culture in which the research competences of the teachers and researchers are improved, and refined. According to House and Mitchell (1975), and many other proponents of leadership concepts, leaders are effective because of their impact on subordinates' motivation and satisfactions. Leadership support has been considered a major factor in improving subordinate outcomes. The idea of supportive leadership behaviors was first initiated by Path-goal theory of leadership (House, 1971). Supportive leadership behaviors are the behaviors a leader uses to demonstrate concern for the well-being of subordinates. Supportive leadership denotes the extent to which leaders value subordinates contributions and consider their needs and problems at work (Eibl, Lang, & Niessen, 2020). Such leaders do even minute things to make the work more easy and pleasant and treat subordinates as equals (House & Mitchel, 1975). Vecchio, Justin, and Pearce (2010) assert that leaders who are supportive and share power with subordinates can bring improvement in the performance of their subordinates. In case of unstructured and unpleasant tasks, the leader can make performance of work more tolerable by acting supportive, and considerate and by minimizing the negative aspects of the work environment. Expectancy theory (Vroom, Porter, & Lawler, 2005) asserts that supportive leadership increase the intrinsic valence of necessary work behavior, which consequently increase subordinate effort.

Supportive leadership positively effects the satisfaction and performance of subordinates who work on unstructured, stressful, frustrating or dissatisfying tasks (House & Dessler, 1974). They have pleasant relationships and shows concern for the subordinates by creating an open and friendly work environment. The leader is welcoming, approachable and shows trust. The leader consults with subordinates and considers their views before a decision is made. They create a friendly climate in the work unit. Supportive leadership behavior involves taking an interest in employees as people and is concerned with pleasant interpersonal relationships. While working under supportive leaders, employees work harder to achieve their goals and feel more motivated and satisfied with their work. Employees engaged in stressful tasks, when find their managers supporting their efforts, they feel more confidence and work harder for successful and timely completion of the task. Supportive leader encourages employees and boost their belief that their work will lead to performance. They try to increase the efforts of employees to reach the goal and helps them feel more satisfied (Awan, 2003). Supportive leadership indicators include: encouraging subordinates; nurturing participation in decision making; offering rewards to subordinates; expressing confidence in employees abilities; providing autonomy; increasing subordinate satisfaction; appreciating employees; developing

employees professionally and delegating powers (Awan, 2003; Eibl et al., 2020; House & Mitchel, 1975).

When a leader is supportive regarding research endeavors of employees, he is eager to support researchers by giving them advice in their research projects and by mentoring them for developing good research projects. This support and help can take many forms, such as giving advice to juniors, collaborating with them in their research activities, such as helping them to write and publish scholarly sound research articles. Supportive leaders support academics by influencing the productivity of researchers by being a great example of research behaviors. The heads' research involvement, competency, and output have a great impact on the research motivation of teachers because they consider their leaders as their role models (Bland, Center, Finstad, Risbey, & Staples, 2005; Heng, Hamid, & Khan, 2020). The support of the department heads creates an encouraging research climate within the institution and this practice gradually increase the research productivity of the academics. Babu and Singh (1998) have used a different term i.e. 'Simulative leadership' to point out the support of heads for academics regarding all academic activities especially related to research. They consider this support to be useful if the department heads possess sound knowledge and skills of research methodologies, and are keen to help and support researchers by mentoring them and collaborating with them.

A strong sense of research self-efficacy is important for being motivated to conduct high quality research. Previous research provides a strong empirical evidence that there is a strong positive relationship of self-efficacy beliefs with motivation, high performance and proactive behaviors (Cherian & Jacob, 2013; Eibl et al., 2020; Schunk, 1995). Self-efficacy is elaborated by Albert Bandura as people's belief in their ability and capability to effectively accomplish a particular task (Bandura, 1997). Bandura asserted that self-efficacy beliefs are a primary antecedent of motivated behavior. Self-Efficacy may be defined as a belief in one's competence to successfully perform task requirements across various situations and in different work roles. Human's perceptions about their competencies and capabilities to perform are cognitive mechanisms which cause behavioral changes (Cervone, 2000). Locke (1997) stated self-efficacy as a useful motivational concept in many areas of human functioning. It is one of the most dominant motivational predictors of how good a person will perform at almost any task (Heslin & Klehe, 2006). Social cognitive theory has identified self-efficacy as a dominant self-regulatory mechanism in influencing behavior (Ng, Ang, & Chan, 2008). Lunenburg (2011) Identified "four sources of self-efficacy which include, past performance, vicarious experience, verbal persuasion, and emotional cues" (p. 5). People foster self-efficacy beliefs as an outcome of social persuasions they get from others and positive persuasions may help to

empower and encourage them (Pajares, 2003). Self-efficacy is considered a precursor to career commitment (Cherian & Jacob, 2013). Research on self-efficacy has highlighted that it is a fundamental motivational construct to predict behaviors (Cherian & Jacob, 2013; Ng et al., 2008). A high degree of self-efficacy leads employees to work hard and show persistence while confronting setbacks and repeated obstacles, ridicules, and discouragements (Heslin & Klehe, 2006). People's motivation is influenced by their self-efficacy beliefs, as seen by their goal selection, and task persistence (Bandura, 1997).

The concept of workload initially originated in occupational Psychology (Koçoğlu, Gürkan, & Aktaş, 2014). Workload is the volume of work in quantitative form and the urgency of doing that task in a specified time. This is having too much stuff to do in less time (Shirom, Nirel, & Vinokur, 2010). Workload requires sustained cognitive and emotional efforts from employees. Due to financial constraints organizations might not be capable of hiring enough employees and because of this the organizations offer the employees extra responsibilities that aren't the part of their job descriptions (Chen et al., 2009). Organization need to take necessary actions to lessen workload (Chen et al., 2009) to make it manageable for the employees. The work schedules, working hours, working days, job description and job specification, should be clearly specified (de M Guimarães, Pessa, & Biguelini, 2012). Employees who work under heavy workload, are not satisfied with their work and are unable to establish good relationships with their leaders. They can easily be dissatisfied with their job due to workload because they have to do too many things without having sufficient enough time to complete the task (Koçoğlu et al., 2014). Heavy workload badly affects workers' physical and mental health, productivity and performance and their turnover (Wu, 2012).

This research focuses on assessing the moderating effect of gender in a moderated mediated model, where self-efficacy and workload are being assessed in terms of their role in mediating the effect of supportive leadership on research motivation of university faculty. In a male-dominated working environment, gender is related to an employee's valuation of his or her self-efficacy and the focus on gender differences becomes potentially necessary and likely to be observed (Eibl et al., 2020). Elible and his colleagues further explain that leadership support might be useful for nurturing female employees' positive self-efficacy beliefs in male dominated occupations. Working women in Pakistani cultural context are also responsible for child care and domestic chores. Heavy workload on job place becomes added burden and a last straw on their back which may affect their efficiency and performance. By examining the interaction effect of supportive leadership and male's and female's research self-efficacy beliefs, and their teaching workload perceptions, it

is attempted to recognize possible mechanisms through which the effect of gender on mediating variables operate.

**Objectives:**

1. To measure the relationship between leadership support, self-efficacy of teachers, teaching workload and research motivation.
2. To find out the mediation of teaching work load and research self-efficacy on the relationship among supportive leadership and research motivation.
3. To find out the moderated mediation of gender, teaching work load and self-efficacy on the relationship among supportive leadership and research motivation.

**Methods**

***Participants and Procedure***

The current study's sample consisted of 204 randomly selected teachers of university of Sargodha. The participants were from different departments and working at different levels from lecturer to professor.

***Research instrument:***

After review of literature a five point Likert type questionnaire was develop as research instruments to measure supportive leadership, self-efficacy, workload and research motivation.

***Validation of the Research Instruments***

First of all, expert consultation was sought about the instrument to check its face and content validity and different changes were made to improve the instrument. Reliability of the instrument was established through cronbach alpha coefficient (see table 1).

**Table 1.**

*Pearson Correlations between research self-efficacy, leadership support, teaching workload and research motivation*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	<i>α</i>
1.Supportive Leadership	1.602	.884	-				0.91
2.Research Self-efficacy	2.088	.939	.549**	-			0.87
3.Teaching Load	1.603	.911	.334**	.546**	-		0.84
4.Research Motivation	2.138	.916	.498**	.876**	.577**	-	0.79

Note \*\*  $p < 0.01$  (2-tailed).

Result revealed very strong positive correlation between supportive leadership and research motivation ( $r = .498, n = 204, p < .001$ ). It further revealed that research self-efficacy and research motivation ( $r = .876, n = 204, p < .001$ ) had strong positive relationship. Results also revealed that research self-efficacy ( $r = .546, n = 204, p < .001$ ) and leadership support ( $r = .334, n = 204, p < .001$ ) had moderate positive correlation with teaching workload of university teachers. The mean scores of variables indicate that teachers were working with less supportive leaders and moderate workload. Their belief about their self-efficacy was not very strong and were moderately motivated.

**Supportive Leadership and Research Motivation moderated by gender and mediated by Workload**

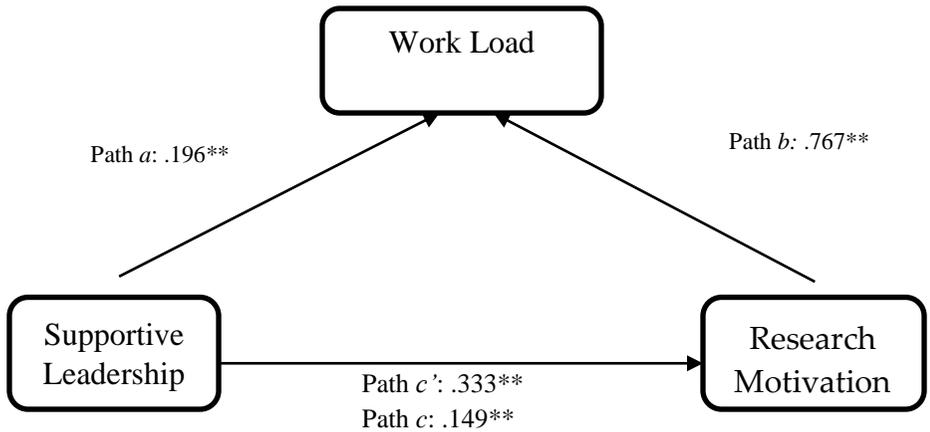
**Table 2**

Direct, Indirect and Total Effects of leadership Support and Research Motivation mediated by Workload

Effects	<i>B</i>	95% CI		<i>P</i>
		<i>LL, UL</i>		
<b>Direct Effects</b>				
LeadSup → WLoad	.483**	(.366; .599)		.000
<b>Indirect Effects</b>				
LeadSup → WLoad → Motivation	.333**	(.225; .440)		Sig
<b>Total Effects</b>				
LeadSup → WLoad - LeadSup → WLoad → Motivation	.149**	(.069; .251)		.000

The table 2 shows the mediation of workload in the relationship between leadership support and research motivation of university faculty members. Leadership support significantly positively predicted workload. The results showed significant direct effect between leadership support and research motivation ( $\beta = .483, 95\% \text{ CI} = (.366; .599)$ ) and indicated significant indirect effect of leadership support and research motivation

through workload,  $\beta = .333$ , 95% CI = (.225; .440) which indicated partial mediation of workload as mediator.



**Figure 1.** Mediation model (model 4).

**The Moderated Mediation**

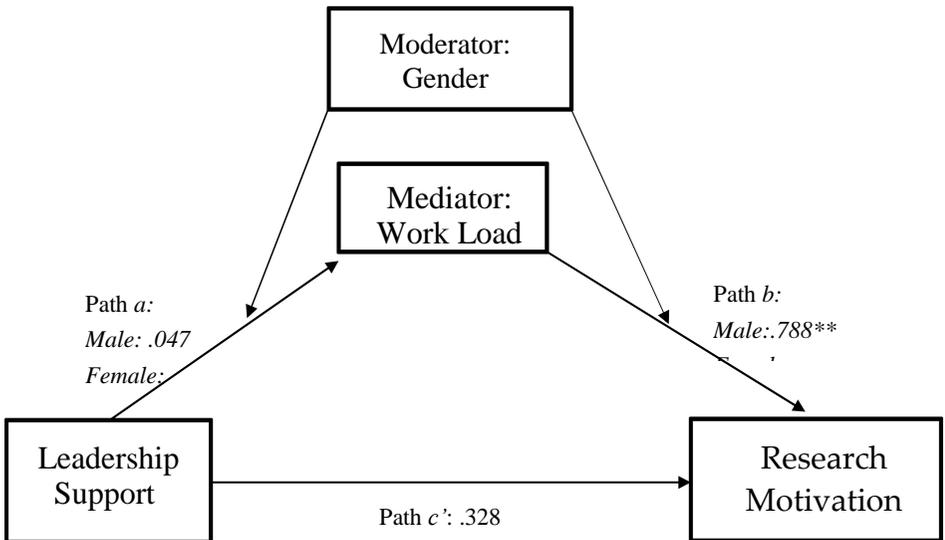
A hypothesized moderated mediation model was tested using a bootstrapping approach through Process MACRO, model 58, (Hayes, 2017) in SPSS, to measure the significant conditional indirect effects of gender as moderator variable. Supportive leadership as the predictor variable, with workload and self- efficacy as the mediators and research motivation as outcome variable. An index of moderated mediation was measured to test the significance by calculating the difference of the indirect effects across gender.

**Table 3**

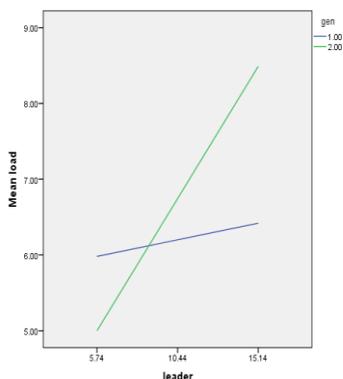
*Moderated Mediation for the Relationship between Leadership Support and Research Motivation (n = 204)*

<b>Moderated Mediation Results</b>	<b>Coefficient</b>	<b>LLCI</b>	<b>ULCI</b>
Outcome: Workload			
$R = 0.444, F(3, 200) = 16.38, p < .001$			
Leadership Support	-0.278	-.505	-.051
GenderInt_1	-2.846	-4.522	-1.169
	0.325	.178	.471
Conditional indirect effects of X on W: Leadership Support -> Workload			
Male	.047	-.054	.147
Female	.371	.264	.479
Outcome: Research Motivation			
$R = 0.586, F(3, 200) = 34.90, p = <.001$			
Workload	0.467	-0.142	1.077
GenderInt_1	-2.337	-4.965	0.292
	0.320	-0.056	0.697
Conditional indirect effects of X on W: Workload -> Research Motivation			
Male	0.788	0.511	1.065
Female	1.108	0.853	1.364
Outcome: Research Motivation $R = 0.662, F(4, 199) = 38.844, p < 0.00$			
Leadership Support	.328	.216	.438
Workload	.672	.102	1.241
Gender	-.470	-2.989	2.049
Int_1	.064	-.296	.424
Direct Effect of X on Y	.328	.216	.439
Conditional indirect effects of X on Y: Leadership Support -> Workload -> Motivation			
Male	.034	-.035	.133
Female	.297	.139	.477
Moderated mediation Index (difference between conditional indirect effects):			
Index: .263		.080	.457

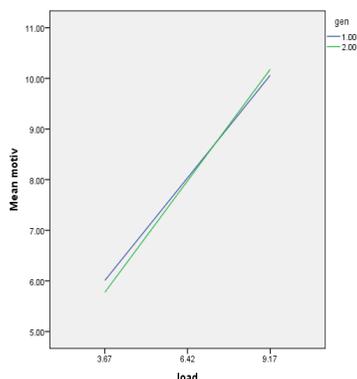
The moderated mediation model 58 showed that the direct effect (path c') was significant for leadership support on workload as presented in Table 3. According to conditional effects there was less association between Leadership Support and workload of males  $B = .175$ , [.104, .244] relative to females,  $B = .319$  [.246; .393]. The direct effect of Leadership Support on research motivation was significant ( $B = .328$  [.216; .439]). The interaction between workload and gender was significant, coefficient = 0.320 (95% CI: 0.056 to .697). Workload was found to moderate the effect of leadership support and research motivation for females as opposed to males, which was not significant. It means that the indirect effect of leadership support predicting research motivation through workload was conditional on gender. The indirect effect was significant in the females, coefficient = .297 [.139, .477] and non-significant in males, coefficient = .034 [95% CI: -.035, .133]. These interactions are illustrated in the Figure 3. This was confirmed by the index of moderated mediation, index = 0.263 (95% CI: .080; .457). Hence, the overall moderated mediation model was supported.



**Figure 2.** Diagram of the moderated mediation model with work load as the mediator and gender as the moderator (model 58).



**Figure 3.** Interaction effects for leadership support and gender on workload.



**Figure 4.** Interaction effects for workload and gender on research motivation.

**Supportive Leadership and Research Motivation Moderated by Gender and Mediated by Research Self-Efficacy**

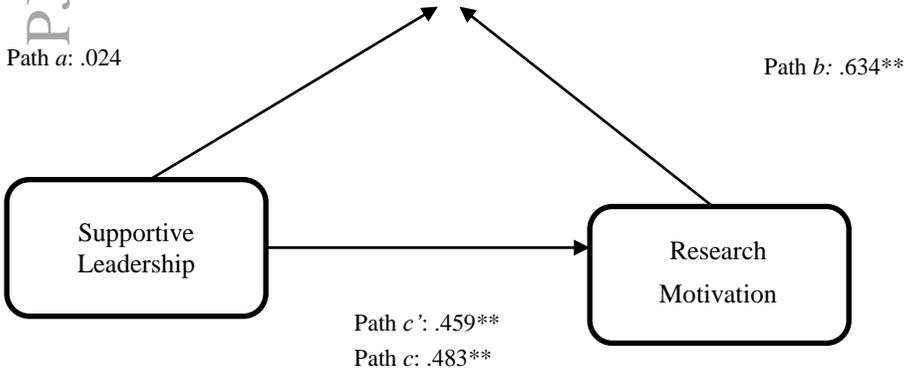
**Table 4**

*Direct, Indirect and Total Effects of Self-Efficacy and Research Motivation mediated by Workload*

Effects	B	95% CI		P
		LL	UL	
<b>Direct Effects</b>				
LeadSup → Motivation	.024	[-.054;	.102]	.544
<b>Indirect Effects</b>				
LeadSup → SelfEffi → Motivation	.459**	[.334;	.582]	Sig
<b>Total Effects</b>				
LeadSup → Motiv- LeadSup → SelfEffi → Motivation	.483**	[.366;	.599]	<.001

The table 2 shows the direct, indirect and total effect due to mediation of self-efficacy in the relationship between supportive leadership and research motivation of university faculty members. The results showed insignificant direct effect between supportive leadership and research motivation ( $\beta = .024$ , 95% CI = [-.054; .102]) and indicated significant indirect effect of supportive leadership and research motivation through self-efficacy,  $\beta = .459$ , 95% CI = [.334; .582] which indicated full mediation of self-efficacy as mediator.

Research Self  
Efficacy



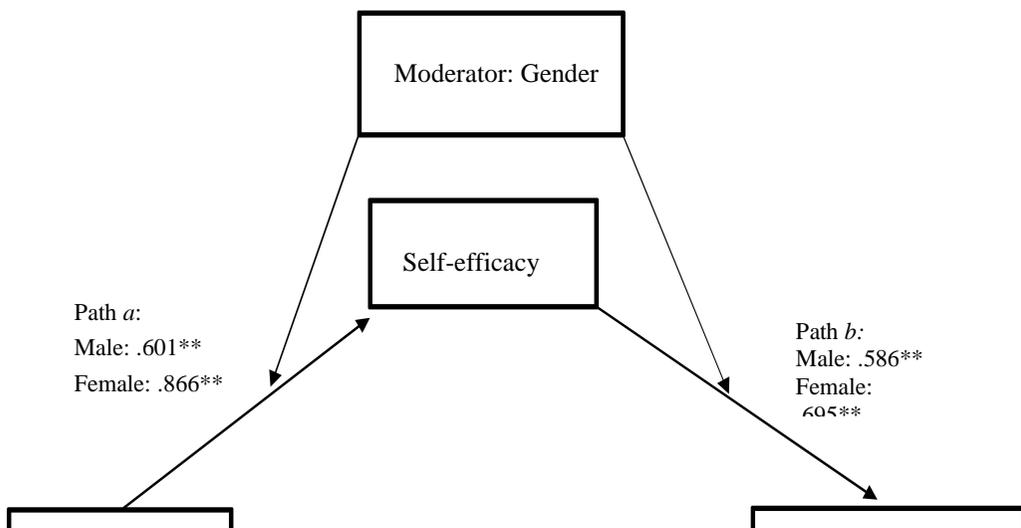
**Figure 5.** Mediation model (model 4).

**Table 5.** Moderated Mediation for the Relationship between Supportive Leadership, Research Motivation, Self-efficacy and Gender ( $n = 204$ ).

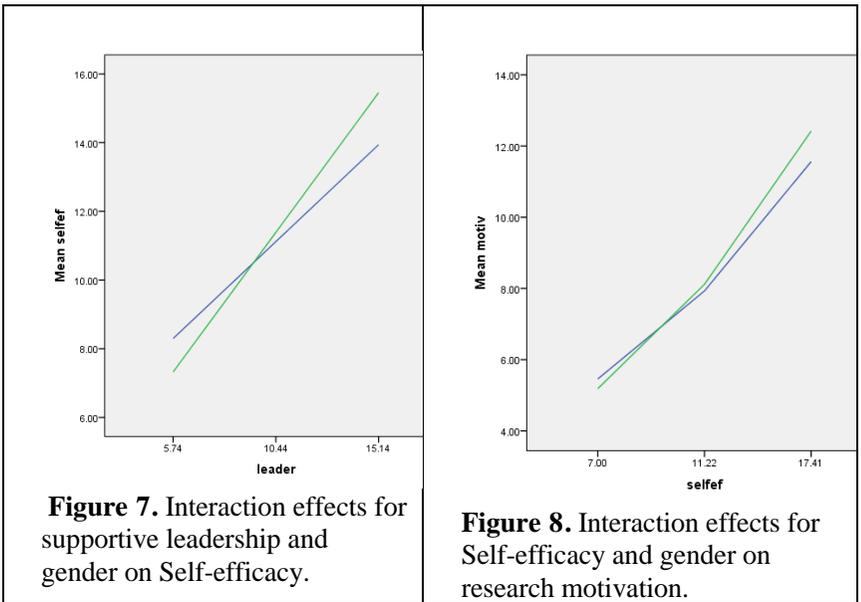
Moderated Mediation Results	Coefficient	LLCI	ULCI
Outcome: Self-Efficacy $R = 0.558, F(3, 200) = 30.14, p = 0.000$			
Leadership Support	0.336	-.138	.810
Gender	-2.496	-5.991	.999
Int_1	.265	-.041	.571
Conditional indirect effects of X on W: Leadership Support -> Self-Efficacy			
Male	.601	.392	.810
Female	.866	.642	1.089
Outcome: Research Motivation $R = 0.879, F(3, 200) = 277.03, p = 0.000$			
Self-Efficacy	.481	.329	.634
Gender	-1.062	-2.316	.193
Int_1	.111	.013	.209
Conditional indirect effects of X on W: Self-Efficacy -> Research Motivation			
Male	.586	.514	.659
Female	.695	.614	.776
Outcome: Research Motivation $R = 0.879, F(4, 199) = 169.60, p = .000$			

Leadership Support	.016	-.062	.094
Self-Efficacy	.478	.325	.631
Gender	-1.031	-2.297	.235
Int_1	.108	.010	.207
Direct Effect of X on Y	.016	-.062	.094
Conditional indirect effects: Leadership Support -> Self-Efficacy -> Motivation			
Male	.352	.212	.504
Female	.602	.380	.778
Moderated mediation Index (difference between conditional indirect effects):			
Index: .249		-.010	.481

The moderated mediation model 58 showed that the direct effect (path c') was not significant for leadership support on research motivation as presented in Table 5. According to conditional effects there was a strong association between leadership support and self-efficacy for both males  $B = .601$ , [.392, .810] and females,  $B = .866$  [.642; 1.089]. The direct effect of leadership support on research motivation was not significant ( $B = .016$  [-.062; .094]. The interaction between self-efficacy and workload was significant, coefficient = 0.145 (95% CI: 0.43; .246). Self-efficacy was found to mediate the effect of leadership support and research motivation for both females ( $B = .602$  [.380, .778] and males  $B = .352$  [.212, .504]. It means that the indirect effect of supportive leadership predicting research motivation through self-efficacy was conditional on gender but the overall moderated mediation model was not supported with the index = .249 (95% CI = -.010; .481).



**Figure 6.** Diagram of the moderated mediation model with work load as the mediator and gender as the moderator (model 58).



**Figure 7.** Interaction effects for supportive leadership and gender on Self-efficacy.

**Figure 8.** Interaction effects for Self-efficacy and gender on research motivation.

**Findings and Discussion**

Result revealed that research self-efficacy and research motivation had very high positive relationship. It has further shown strong positive correlation among supportive leadership, research self-efficacy, workload and research motivation. Results also exposed that leadership support had moderate positive correlation with teaching workload of university teachers. These results are consistent with many research studies (Cherian

& Jacob, 2013; Eibl et al., 2020; Locke, 1997; Schunk, 1995). The mean scores of variables indicated that teachers were working with less supportive leaders and with moderate workload. Their belief about their self-efficacy was not very strong and were moderately motivated. Previous researches show similar kind of relationships except for workload. Eibl et al. (2020) found a strong relationship between supportive leadership and general self-efficacy. Bentley and Kyvik (2012) results revealed that highly qualified academics in the departments created a good research climate by offering mentoring and research support and collaborating with junior academics. Gregorutti (2008) study also found low teaching load; supportive and mentoring environments as most helpful factors for research productivity. Bentley, Coates, Dobson, Goedegebuure, and Meek (2013) found that the access to the needed resources for research work and perceived university supportive were the biggest satisfiers for the academics. Bentley et al. (2013) found that in developed countries all academics at research universities were not satisfied with the research support provided by their universities and there was inverse relationship between university support and satisfaction. Previous research reveal inverse relationship between workload and motivation which is contradictory of this research. This is probably due to the reason that university faculty members were perceiving themselves as moderately overloaded. Higher education Commission of Pakistan has specified workload for all positions starting from lecturer to professor. Universities pay for the extra work allocated to the employees. The specified workload has been accepted as a norm by all who join universities. Moreover, additional duties are also paid for and are optional for the employees. So it is understandable that the workload is not negatively related with motivation.

### ***Workload and Research Motivation***

The mediation analysis revealed that leadership support significantly positively predicted workload. The results showed significant direct effect between leadership support and research motivation and indicated significant indirect effect of leadership support and research motivation through workload, which indicated partial mediation of workload as mediator. Koçoğlu et al. (2014) confirmed that workload was a partial mediator for the relationship between LMX and job satisfaction. Federici and Skaalvik (2012) found that workload and time pressure correlates highly with burnout. Bentzen, Lemyre, and Kenttä (2016) found higher levels of workload was associated with higher levels of exhaustion. Lertputtarak (2008) study recorded the complaints of administrators regarding academics in their university not perceiving the research as an importance task. They also confessed that researchers had a high teaching load and lacked support from the university. The review of studies by

Gregorutti (2008) has revealed many variables that effect the research productivity of academics, which include research motivation, research self-efficacy, time spent on research, teaching workload allocation, leadership styles of heads, availability of research funds, research support by the institutions, research incentives and research culture of the institution.

The moderated mediation showed that the direct effect was significant for leadership support on workload. According to conditional effects there was less association between leadership support and workload of males relative to females. The direct effect of leadership support on research motivation was significant. The interaction between workload and gender was significant. Workload was found to moderate the effect of leadership support on research motivation for females as opposed to males. It means that the indirect effect of leadership support predicting research motivation through workload was conditional on gender and females were more motivated when their heads were supportive and cooperative in a high workload condition. The indirect effect was significant in the females and non-significant in males. This was confirmed by the index of moderated mediation. Hence, the overall moderated mediation model was supported. This is perhaps due to the reason that females perform dual responsibility in our cultural context and high workload at job place is an additional burden on females which is effecting their motivation. Working women in Pakistani patriarchal society are responsible for child care and almost all domestic chores. Heavy workload on job place along with domestic responsibilities becomes difficult to handle which may affect their efficiency and performance. Eibl et al. (2020) feel that females at male dominated workplace believe less strongly in their abilities to master the work demands imposed on them and supportive leadership can help them to believe in their capability to handle the numerous work demands posed on them. Many previous studies acknowledge that females gender role obligations at home as primary care providers creates a major obstacle to the development and advancement of their career (Toffoletti & Starr, 2016). Another study (Ng et al., 2008) shows that leaders with manageable workload and decisions autonomy are more likely to experience increased motivation. Further, their findings presented that high job demands reduced the link between personality and effectiveness (Ng et al., 2008).

#### ***Self-Efficacy and Research Motivation***

The results of present study also showed insignificant direct effect between supportive leadership and research motivation and indicated significant indirect effect of supportive leadership and research motivation through self-efficacy which indicated full mediation of self-efficacy as mediator. It means when supportive leadership behavior is high it effects research motivation only with the mediation of high self-efficacy beliefs.

When the self-efficacy beliefs of the researchers are positive and high they accept support from the heads and are consequently more motivated. Labrague, Al Sabei, Al Rawajfah, AbuAlRub, and Burney (2021) conducted a cross sectional study in Oman and found out that nurses' leadership self-efficacy partially mediated the relationship between authentic leadership and motivation. Federici and Skaalvik (2012) study revealed that authentic leadership effects self-efficacy positively, which in turn increases motivation. Self-efficacy also effects the burnout behavior, proactive behaviors, motivation, and performance (Cherian & Jacob, 2013; Eibl et al., 2020; Ng et al., 2008; Pajares, 2003; Schunk, 1995). Bandura and Locke (2003) reported meta-analyses of nine large-scale studies and found that the efficacy beliefs contribute significantly to their level of motivation (Bandura & Locke, 2003).

The moderated mediation showed that the direct effect (path c') was not significant for leadership support on research motivation. According to conditional effects there was a strong association between leadership support and self-efficacy for both males and females]. The direct effect of leadership support on research motivation was not significant. The interaction between self-efficacy and workload was significant. Self-efficacy was found to mediate the effect of leadership support and research motivation for both females and males. It means that the indirect effect of supportive leadership predicting research motivation through self-efficacy was conditional on gender but the overall moderated mediation model was not supported. These findings are consistent with previous work recognizing gender as a predictor of self-efficacy and supportive leadership as a mediator within a male-dominated working context. (Eibl et al., 2020). Eibl and his colleagues found supportive leadership moderating the indirect effect of gender on employees through general self-efficacy. They also reported that when supportive leadership was low, women reported less self-efficacy and when supportive leadership was high women's level of self-efficacy not different than men. The results of Tziner, Shkoler, and Fein (2020) suggest that gender made a dramatic difference in the LMX mediation and gender-based moderation. Ng et al. (2008) found that demanding jobs negatively intervene in the motivation effect of self-efficacy on the performance of employees. Vasil (1992) explored the effect of self-efficacy of researchers and found that male researchers possess stronger self-efficacy beliefs than their female counterparts. Vasil (1996) further asserts that such beliefs may affect their research capability and confidence to conduct productive research projects and publishing thereof. Eibl et al. (2020) expected females in male-dominated working contexts, having lower levels of self-efficacy beliefs than their male counterparts. They attribute these gender differences to the perceived mismatch between men and women's collective gender role in male-dominated working contexts. They further believe that women's

perceived lower status in society, fewer opportunities for them and less support from family members might contribute to gender differences in lower levels of self-efficacy beliefs. The findings of the present study confirm and coincide with this idea. Eibl et al. (2020) guide us by stating that supportive leadership behaviors can be especially helpful for raising females' efficacy beliefs in male-dominated work environment because supportive leaders focus on encouragement and development of employees.

### **Concluding Remarks**

Results of this study emphasize the worth of supportive leadership in creating a healthy research culture by minimizing teaching workload and fostering self-efficacy, which results in greater research motivation to get engaged in productive research activities. It was concluded on the bases of results that a positive correlation existed among supportive leadership, research motivation; research self-efficacy and teaching workload of university teachers. Self-efficacy mediated the effect of supportive leadership on research motivation while workload partially mediated the effect of supportive leadership on research motivation. The interaction between workload and gender was significant but there was less association between leadership support and workload of males relative to females. Workload was found to mediate the effect of leadership support and research motivation for females as opposed to males. Conversely, there was a strong association between leadership support and self-efficacy for both males and females. Self-efficacy was found to mediate the effect of leadership support and research motivation for both females and males. It is suggested that universities should take necessary measures to improve supportive leadership in heads of departments which is central in building a healthy research culture. Leadership support is vital in improving teachers' research self-efficacy and increasing their motivation and confidence in their capability to do good researches. Universities and faculties should allocate manageable workload to the individuals and enable them to work under conditions that may help them to make best use of the potential for which they have been recruited. Heads may boost self-efficacy through providing supportive leadership, professional development opportunities, coaching, and rewards for improvement (Lunenburg, 2011).

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