

Job Stress Among Academic Faculty in Higher Education Institutions: The Role of Research-Teaching Conflict and Perceived Publication Pressure

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ABSTRACT

Historically, teaching and research have been the most important work roles of academic faculty in higher education institutions (HEIs), and these roles have evolved in close relationship with each other. However, due to disciplinary fragmentation and increased institutional specialization, the compatibility between teaching and research roles has decreased significantly. The institutional privileging of research over teaching has created pressure for university teachers to publish more often, and this conflict between the teaching and research roles might be a major cause of job stress. Against this backdrop we have designed a descriptive study to investigate whether research-teaching conflict is creating job stress and burnout among university teachers. For this research, we surveyed one hundred and two university teachers of Punjab, Pakistan. Our findings indicate that there is a strong positive correlation between research-teaching conflict and job stress. The results also reveal significant effect of publication pressure on university teacher stress. Based on our research findings we conclude that there is intense perceived publication pressure in academia that mediates the effect of research-teaching conflict on job stress.

Introduction

Historically, teaching and research have been the most important work roles of academic faculty in higher education institutions (HEIs), and these roles have evolved in close relationship with each other. Prior to the 19th century, universities, in addition to teaching, were also deeply concerned with the preservation of knowledge through individual study, reflection, and writing. Thus, writing and reflection on existing knowledge were an integral part of a teacher's role during that time period. In the late 18th and early parts of the 19th century, a new approach to knowledge evolved which laid more emphasis on the *Humboldtian* idea of the unity of teaching and research. This approach continued on into the 20th century (Neumann, 1996). The growth and expansion of higher education systems after World War II led to the emergence of the *multiversity*, a model that is quite distinct from the traditional 'monistic' university model. In the institutional culture of the multiversity, disciplinary fragmentation and increased institutional specialization led to a significant decrease in the compatibility between the teaching and research roles (Neumann, 1996; Clark, 1987).

Commentators have presented diverse views on the teaching-research nexus. Prosser (1989) argued that the conflict between research and teaching stemmed from the institutional reward system often associated with research publications. Turns (1991), on the other hand, opined that both research and teaching have intrinsic compelling motive. However, due to monetary incentives and the prestige associated with research activities, there is a possibility of conflict between research and teaching, particularly if there is an increase in funding for large research projects. On contrary to the preceding views on the relationship between research and teaching, some scholars, such as Bretton (1979), believed that there is a symbiotic relationship between these two roles.

Although all these are valuable insights, the teaching-research debate has gained new momentum in the current era of internationalization of higher education. In a changing higher education context, much greater emphasis has been placed on university research excellence as the hallmark of a "World Class University," (Yang, et al., 2021) resulting in a debilitating "culture of speed" (Berg & Seeber, 2016) and "hyper-performativity" in academia (Macfarlane, 2021). In order to increase their national and global rankings, nearly all the universities of the world are trying to promote their research capability and productivity (Dai et al. 2021). This institutional privileging of research over teaching has created pressure for university teachers to publish more often. However, such conflicting institutional and disciplinary demands might be creating tension between the teaching and research roles. Against this backdrop, we have designed a descriptive study

to investigate whether this intense publication pressure is creating research-teaching conflict and burnout among university teachers. The major objectives of our research are:

1. To explore the perceptions of university teachers regarding research-teaching conflict, publication pressure, organizational support, and job stress
2. To determine how gender differences affect research-teaching conflict, publication pressure, organizational support, and job stress
3. To measure the associations between research-teaching conflict, publication pressure, organizational support, and job stress
4. To measure the effect of research-teaching conflict, publication pressure, and organizational support on job stress
5. To evaluate the mediating effect of publication pressure and organizational support in the relationship between research-teaching conflict and job stress

Review of Relevant Literature

This section provides an overview of the research on publication pressure, research-teaching conflict, and job stress among academic faculty. We begin by outlining the nature and the extent of publication pressure in academia.

Publication Pressure

The term *Publish or Perish*, originally coined by Coolidge and Lord (1932, p. 308), has become a commonly used aphorism in academia. According to this principle, academic success rests on one's publication record. In a majority of universities, recruitments and promotions are linked with the specific number of publications in a selected group of peer-reviewed journals. It is generally assumed that incentivizing publication might generate more and better quality research. However, a quantitative assessment of research output through number of journal publications has created a hyper-competitive environment in universities, which in-turn has generated high publication pressure in academia (Haven et al., 2019). An increasing trend of using publication and citation as an emblem of competence has been discussed and criticized by many scholars from across various fields (e.g., Adler & Harzing, 2009; Fanelli, 2010)

In this paper, we conceptualize publication pressure as a subjective pressure that an individual researcher might feel due to institutional demand to publish frequently (Woolf, 1986). Publication pressure results from the feeling that one has to publish to stay in academia. Although a modest level

of institutional pressure is desirable to produce a healthy research culture and a sense of academic competence, excessive institutional pressure, especially in absence of required resources, generates stress. The detrimental effect of publication pressure on individual researchers and overall academic enterprise has been cited in exiting literature (Dalen & Henkens, 2012).

The increased publication pressure, in words of Bouter (2015), is a perverse incentive that increases the chances of research misconduct and low-quality research. Previous research shows that in the research climate of publish or perish, researchers often report emotional exhaustion: a major sign of burnout. Burnout is a type of stress syndrome. Although this term was originally used during the 1960s to explain the effects of drug abuse, over the years, burnout has become a buzzword that is used to explain a variety of social and personal problems. There are three major traits associated with burnout, namely, emotional exhaustion, depersonalization, and a loss of sense of personal accomplishment (Maslach & Jackson, 1981). Many reasons of burnout have been cited in existing literature, for example, Maslach and Leiter (1999) exhibited that burnout is caused due to workload, lack of personal control, insufficient rewards, absence of fairness, the breakdown of the working community, or conflicting values. Friedman et al., (1991) argued that burnout among academic faculty has a positive correlation with excessive time pressure, poor relationships with colleagues, large classes, a lack of resources, fear of violence, behavioral problems among pupils, and ambiguity in decision-making. Though there is extensive literature on job burnout among university teachers (Li, 2014; Papastylanou, et al., 2009), relatively less is known about the impact of research-teaching conflict on burnout. Here we present an overview of the studies that explain why publication has become a pressure and why this pressure continues to persist in the academic community.

Research-Teaching Conflict and Job Stress

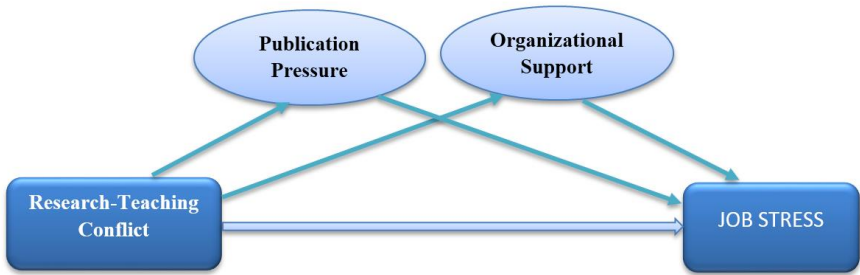
In this era of knowledge-based economy, universities have become vital forces in scientific research and technological innovation. The competition among universities for higher research productivity has created intense publication pressure. This publication pressure is visible in many organizational practices of universities, which often reward researchers on the basis of publications and citations. University teachers are required to engage in scientific research and innovation in addition to their teaching responsibilities. With limited time and recourses, university teachers are constantly juggling their teaching and research roles. According to Rond & Miller (2005), anxieties come with a career involving research, thus, university teachers are often susceptible to job burnout due to the conflicting but interdependent professional demands of research and teaching. A good

number of empirical studies support Rond & Miller (2005) findings that university teachers are disposed to role conflict and job burnout (Li et al., 2020) due to excessive research and teaching demands. Although it is generally believed that teaching and research are reciprocal activities and can benefit from each other, many studies (Austin 1996; Baumann 1996) also indicate that the role conflict experienced by university teachers due to their substantial teaching and research responsibilities leads to burnout. Both these responsibilities demand a lot of time and energy. Therefore, it is not surprising that university teachers are vulnerable to research-teaching role conflict. As was suggested by Moore (1963) in the scarcity model, scarcity of resources and energy cause role conflict. Existing literature on role conflict clearly exhibits that role conflict is positively correlated with many adverse outcomes such as stress, dissatisfaction, a sense of uncertainty, and job burnout (Li et al. 2015; Wang et al. 2012). According to Lei, et al. (2021) social support mechanisms can help to relieve stress associated with research-teaching conflict. However, the changed landscape of higher education has increased competition among university teachers for positions and funding. This in turn has affected quality of work and collegial relations in the academic community, which will eventually deprive faculty of much needed peer support (Anderson et al., 2007). Due to institutional privilege of research output over teaching, research-teaching nexus has become a site of contestation and constant struggle (McCune, 2021).

Based on our literature review we hypothesized that

- H₁. Publication pressure is likely to increase research-teaching conflict and job stress.
- H₂. Organizational support is likely to decrease job stress, research-teaching conflict and publication pressure.
- H₃. Research-teaching conflict, publication pressure and organizational support are significant linear predictors of job stress
- H₄. Publication pressure and organizational support mediates the relationship between teaching-research conflict and job stress.

Figure 1. Conceptual Framework



Source: Authors' elaboration based on literature review

Research Methodology

This study was designed to explore the determinants of stress among university teachers in the research-teaching nexus. The population of this study consisted of teachers working in different universities of Punjab, Pakistan. A questionnaire was shared online with university teachers in five randomly selected universities of Punjab. The one hundred and two university teachers who responded to the online questionnaire were the sample of this study. We developed a questionnaire tool to measure research-teaching conflict, publication pressure, organizational support, and job stress. The tool was pilot tested and reliability of the tool was ascertained by measuring internal consistency. The cronbach alpha has been reported in table 2. The Research-Teaching Conflict Scale consisted of 10 items ($\alpha = .896$), the Organizational Support Scale consisted of 16 items ($\alpha = .753$), the Publication Pressure Scale consisted of 13 items ($\alpha = .759$) and the Job Stress Scale consisted of 20 items ($\alpha = .903$). Data were described statistically and inferential statistics such as *t*-test, person *r*, regression analysis and process MACRO through SPSS, were used to find out the association in all study variables.

Results and Major Findings

Table 1

Demographics of sampled University Faculty

		Frequency	Percent
Gender	Male	54	52.9
	Female	48	47.1
Workload	6 Credits Hours	7	6.9
	9 Credits Hours	33	32.4
	12 Credits Hours	43	42.2
	15 Credits Hours	10	9.8
	18 Credits Hours	9	8.8
No of HEC recognized Articles	1-10	61	59.8
	11-20	9	3.9
	21-30	8	7.8
	31-40	8	7.8
	41-above	16	15.7

The above table reflects that male faculty members comprise 53% of total sample whereas females were 47%. A big number (42%) were teaching twelve credit hours followed by 9 credits (32%). In terms of number of HEC recognized articles is concerned 52% were having less than five papers published and 16% had published forty or more than forty articles.

Mean, Standard Deviation and Pearson Product Correlation Coefficient among Variables of Study

SN	Variables	M	SD	α	Skewness	Kurtosis	1	2	3
1	Research-Teaching Conflict	3.23	.96	.89	-.415	-.67	—		
2	Organizational Support	3.32	.58	.75	.058	-.52	.23*	—	
3	Publication Pressure	3.51	.60	.76	-.595	.62	.63**	.16	—
4	Job Stress	3.32	.68	.90	.412	-.70	.59**	.02	.49**

**Correlation is significant at the 0.01 level (2-tailed), *Correlation is significant at the 0.05 level (2-tailed).

Table 1 indicates that publication pressure scored high mean ($M = 3.51$, $SD = .60$) than research-teaching conflict ($M = 3.23$, $SD = .96$), organizational support ($M = 3.32$, $SD = .58$) and job stress ($M = 3.324$, $SD = .684$). Cronbach alpha (α) ranged from 0.753 to 0.903 indicating that tools were highly reliable. The values of skewness and kurtosis are less than 2 which indicate that data was normally distributed.

Table 1 also shows the results of Pearson Product Correlation Coefficient, which was computed to assess the relationship among all variables of this study. Results revealed very strong positive correlation of research-teaching conflict with publication pressure ($r = .628$, $n = 102$, $p < .001$) and job stress ($r = .592$, $n = 102$, $p < .001$) and a weak but significant correlation with organizational support ($r = .233$, $n = 102$, $p < .005$). Results also revealed that job stress was significantly related with publication pressure ($r = .499$, $n = 102$, $p < .001$). All other relationships were positive but non-significant.

Table 3

Gender Difference for all Variables of Study (df=100)

Variables	Gender	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>	Mean Diff.	SE Diff.
Research-Teaching Conflict	Male	29.90	9.40	.99	.325	1.699	1.718
	Female	28.20	7.74				
Organizational Support	Male	47.57	8.60	1.50	.136	2.407	1.602
	Female	45.16	7.43				
Publication Pressure	Male	42.22	6.30	.09	.923	.138	1.441
	Female	42.08	8.21				
Job Stress	Male	71.51	13.68	1.28	.203	3.644	2.842
	Female	67.87	15.02				

The table 3 reveals that there were no gender differences in all four variables of the study. Both male and females were experiencing same level of research-teaching conflict, organizational support, publication pressure and job stress.

Regression Analysis

The scatter plots below show the relationship between research-teaching conflicts, publication pressure and job stress of university faculty, with a regression line.

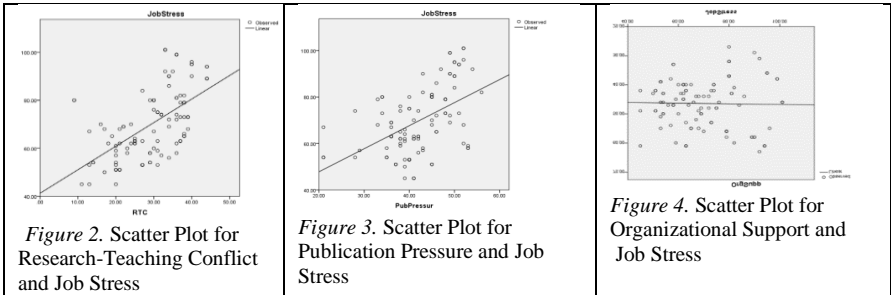


Figure 2. Scatter Plot for Research-Teaching Conflict and Job Stress

Figure 3. Scatter Plot for Publication Pressure and Job Stress

Figure 4. Scatter Plot for Organizational Support and Job Stress

Table 4
Linear Regression Analysis: Research-Teaching Conflict, Publication Pressure, Organizational Support and Job Stress

	B	SE	β	t	p	F	p	R ²
(Constant)	41.22	4.06		10.15	<.001	53.91	<.001	.350
Research-Teaching Conflict	.982	.13	.59	7.34	<.001			
(Constant)	27.95	7.37		3.79	<.001	33.22	<.001	.249
Publication Pressure	.99	.17	.50	5.76	<.001			
(Constant)	68.16	8.34		8.18	<.001	.040	.842	<.001
Organizational Support	.035	.18	.02	.20	.842			

Dependent Variable: Job Stress

The above table shows the linear regression that was computed to analyze effect of Research-Teaching Conflict on university teacher job stress. The results showed a positive significant correlation ($R = .592$ and $R^2 = .35$) which implied that research-Teaching Conflict was able to explain 35% of the variance of university teacher job stress. The significant regression equation was found, $F(1, 101) = 53.9, p < .001$ which revealed that a significant effect of Research-Teaching Conflict ($\beta = .592, t(102) = 7.342, p = .000$) on university teacher stress and explained that for every one unit increase in research-teaching conflict the dependent variable increases by .98 units.

Table 4 also displays a positive significant correlation ($R = .499$ and $R^2 = .25$) which implies that Publication Pressure was able to explain 25% of the variance of university teachers' job stress. The significant regression equation was found, $F(1, 101) = 33.2, p < .001$ which revealed that a significant effect of Publication Pressure ($\beta = .499, t(102) = 5.764, p = .000$) on university teacher stress and explained that for every one unit increase in publication pressure the dependent variable increases by .99 units. The regression equation was insignificant, $F(1, 101) = .040, p = .842$ which revealed an insignificant effect of organizational support ($\beta = .020, t(102) = .200, p = .84$) on university teacher stress. Also similarly, for Publication

Pressure, for every one unit increase in Publication Pressure, the job stress increases by .42 units.

Table 5
Multiple Regression Analysis: Research-Teaching Conflict, Publication Pressure and Job Stress

	B	SE	Beta	t	p	F	p	R ²
(Constant)	29.954	6.760				29.968	<.001	.377
Research-Teaching Conflict	.762	.169	.459	4.506	<.001			
Publication Pressure	.419	.203	.211	2.066	.041			

Dependent Variable: Job Stress; Predictors: (Constant), Publication Pressure, Research-Teaching Conflict

Table 5 shows the multiple linear regression that was computed to determine the joint effect of Research-Teaching Conflict and Publication Pressure, on university teacher job stress. A significant regression equation was found, $F(2, 101) = 29.968$ $p < .001$. The results showed that there was significant joint effect of Research-Teaching Conflict ($\beta = .762$, $t(101) = 4.506$, $p = .000$), and Publication Pressure, ($\beta = .419$, $t(101) = 2.06$, $p = .041$) on university teacher job stress. The results also showed significant relationship ($R = .614$). The R square ($R^2 = .377$), implied that Research-Teaching Conflict and Publication Pressure in the study were able to explain 37.7% of the variance of university teachers' stress while working on job. It also explained that for every one unit increase in Research-Teaching Conflict the dependent variable increases by .76 units. Also similarly, for Publication Pressure, for every one unit increase in Publication Pressure, the job stress increases by .42 units.

Mediation Analysis

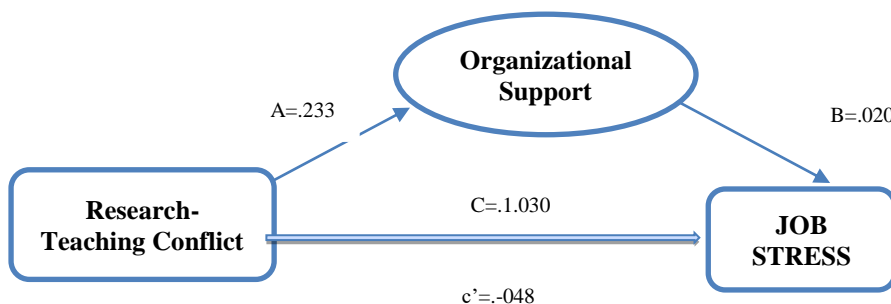


Figure 5. Mediation analysis for Research-Teaching Conflict, Organizational Support and Job Stress

Table 6

Direct, Indirect and Total Effects of Research-Teaching Conflict, Organizational Support and Job Stress of University Teacher

Effects	B	95%CI LL, UL	P
Direct Effects			
TRC → Job Stress	1.030	[.759,1.247]	<.001
Indirect Effects			
TRC → Org_Sup → Job Stress	-.048	[-.143, .024]	n.s
Total Effects			
TRC → Job Stress + TRC → Org_Sup → Job Stress	.982	[.717, 1.247]	<.001

Note: RTC =Research-Teaching Conflict; Org_ Sup = Organizational Support

The table 6 shows the direct, indirect and total effect due to mediation of organizational support in the relationship between research-teaching conflict and job stress. The results showed significant direct effect of research-teaching conflict on university teachers' job stress, $\beta = 1.03$, 95% CI = [.759, 1.247] and indicated insignificant indirect effect of research-teaching conflict on job stress of university teachers through organizational support ($\beta = -.048$, 95% CI = [-.143, .024]). It explained that due to indirect effect (mediation) of organizational support when research-teaching conflict goes up by 1 standard deviation, university teacher job stress goes up by 0.04 standard deviations. Overall there was positive significant direct effect ($\beta = 1.03$, $p < .005$) and insignificant indirect effect ($\beta = -.048$, $p < .005$) which indicated no mediation of organizational support in the relationship between research-teaching conflict and university teachers' job stress.

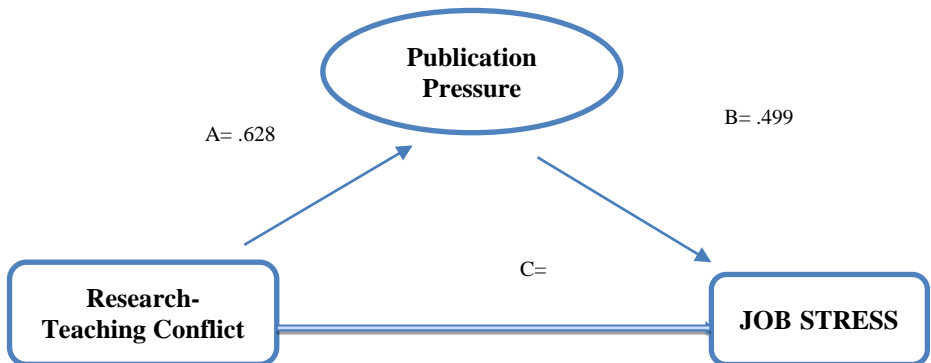


Figure 6. Mediation analysis for Research-Teaching Conflict, Publication Pressure and Job Stress

Table 7

Direct, Indirect and Total Effects of Research-Teaching Conflict, Publication Pressure and Job Stress of University Teacher

Effects	β	95%CI (LL, UL)	P
Direct Effects			
RTC → Job Stress	.762	(.427,1.098)	<.001
Indirect Effects			
TRC → Pub_Pres → Job Stress	.219	(.028, .474)	Sig
Total Effects			
TRC → Job Stress + TRC → Pub_Pres → Job Stress	.982	(.716, 1.25)	<.001

Note: RTC =Research-Teaching Conflict; Pub_Pres = Publication Pressure

The table 7 revealed the direct, indirect and total effects for mediation of publication pressure in the relationship between research-teaching conflict and job stress. The results showed significant direct effect of research-teaching conflict on university teachers' job stress, $\beta = .762$, 95% CI = [.427, 1.098]. The results also indicated significant indirect effect of research-teaching conflict on job stress of university teachers through publication pressure ($\beta = .219$, 95% CI = [.028, .474]). It explained that due to indirect effect (mediation) of publication pressure when research-teaching conflict goes up by 1 standard deviation, university teacher job stress goes up by 0.04 standard deviations. Overall there was positive significant direct effect ($\beta = .76$, $p < .005$) and significant indirect effect ($\beta = .22$, $p < .005$) which indicated partial mediation of publication pressure in the relationship between research-teaching conflict and university teachers' job stress.

Discussion

With the advent of the multiversity system in higher education institutions, the research-teaching nexus has tilted towards research output. Though the history of using monetary publication incentives varies by region and country, it is without doubt a widely practiced method. Consequently, research output in form of journal publications has gained more prestige over classroom teaching, resulting in an imbalance between the two important academic roles of university teachers. This paper intends to explore the effect of research-teaching conflict, publication pressure, and organizational support on job stress among university teachers. We developed four hypotheses to measure the effect of research-teaching conflict on job stress. The statistical analysis of empirical data supports our auxiliary hypothesis. Results of Pearson Product Correlation Coefficient revealed a very strong positive correlation between research-teaching conflict and publication pressure and job stress, and a weak but significant

correlation with organizational support. These findings mirror the conclusion drawn by Lei et al., (2021) that teaching–research conflict positively predicted Chinese university teachers’ job burnout. Our results also revealed that job stress was significantly related with publication pressure. There was no effect of gender differences on any of the four variables of the study. Both males and females were experiencing same levels of research-teaching conflict, publication pressure, and job stress.

The results of linear regression show that research-Teaching Conflict was able to explain 35% of the variance of university teacher job stress. The significant regression equation revealed significant effect of Research-Teaching Conflict on university teachers’ stress. Publication Pressure was able to explain 52% of the variance of university teachers’ job stress. The significant regression equation revealed significant effect of Publication Pressure on university teacher stress. There was an insignificant effect of organizational support on university teacher stress. This is a very important finding that need further investigation. According to Jawahar, Stone & Kisamore (2007) perceived organizational support acts as a buffer between role conflict and job stress. Contrary to this, our findings show insignificant affect of organizational support on teachers’ stress level in Pakistan. This variation might be explained in terms of mediating affect of publication pressure. Since hiring, promotions and tenure decisions are based on publication output, there is intense completion among faculty for these positions. This competitive research culture often contributes to strategic game playing and sabotages organizational culture (Anderson, et al., 2007)

The findings of our research showed that there was significant joint effect of Research-Teaching Conflict and Publication Pressure on university teacher job stress. The results also showed that Research-Teaching Conflict and Publication Pressure in the study were able to explain 38% of the variance of university teachers’ stress while working on job. The mediation analysis showed significant direct effect of research-teaching conflict on university teachers’ job stress, and insignificant indirect effect of research-teaching conflict on job stress of university teachers through organizational support, which indicated no mediation of organizational support in the relationship between research-teaching conflict and university teachers’ job stress. The results also revealed significant direct and indirect effect of research-teaching conflict on university teachers’ job stress through publication pressure, which indicated partial mediation of publication pressure in the relationship between research-teaching conflict and university teachers’ job stress.

Concluding Thoughts

Based on the data we collected through our questionnaire survey of university teachers of Punjab, Pakistan, we conclude that research-teaching

conflict is creating job stress among university teachers. Our findings show that there is intense perceived publication pressure in academia which mediates the affect of research-teaching conflict on job stress. The result of our study clearly indicates the detrimental affect of perceived publication pressure on both genders. There is no significant effect of gender differences on publication pressure and job stress. It can also be deduced from our data that publication pressure has crowded out many good values like peer support as no significant relation of organizational support with job stress of university teachers was detected. Although we were not able to cover all aspects of publish or perish culture in our study, this study is a tell-tale sign for policy makers that the incentive structure which was introduced to improve research output has generated many negative consequences. More research is required to envision a solution to this complex problem.

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