







EXAMINING THE SEVERITY OF WORKPLACE DEPRESSION AMONG PHARMACISTS: A MODERATION-MEDIATION APPROACH



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ABSTRACT

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Pharmacy has been regarded as one of the most stressful professions and workplace depression within this professional category has been rarely investigated. Given these conditions, it seems earnest to give consideration to the workplace factors affecting pharmacists' performance and causing workplace depression among them. Thus, the purpose of this study is to examine antecedents and outcomes of workplace depression. Moreover, we have also investigated the moderating effect of managerial support and pay benefits. Data was collected from 235 pharmacists working in private hospitals. Smart PLS was used to examine the statistical outcomes of the study. The result of the study revealed that distributive justice and workload are significantly related to the job depression. Job depression is the predictor of job Performance and moderating effect of managerial support is also significant between the relationship of work overload and job depression. To the best of authors' knowledge, this study is the first to examine antecedents of job depression among pharmacy residents in Pakistan. Moreover, our study will encourage scholars and practitioners to work in this particular area.

Contribution/ Originality: The objective of this study is to inspect antecedents and outcomes of workplace depression.

1. INTRODUCTION

In recent years, there has been a great deal of public and corporate concern regarding the impact of depression at the workplace. The growing rates of workplace depression and stress are posing a significant challenge to wellbeing in the working environment in developing countries (Travail, Milczarek, Rial-González, & Schneider, 2009). A survey revealed that 76 percent of employees believe that workplace depression causes them illness, with 56 percent believing they can perform better if they were less depressed. In addition, 40 percent feel that high depression increase their argument with their partners and friends and 83 percent stated that they feel continually exhausted because of their work (The Guardian, 2013). Health care professionals are among the top who are being

affected by workplace depression. It has been documented that pharmacists are exposed to workplace depression more than any other group of professionals (Mayberry & Miller, 2017).

Mostly, the topic of workplace depression among medical professionals is highlighted after a drastic event (e.g., suicide). In 2014, two resident physicians, within the same program in New York City, committed suicide. These two incidents sparked national recognition through multiple scholarly articles addressing the seriousness of depression within the medical community (Goldman, Shah, & Bernstein, 2015). Despite this, there have been scarcity of research in evaluating the workplace depression among pharmacists (Ahmad et al., 2016). In order to resolve this serious issue there is a dire need of investigating workplace depression among pharmacists. As previous literature has highlighted and well-documented the problem faced by the pharmacy individuals. But, no such study is found that examined the antecedents of workplace depression among pharmacists.

Given these conditions, it seems earnest to give consideration to the workplace factors affecting pharmacists' performance and causing workplace depression. There is an excessive need for an empirical investigation on leading factors towards depression in the context of developing country such as Pakistan (Ahmad et al., 2016).

Therefore, the purpose of this study is to investigate workplace depression and its outcomes such as job performance among pharmacists in Pakistan. The study aims to identify patterns of perceived distributive justice and work overload in examining workplace depression. Moreover, this study testifies the moderating effect of pay and benefits, and managerial support between the relationship of distributive justice, work overload, and job performance.

2. LITERATURE REVIEW

A health information website of the (UK National Health Service, 2003) defines depression as follows; *"Depression is a mood state that is characterized by significantly lowered mood and a loss of interest or pleasure in activities that are normally enjoyable. Such depressed mood is a common and normal experience in the population."* According to Nolen-Hoeksema and Girgus (1994) the common symptoms of depression include "depressed mood, lessened interest in one's usual activities, significant weight change, sleep problems, psychomotor agitation, fatigue and loss of energy, feelings of worthlessness, indecisiveness, problems in concentrating, and suicidal thoughts and attempts." The chances of having depression are higher among women; persons who were divorced, separated, or widowed; and those who suffer from chronic health conditions (Shani & Pizam, 2009).

The human body responds to depressors by activating the nervous system and specific hormones. Working properly, the body's depression response enhances a person's ability to perform well under pressure. But the depression response can also cause problems when it overreacts or fails to turn off and reset itself properly. The depression is defined as the status of psychological upset or disequilibrium in the human being caused by frustration conflicted and other internal as well as external strain and pressures.

Surprisingly, the workplace itself can lead to the development of depression among employees. Blackmore et al. (2007) found that depression was associated with certain aspects of the work environment, such as high job strain, a low level of social support within the workplace, low employment security, and increased psychological demands. Depression can also be the result of a perceived lack of autonomy at work and of situations involving "caring" for others as part of the work role (Mithöfer, Schulze, & Boland, 2004). One of the main causes of depression is work-related stress Compas, Connor-Smith, Saltzman, Thomsen, and Wadsworth (2001); Melchior et al. (2007) and Wang (2005) which might stem from negative workplace climate, culture, or both (Dunnagan, Peterson, & Haynes, 2001).

McDaid, Curran, and Knapp (2005) stated that stress can be related to excessive workload and working hours, lack of job security; low level of empowerment in decision making; and imbalance between work, social, and family life. A recent study also found that employees who experience an effort-reward imbalance (i.e., a lack of appropriate recognition and rewards in return for the effort put into the work) are at risk of physical and mental health

problems, including exhibiting symptoms of depression (Vearing & Mak, 2007). Another well-documented antecedent to the outbreak of depression is burnout which is a state of physical, emotional, and mental exhaustion resulting from chronic emotional and interpersonal stressors on the job (Maslach, Schaufeli, & Leiter, 2001).

2.1. Depression Related Organizational Factors

The organizational factors in workplace environment have a substantial influence on pharmacists' attitude and performance (Kalliath, Kalliath, & Albrecht, 2012; Park, Dulambazar, & Rho, 2015). In other words, individuals analyze organizational factors and form their behaviors accordingly. Research on depression-related organizational factors in the workplace has focused on the role of variables such as managerial support, financial adequacy, pay, and benefits, work overload, perceived distributive justice, staff bullying behavior and so on (Khalid, Khaleel, Ali, & Islam, 2018).

2.2. Types of Depressors

Research investigating types of depressors among pharmacists is vast and, in several cases, inconsistent. According to prior research the major causes of pharmacists depression are; excessive working hours, excessive workload, patient misbehavior, changes in uty hours, workplace bullying, poor management, lack of job security, threat to early retirement arrangements, due to redundancy and fixed term contracts, lack of control over the job, burden of providing cover, denigration of profession by politicians & media, lack of public esteem, instability (Kwakman, 2003; Platsidou & Agaliotis, 2008; Shkëmbi, Melonashi, & Fanaj, 2015). Poor quality of relationships with colleagues, and time constraints are some other depressors reported by previous studies (Kyriacou, 1987; Nagel & Brown, 2003; Troman, 2000).

2.3. Workplace Depression among Pharmacists

Research on workplace depression among pharmacists is scarce. We found mostly studies conducted on workplace stress were among doctors and nurses (Othman, 1996). However, the current study has tried to fill the gap in the literature. Based on the literature this study will employ perceived distributive justice, work overload new variables and pay and benefits, and managerial support as moderator variables that altogether lead to workplace depression. Moreover, the depression impacts job performance negatively.

Moreover, the increasing number of individuals choosing to work as pharmacist especially during recent years propels an urgent need to examine workplace depression and depression-related factors in this specific target group. In this context, a model constructed on specific objective characteristics has more of a practical rather than theoretical relevance. Thus, it might be important to examine depression patterns regarding perceived distributive justice, work overload, and moderator variables as pay and benefits and managerial support because such investigation would allow the identification of new dimensions of the problem. The consideration of new dimensions would subsequently guide the design of tailored interventions toward depression management. In contrast, the identification of specific job depressor is necessary regarding policymaking at institutional or even at a national level.

H1: There is a negative relationship between distributive justice and pharmacist's workplace depression.

H2: There is a positive relationship between work overload and pharmacist's workplace depression.

2.4. Outcomes of Workplace Depression

As discussed earlier in this articles job depression faced by pharmacists due to workplace factors has negative outcomes. These outcomes directly or indirectly affect pharmacist himself and the organization he is working in Wang et al. (2012). Studies have shown that most common outcomes of job depression are job dissatisfaction, turnover intention, the absence of employee wellbeing and etc (Danna & Griffin, 1999). Lack Job performance is

also a critical outcome of job depression this study tries to find out the impact of job depression on employees' job performance.

Performance can be described as how well an individual execute his tasks assigned to him (Judge, Thoresen, Bono, & Patton, 2001). Understanding the antecedents of job performance is becoming a challenge for the organizations in the highly competitive and dynamic world. Pharmacists are the key assets for the hospitals and industries. Their performance plays a vital role in achieving goals not only for themselves but also for societies and organizations. Studies have shown various predictors of job performance including job embeddedness, job satisfaction, job anxiety, and burnout (Hakanen, Bakker, & Schaufeli, 2006). Workplace depression is also among organizational hazards as it reduces the efficiency of the employees, therefore, we can hypothesize that;

H3: There is a negative relationship between pharmacist's workplace depression and their job performance.

2.5. Moderating Role of Pay & Benefit and Managerial Support

Prior literature on distributive justice and workplace depression have mainly focused on the direct relationship (Sparr & Sonnentag, 2008). Most of the studies on the organizational justice show the negative impact of injustice in the workplace and suggestion for the studies led to the removal of the reasons behind injustice. According to (Greenberg, 2004) it is very hard or impossible to attain the interest of all the employees in the organization. If it is hard to remove the reasons of injustice, Rousseau, Salek, Aubé, and Morin (2009) recommend that it is significant to study elements that might strengthen or weaken the relationship between organizational justice and well-being at work. Rousseau et al. (2009) also recommended using moderating effect as it is rarely used in the prior studies as most of the studies investigated direct relationship. Therefore, this study has tested the role of pay & benefits as moderating variable between distributive justice and workplace depression. Moreover, we have also tested the moderating role of managerial support between the relationship of pharmacist's work overload and pharmacists' workplace depression. Therefore, we can hypothesis that

H4: Pay and Benefits moderates the negative relationship between distributive justice and pharmacists' job depression.

H5: Managerial support moderates the positive relationship between pharmacists' work overload and pharmacists' workplace depression.

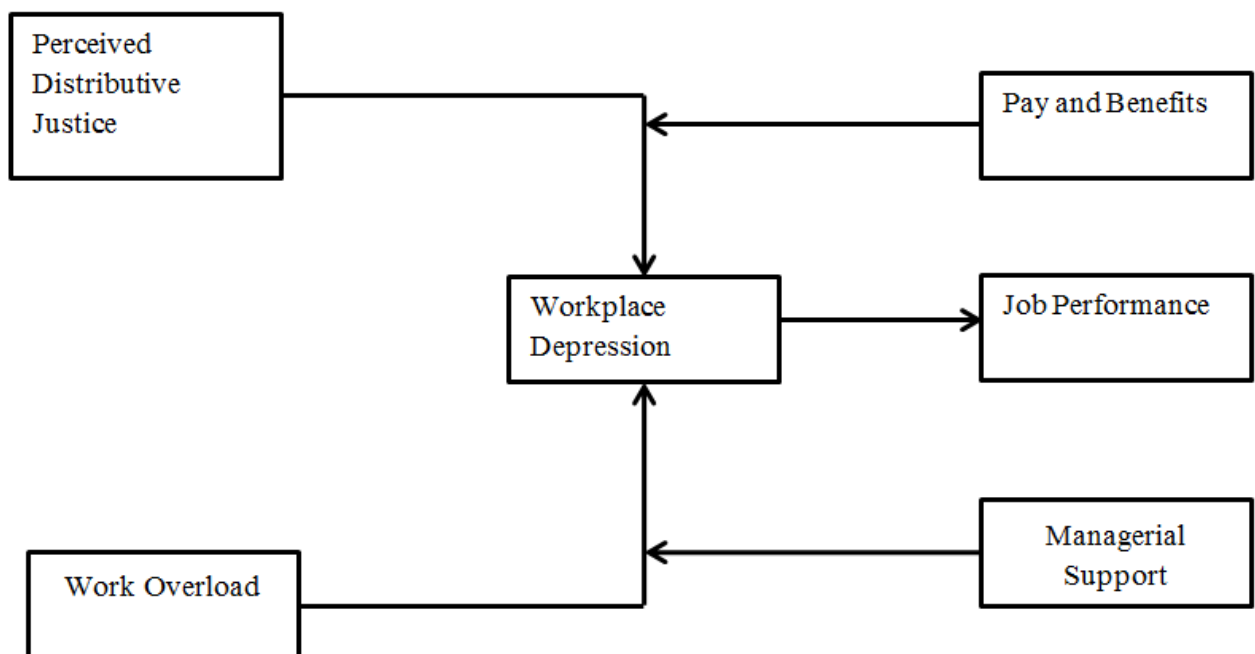


Figure-1. Research model of the study.

3. METHODOLOGY

3.1. Sample and Data Collection

As this study concerns workplace depression among pharmacists working in private hospitals. Data were collected during the year 2015-2016. Choice of selecting participants and hospitals were convenient without using inclusion or exclusion criteria. The sample consisted of 235 pharmacy residents working in private hospitals in Pakistan. Hence, we set out to collect data that was slightly larger than the required number. Using intercept survey method, 240 responses were collected. Demographic part of the questionnaire was distributed into 5 items including gender, age, education, sector, working experience, and position. The participation of the respondents was on a voluntary basis.

3.2. Measurement

Data was collected through an organized self-administered survey. Even though pharmacists were familiar about workplace depression, a definition of workplace depression was provided at the beginning of the questionnaire just in case the respondents need to confirm that they have interpreted the meaning of workplace depression correctly. They were then asked to fill up the survey form comprising of their demographics, workplace depression, job performance, predictor variables such as work overload and distributive justice, and moderating variables. The measurements of all variables were adopted from the previous literature (Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Sparr & Sonnentag, 2008; Taştan, 2016; Williams & Anderson, 1991) anchored on a 5-point Likert scale.

3.3. Respondents

The demographics of the respondents are tabulated in Table 1.

Table-1. Respondents Profile.

Demographic Data	Frequencies n=235	Percentage
Gender		
Female	161	68.5
Male	74	31.5
Age		
25 and Less	48	20.4
26-30	99	42.1
31-35	43	18.3
36-40	31	13.2
More than 41	14	6.0
Education		
High School	0	0
Diploma	29	12.3
Degree	202	86.0
Others	4	1.7
Sector		
Private	79	33.62
Government	156	66.38
Experience		
Less than 1 year	17	7.2
1-5	158	67.2
6-10	45	19.1
11-15	12	5.1
More than 15	3	1.3
Position		
Primary level teacher	55	23.8
Secondary level teacher	114	48.5
Principal	63	26.8
Others	3	1.3

Female (68.5%) respondents were slightly larger than the male respondents (31.5%) in this study represent the gender ratio of the staff in private hospitals in Pakistan. Majority of the respondents falls in the age group of 26-30 (42.1%). Most of the respondents in this study were degree holder (86%). This is due to the recruitment requirement set by the hiring authorities. About 48.5 % of the teachers were from secondary level teaching program. Majority of the respondents were having 1 to 5 year of working experience. As shown in Table 1.

4. RESULTS

Initially, data were analyzed using SPSS for Windows SPSS. Later Partial Least Squares Structural Equations Modeling (PLS-SEM, see Hair, Joe, Sarstedt, Hopkins, and Kuppelwieser (2014)) was used to analyze the path model. Smart PLS v2.0 software (Ringle, Wende, & Will, 2005) was used to test the proposed hypotheses (see explanation by Hair et al. (2014). PLS-SEM is a second-generation data analysis technique that analyzes and explains research model with many variables and constructs. PLS-SEM is a variance-based approach (Hair et al., 2014) that enables the instantaneous analysis of up to 200 indicator variables, allowing the examination of extensive interactions among independent, dependent, mediator and moderator variables (Al-Gahtani, Hubona, & Wang, 2007).

4.1. Measurement Model

To evaluate the measurement model two types of validity were examined, the first being convergent validity and second being discriminant validity. Convergent validity of the measurement model is typically determined by examining the loadings, average variance extracted (AVE) and the composite reliability (CR). The loadings of the individual item were all higher than 0.7. The composite reliabilities were all higher than 0.7 and the AVE values were also higher than the benchmark value 0.5. see Table 2

Table-2. Results of measurement model.

Construct	Measurement	EE	AVE	Composite Reliability	Cronbach Alpha
Perceived Distributive Justice	DJ1	0.8563	0.771	0.931	0.901
	DJ2	0.8783			
	DJ3	0.9098			
	DJ4	0.8667			
Managerial Support	MS1	0.8922	0.830	0.951	0.932
	MS2	0.9262			
	MS3	0.9204			
	MS4	0.9050			
Pay, Benefits and Rewards	PB1	0.8629	0.694	0.919	0.890
	PB2	0.8189			
	PB3	0.8421			
	PB4	0.8033			
	PB5	0.8356			
Job Performance	PR1	0.8701	0.775	0.945	0.928
	PR2	0.8910			
	PR3	0.8762			
	PR4	0.8894			
	PR5	0.8754			
Workplace Depression	WD1	0.8858	0.795	0.921	0.871
	WD2	0.9166			
	WD3	0.8718			
Work Overload	WO1	0.8867	0.802	0.924	0.876
	WO2	0.9310			
	WO3	0.8677			

Note: EE= Loadings, AVE= Average Variance Extracted.

The discriminant validity of the measures (the degree to which items differentiate among constructs or measure distinct concepts) was examined by following the Fornell and Larcker (1981) criterion of comparing the correlations between constructs and the square root of the AVE for that construct (see Table 3). Referring to Table 4, the square root of the AVEs as represented by the bolded values on the diagonals were greater than the corresponding row and column values (correlations between constructs) indicating the measures were discriminant. In sum, both convergent and discriminant validity of the measures in this study were established.

Table-3. Discriminant Validity.

Variables	Perceived Distributive Justice	Work Overload	Workplace Depression	Job Performance	Managerial Support	Pay, Benefits and Rewards
Perceived Distributive Justice	0.878					
Work Overload	-0.476	0.896				
Workplace Depression	-0.474	0.662	0.892			
Job Performance	0.413	-0.446	-0.436	0.880		
Managerial Support	0.449	-0.444	-0.414	0.704	0.911	
Pay, Benefits and Rewards	0.530	-0.547	-0.482	0.672	0.675	0.833

Diagonals (bolded) represent the square root of the average variance extracted while the off-diagonals are correlations among constructs. Diagonal elements should be larger than off-diagonal elements in order to establish discriminant validity.

4.2. Structural Model

In examining the structural model R^2 , beta and the corresponding t-values are involved (Hair et al., 2014). To get the t-values, a bootstrapping process with 500 resamples was applied. T-value is considered very important in accepting or rejecting a hypothesis.

First, we look at the predictors of workplace depression, perceived distributive justice and work overload. Distributive justice ($\beta = -0.205$, $p < 0.01$) is negatively related to job depression, work overload ($\beta = 0.564$, $p < 0.01$) is positively related to job depression, both explaining 47.1% of variance on job depression. Second, the outcome of workplace depression was examined. The results found a negative relationship between workplace depression ($\beta = -0.435$, $p < 0.01$) and job performance, explaining 18.9% of the variance on job performance.

Table-4. Results of the structural model analysis (Direct hypotheses testing).

Hypothesis	Relationship	Std Beta	Std Error	t-value	Decision	R^2
H1	PDJ \rightarrow JD	-0.2055	0.0554	3.7065	Supported	0.471
H2	WOL \rightarrow JD	0.5642	0.0563	10.0195	Supported	
H3	JD \rightarrow JP	-0.4352	0.0609	7.1416	Supported	0.189

Note: PDJ= Perceived Distributive Justice.
 JD= Job Depression.
 WOL= Work Overload.
 JP= Job Performance.

Table 5 shows the moderating results of the study. The moderating hypothesis were tested in two phases; the first phase examined the moderating effect of pay and benefits between the relationship of distributive justice and job depression. The results of the hypothesis revealed the insignificant role of pay and benefits between the relationship of distributive justice and job depression.

In the second phase, we test the moderating effect of managerial support between the relationship of work overload and job depression. The findings revealed a significant moderating effect ($\beta = -0.289, p < 0.05$) of work overload, R^2 increased to 0.488, giving an R^2 change of 1.7%. The interaction plot is shown in Figure 2

Table-5. Results of the structural model analysis (interaction effect).

Hypothesis	Relationship	Std Beta	Std Error	t-value	Decision	R ²
H4	PDJ*PAB → JD	0.1835	0.3113	0.5896	Unsupported	0.488
H5	WOL*MS → JD	-0.289	0.1574	1.8364	Supported	

Note: PDJ= Perceived Distributive Justice
 JD= Job Depression.
 WOL= Work Overload.
 PAB = Pay & Benefits.
 MS = Managerial Support.

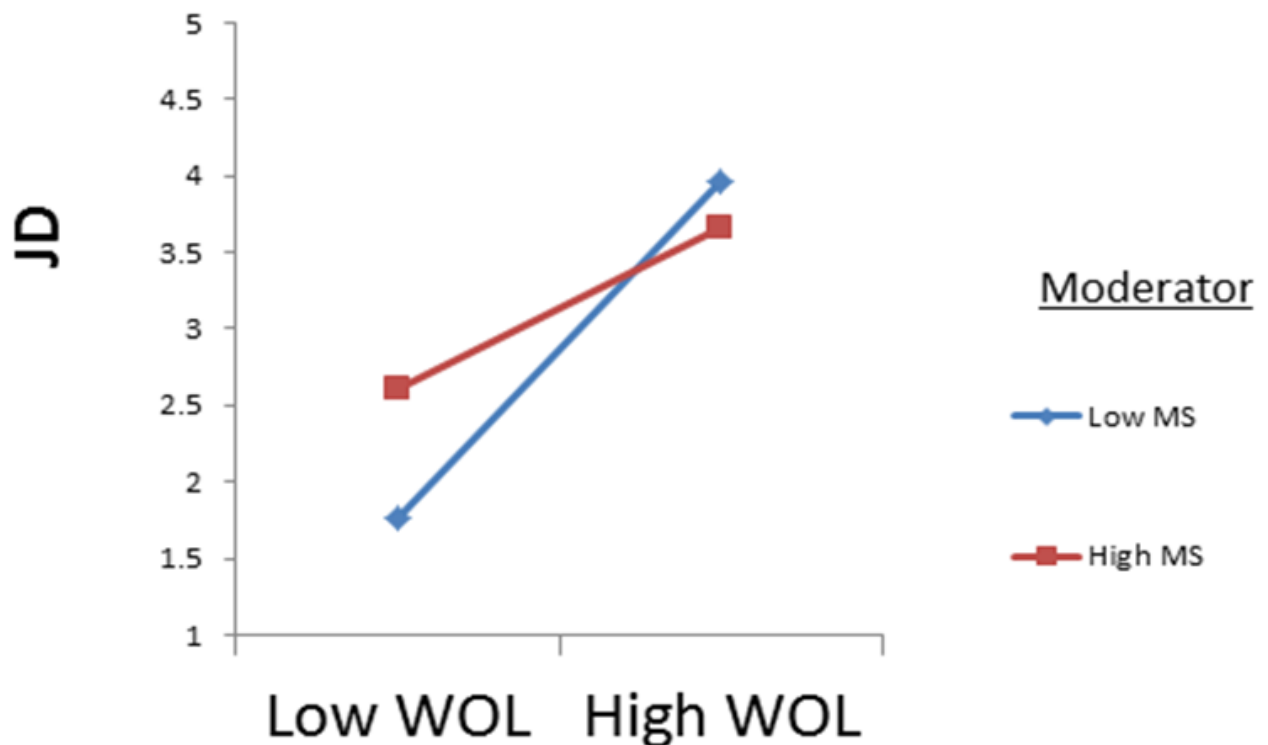


Figure-2. Interaction plot of moderating effects.

5. DISCUSSION

This study aims to investigate the role of perceived distributive justice and work overload on job performance among pharmacists. Pakistan, nowadays, producing very high number of pharmacists every year. That has created issue of demand and supply in this field. As graduates are in large numbers than jobs, Job depression is also one of the important consequences of this increased number of pharmacy graduates in the market. Prior studies have focused on this particular construct in various fields including clinical sciences to social sciences. However, its scope has now being entered into the field of pharmaceutical sciences. Studies have shown that pharmacists are facing many challenges on their job including workplace depression. Therefore, this study examined the workplace depression as an outcome of perceived distributive justice and work overload. As the previous researchers demonstrated that increased workplace depression reduces the performance of the employees, it is imperative to see the consequences of workplace depression on pharmacists' performance.

Results of this study revealed that there is a negative relationship between perceived distributive justice and workplace depression. This result is in align with the previous studies (Sparr & Sonnentag, 2008). The possible justification for this significant result is that pharmacists are concerned about the rewards and promotions they

received and that is also consider as the outcome of their work. If hospitals don't respond equally to pharmacists' inputs, they are more depressed on the job. The analysis presents a strong positive relationship between work overload and job depression. These results are inconsistent with the ones found by [Wichert \(2002\)](#) when the jobs become too demanding, leading to pressure and work overload and resulting in detrimental effect on individual health and psychological wellbeing. As mentioned earlier in the literature review, work overload and distributive justice are among the central aspects of job depression. Pharmacists' wellbeing is one of the key parameters in dispensing high-quality treatment to the patients. To avoid workplace depression, it is important for the management to provide equal opportunities and rewards to the pharmacists.

This study examined the job performance as an outcome of job depression. It observed that increasing job depression reduces the performance of the pharmacists. This study found a significant relationship between job depression and job performance. These results are consistent with the findings of [Kim et al. \(2016\)](#). Increased workload and perception of injustice among pharmacists produces job depression that results into decreased work performance. The possible justification for this finding could be that pharmacists working in Pakistan are working extra hours than their duty time, not being rewarded with extra income which may be an important reason of increased job depression and reducing their job performance.

This study also examined the moderating role of pay and benefits and managerial support. The moderating effect of pay and benefits between the relationship of distributive justice and job depression has been found insignificant. Secondly, the moderating role of managerial support has been found significant between work overload and job depression. The pharmacists who find support in terms of sharing duties by their hospital administrators feel more satisfied and less depressed than those to whom administrators are not much supported. Finally, it is substantial to mentioned that negative stressor such as work overload, and positive stressor such as distributives justice collectively predicts job depression among pharmacists. These results are consistent with the prior literature from other Asian and European countries ([Sparr & Sonnentag, 2008](#); [Wichert, 2002](#)) thus can be generalized.

In terms of practical contribution, job performance and workplace depression has been the focus of interest for scholars and practitioners. However, most of the studies were conducted in the developed countries. This study is a baseline to lead and help scholars and practitioners to study this phenomenon in different sectors and cultures, especially in developing countries. It will help hospital management to increase organizational commitment by reducing depression at workplace.

The study is subject to some possible limitations. Firstly, there may be some different other factors which affect employee organizational commitment and job performance among pharmacists. However, only distributive justice and work overload is considered in this study. Secondly, only the perceptions of the pharmacists working in private were surveyed in this study. The perspectives of pharmacists from public hospitals were not considered for this study. Therefore, it would be helpful if future researchers examine perspectives of not only by involving pharmacists from private hospitals but also from public hospitals to assess the discrepancies of job depression and job performance due to work overload and distributive justice. In future, this study can be further replicated to developing countries to obtain a more representative state of pharmacy profession.

6. CONCLUSION

To conclude, this paper extended the discussion on the impact of distributive justice and work overload on job performance of pharmacists. If any health care institution wants to develop organizational commitment among pharmacy residents, the distributive justice is a substantial way to engage them with institutional goals. However, workplace depression can mediate the teachers' performance. Schools may be considered key driver of workplace empowerment not only because of their capacity building role among national educational and societal development but also for dealing with many stakeholders. The findings of this paper do not only lead the administrators of the

schools to improve performance through focusing distributive justice and by reducing the work overload, but also provide scholars and practitioners with better understanding of organizational commitment from perspective of developing countries.

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