



Burnout Mediates the Association between Workplace Bullying and Mental Health Problems of Health Practitioners in Cancer Units

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Abstract

Background: Medical health practitioners, particularly those working in cancer units, are vulnerable to poor psychological outcomes. The present study was designed to examine the influence of workplace bullying on the mental health of medical and paramedical staff by testing workplace burnout as a mediating factor.

Methods: Utilizing a cross-sectional survey, 220 Muslim medical staff officers from the cancer units of three hospitals in Lahore, Pakistan, were assessed for workplace bullying, mental health, and workplace burnout using the standardized psychometric measures (i.e., Negative Act Questionnaire; Depression, Anxiety, Stress Scale; and Maslach Burnout Inventory). Data were collected from 2019-2020.

Results: Workplace bullying and workplace burnout were directly related to mental health problems, including depression, anxiety, and stress symptoms. Moreover, workplace burnout significantly mediated the paths between workplace bullying and mental health (i.e., depression, anxiety, and stress symptoms), suggesting that workplace burnout increases vulnerability to other mental health issues.

Conclusion: A need for counseling and suitable management strategies to support medical staff working in cancer units is required.

Keywords: Workplace bullying; Burnout; Medical health practitioners; Depression; Stress; Anxiety

Introduction

Workplace bullying (WB) has become a common problem in modern-day working life (1). Although there is no accepted general definition of WB, an employee subjected to repeated episodes

of harassment and negative actions at least once in a week or over a sustained period by peers or superiors is regarded as having been bullied (2). Past clinical observations have shown that WB



can result in numerous unhealthy social and psychological outcomes, such as maladjustment, social isolation, compulsions, depression, anxiety, helplessness, anger, and despair (1, 3, 4). Estimates of the occurrence of WB vary across contexts and are difficult due to the diversity in individual experiences of the behavior. According to a survey (5) based on interviews with 44,000 workers across 34 European countries, the prevalence of workplace abuse was reported to be 4%. When classifying according to the specific type of abuse, 11% of the sample reported verbal abuse followed by humiliating behavior (9%) and unwanted sexual assaults (5%). Moreover, a meta-analytic study (6) examining 86 independent samples ($N = 130,973$) reported the prevalence of WB to be up to 15% or even higher at any point in time.

In addition, workplace environments in eastern (individualistic) and Western (collectivist) cultures vary in cultural norms, values, and workplace practices. In comparing individualistic vs. collectivist cultures in 48 countries, organizations in individualistic cultures focus more on employees' values and specific needs such as autonomy, financial stability, self-expression, freedom rights personal goals. Moreover, organizations in individualistic cultures focus more on the inculcation of independence, personal strengths, and initiative-taking abilities (7). Most of the international literature on WB and its associated outcomes comes from European countries; little is known about this phenomenon across Muslim countries. The nature of the workplace varies significantly in Arab countries specifically and other Muslim countries more generally. Furthermore, there is a strict distinction between Muslim men and women gender-based roles, particularly amid patriarchal culture.

Healthcare professionals frequently deal with health-related issues, so they identify more repeatedly issues than those working in other occupations such as industry, education, and public service (8). A study (1) examined the triadic prevalence of mental health problems (depression, anxiety, and stress) and burnout in 157 medical health practitioners and reported triadic com or-

bidity of 9% for severe levels. Another study reported 8% severe burnout among healthcare professionals (9), and WB increases burnout and lowers job satisfaction. Most Pakistani doctors (53%) in a territory care hospital in Karachi faced workplace abuse, with verbal abuse the most prevalent form (41%). Healthcare professionals' characteristics and workplace settings are also important in determining WB, burnout, and mental health issues (10); burnout affects more employees in the emergency setting than in the ward and outpatients department (4).

Furthermore, long working hours, low salaries, and young age were risk factors for burnout among healthcare professionals. About 33% prevalence of bullying reported among female Pakistani nurses. Among these nurses, young, less experienced nurses in managerial positions were more likely to be victimized (11). Another study in Pakistan, depersonalization (a domain of burnout) was more prevalent among doctors with less than ten years of experience (38%) compared to those having more than ten years of experience (15%); lack of accomplishment (another domain of burnout) was high among older doctors (50%)(12).

Moreover, burnout was more frequently reported in females and employees. After reviewing the international and local research and to the best of our knowledge, the mediating effect of burnout between WB and mental health problems has not been examined before in healthcare professionals working in cancer units. Therefore, we aimed to examine how burnout mediates the association between WB and mental health problems.

Materials and Methods

Research Design and Sample

In this cross-sectional survey study, 219 medical staff (120 doctors, 99 nurses) from the cancer units of three hospitals in Lahore, Pakistan, was recruited through a convenience sampling technique. The sample size was calculated using a G* Power calculator, which calculates the sample, based on effect size, significance level, and hy-

pothesis data statistical analyses. Data were collected from Dec 2019 to Feb 2020.

Although it was the time of the outbreak of COVID-19 in Pakistan and cancer units are already characterized by a high level of precautionary and safety measures, there were not any specific working or environmental conditions. This may hinder/affect the data collection. The sample comprised slightly more women (115 females and 104 males) aged 22 to 45 yr ($M = 31.70$ yr, $SD = 7.44$). The participant inclusion criteria were (i) currently working in a cancer unit, (ii) having worked in the same cancer unit for at least

six months, and (iii) not having any long leave while in the job (i.e., more than six months), and (iv) not having any physical disability and referral for counseling sessions or any other psychological services. Participants' work experience ranged from six months to 22 yr ($M = 6.13$ yr, $SD = 5.30$), worked in diverse settings (e.g., ancillary health services, anesthesia and pain medicine, clinical and radiation oncology, clinical radiology, internal medicine, medical oncology, nuclear medicine, pediatric oncology, and surgical oncology) (Table 1).

Table 1: Demographic characteristics of the study participants

<i>Measures</i>	<i>f(%)</i>	<i>M (SD)</i>	<i>Min-Max</i>
Age (yr)		31.70 (7.44)	22-45
Work experience (years)		6.13 (5.30)	0.5-22
Designations			
Doctors	120 (56)		
Nurses	99 (44)		
Gender			
Females	115 (53)		
Males	104 (47)		

Measures

Negative Act Questionnaire (NAQ-R). The 22-item NAQ-R (13) was used to assess bullying. NAQ-R assesses work-related bullying (six items), person-related bullying (12 items), and physically intimidating acts (three items). All items are rated on a five-point scale from 1 (*never*) to 5 (*daily*), with 22 to 110 scores. Higher scores indicate greater experiences of bullying. The Cronbach alpha coefficient was very good (.89).

Depression, Anxiety, Stress Scale (DASS-21). The 21-item DASS-21 (14) was used to assess the negative emotional states of depression, anxiety, and stress. Each of the three subscales contains seven items. All items are rated on a four-point scale from 0 (*did not apply to me at all*) to 3 (*applied to me very much*), with scores ranging from 0 to 63. Higher scores indicate higher levels of depression, anxiety, and stress. The present study's Cronbach alpha coefficients were good (.73 for depression, .78 for anxiety, and .72 for stress).

Maslach Burnout Inventory (MBI). The 22-item MBI (15) was used to assess workplace burnout. All items are rated on a seven-point scale from 0 (*never*) to 6 (*every day*), with 0 to 132 scores. Although the MBI is multidimensional (e.g., emotional exhaustion, depersonalization, and personal accomplishment), it can also be a composite score, with higher scores indicating greater workplace burnout. In the present study, composite scores were utilized. The Cronbach alpha coefficient was very good (.86).

Ethical Considerations

After receiving ethical approval from the Institutional Review Board of COMSATS University, Lahore (REF: CUI/LHR/HUM/109) and relevant Medical Superintendents of all three hospitals, participants were personally approached in a one-to-one setting to complete a survey. Participants were briefed about the study's objectives, and they were also assured of the confidentiality

and privacy of their provided information. They were provided with the survey (a self-report demographic questionnaire, NAQ-R, DASS, MBI) and a consent form explaining their voluntary participation. They were informed that the study investigated maltreatment behaviors that a worker may likely experience in the workplace.

Statistical Analyses

After calculating the descriptive characteristics of the study variables, we used mediation analyses following Preacher and Hayes (16). In this analysis, the focus was to determine how burnout (Mediator/M) mediates the effect of the predictor variable (PV) on an outcome variable (OV), as shown in Fig. 1.

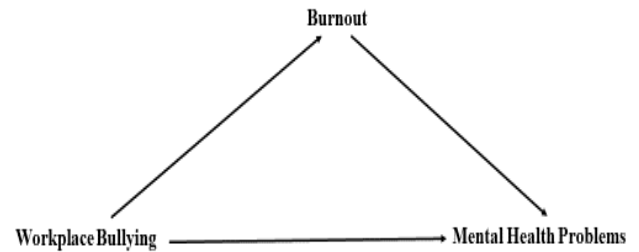


Fig. 1: Proposed Mediation Model

Results

An independent sample *t*-test revealed females experience more workplace bullying ($t=-3.78^{***}$) and mental health problems including stress ($t=-2.51^*$), and anxiety ($t=-2.78^{**}$) (Table 2).

Table 2: Mean differences in study variables

Measures	Gender		t	Designation		t
	Males M(SD)	Females M(SD)		Doctors M(SD)	Nurses M(SD)	
Burnout	16.76(9.07)	15.38(8.60)	-1.15	17.17(8.23)	14.43(9.53)	-2.74**
Workplace Bullying	50.88(17.99)	42.67(13.82)	-.3.78***	49.30(17.65)	43.11(14.04)	-2.26**
Work-related bullying	15.19(5.62)	12.54(4.52)	-3.84***	14.66(5.67)	12.72(4.38)	-2.70**
Personal-related bullying	28.48(9.92)	24.62(8.22)	-3.12**	27.90(9.77)	24.58(8.20)	-2.61**
Physically-intimidating bullying	7.20(3.37)	5.50(2.48)	-4.25***	6.73(3.35)	5.80(2.53)	-2.20
Mental health problems	24.51(11.64)	21.06(10.72)	-2.28*	23.89(11.04)	21.18(11.58)	-1.74*
Stress	8.83(4.36)	7.39(4.07)	-2.51*	8.52(4.33)	7.51(4.14)	-1.71*
Anxiety	8.11(4.36)	7.55(3.92)	-1.01	8.23(4.12)	7.24(4.14)	-1.73*
Depression	7.57(3.94)	6.11(3.82)	-2.78**	7.13(3.76)	6.42(4.18)	-1.30

*** $P < .001$, ** $P < .01$, * $P < .05$

Pearson product-moment correlation and regression analyses were also performed to test the study assumptions. Because correlations and alpha coefficients of mental health problems and WB subscales varied in strength, predicting direct and indirect paths was tested on these subscales rather than composite scores. In case of variation in the strength of the relationship, the developers of these scales also recommended analysis on subscales. Moreover, subscale analysis presents a better and more diverse picture of analysis. The findings showed a significant positive relationship between workplace burnout, WB, its

subscales (i.e., physical intimidation, personally-related bullying, and work-related bullying), and mental health problems (i.e., stress, anxiety, and depression). Overall, the correlations ranged from moderate to strong (*r* values ranging from .42 to .90). WB was significantly positively associated with workplace burnout ($r=.49$, $P<.001$) and mental health problems ($r=.51$, $P<.001$). Likewise, mental health problems were significantly positively associated with workplace burnout ($r=.40$, $P<.001$). The analysis also demonstrated a significant positive relationship between participants' age with

WB ($r=.17^*$), including personal-related bullying ($r=.17^*$) and physically intimidating bullying ($r=.20^{**}$). The number of settings was also seen

positively linked with work-related bullying ($r=.17^{**}$) (Table 3).

Table 3: Relationship between measures of workplace bullying, mental health, and workplace burnout (N=219)

Variables	BO	WB	WRB	PRB	PIB	MHP	ST	ANX	DEP	Age	Exp.	Sett.	M (SD)	Alpha
Burnout (BO)		.49 ^{**}	.55 ^{**}	.52 ^{**}	.45 [*]	.50 ^{**}	.53 [*]	.53 ^{**}	.54 [*]	-.06	.07	.13	15.92 (±8.82)	.86
Workplace Bullying (WB)		-	.77 ^{**}	.76 [*]	.70 [*]	.51 ^{**}	.40 [*]	.56 ^{**}	.38 [*]	.17 [*]	.11	.11	42.07 (±9.01)	.89
1 – Work-related bullying (WRB)			-	.90 ^{**}	.64 [*]	.60 ^{**}	.64 [*]	.60 ^{**}	.61 [*]	.10	.11	.17 [*]	13.69 (±5.07)	.80
2 – Personal-related bullying (PRB)				-	.74 [*]	.51 ^{**}	.60 [*]	.61 ^{**}	.62 [*]	.17 [*]	.11	.07	26.36 (±9.12)	.89
3 – Physically-intimidating bullying (PIB)					-	.42 ^{**}	.50 [*]	.53 ^{**}	.60 [*]	.20 [*]	.07	.10	6.29 (±3.03)	.74
Mental health problems (MHP)						-	.78 ^{**}	.44 ^{**}	.57 [*]	.01	.05	.06	33.47 (±11.21)	.73
1 – Stress (ST)							-	.70 ^{**}	.72 [*]	.05	.10	.12	7.98 (±4.04)	.72
2 – Anxiety (ANX)								-	.72 ^{**}	-.09	-.02	.01	7.66 (±3.96)	.78
3 – Depression (DEP)									-	.04	.05	.03	6.75 (±3.84)	.73

*** $P < .001$, Exp= experience, Sett.= No. of settings

After controlling for the demographic characteristics (age, gender, experience, work settings, and specialization), the results illustrated that work-related bullying, personally-related bullying, and physically-intimidating bullying were significant positive predictors of workplace burnout ($\beta=1.90, P<.001$; $\beta = 1.10, P<.001$; and $\beta =2.24, P<.001$ respectively), and mental health problems, i.e., depression, stress, and anxiety ($\beta =0.36, P<.001$; $\beta =0.40, P<.001$; and $\beta =0.30, P<.001$

respectively). Moreover, workplace burnout was also a significant positive predictor of depression, stress, and anxiety ($\beta =0.07, P<.001$; $\beta =0.07, P<.001$; and $\beta = 0.07, P<.001$, respectively). In the mediation analysis, the indirect effects showed that workplace burnout significantly mediated between work-related bullying, personally related bullying, physically-intimidating bullying, and depression, stress, and anxiety (Table 4).

Table 4: Regression coefficients of direct and indirect paths

<i>Models/ Paths</i>	<i>Outcome Variables</i>			
	<i>Mental Health Problems B(SE)</i>	<i>Stress B(SE)</i>	<i>Anxiety B(SE)</i>	<i>Depression B(SE)</i>
Model 1: Workplace Bullying (IV)				
IV → M	1.37***(.12)	1.16***(.07)	.88**(.04)	1.17***(.11)
IV → DV	1.35***(.15)	1.15***(.05)	.44***(.06)	1.05***(.12)
M → DV	1.55*(.07)	.85*(.12)	.95(.09)	1.76*(.07)
Total effect	2.40***(.13)	3.14***(.16)	1.40*(.14)	2.84***(.12)
Direct effect	1.35***(.15)	1.89***(.15)	1.15***(.11)	1.23***(.13)
Indirect effect (IV → M → DV)	1.05	2.25	.35	1.61
Sobel z test	2.48**	3.98***	1.19	2.06**
Model 2: Work-related bullying (IV)				
IV → M	.37***(.02)	.67**(.03)	2.13***(.11)	1.98***(.17)
IV → DV	.35***(.05)	.40***(.05)	2.15***(.12)	1.84***(.10)
M → DV	.55(.07)	.81(.07)	.96*(.07)	1.08*(.14)
Total effect	.40*(.03)	1.10*(.10)	2.72***(.11)	3.14***(.16)
Direct effect	.35***(.15)	1.07***(.09)	1.20***(.13)	1.09***(.15)
Indirect effect (IV → M → DV)	.05	.03	1.52	2.05
Sobel z test	0.46	0.57	3.16**	3.14***
Model 3: Personal-related bullying (IV)				
IV → M	1.47***(.11)	1.12***(.14)	1.90***(.19)	1.92***(.16)
IV → DV	1.25***(.13)	2.02***(.15)	1.75**(.16)	2.12***(.17)
M → DV	.95*(.08)	1.46***(.09)	1.65*(.18)	.96*(.06)
Total effect	2.65***(.14)	2.22***(.10)	2.95***(.18)	3.02***(.14)
Direct effect	1.25***(.13)	1.04***(.14)	1.15***(.12)	1.05***(.17)
Indirect effect (IV → M → DV)	1.40	1.18	1.80	2.03
Sobel z test	2.72**	2.43**	3.12***	3.83**
Model 4: Physically-intimidating bullying (IV)				
IV → M	1.02***(.18)	1.97***(.21)	1.36***(.07)	.87**(.03)
IV → DV	2.22***(.19)	1.25***(.11)	1.45***(.05)	.85**(.06)
M → DV	.46***(.06)	1.06*(.12)	1.09*(.12)	.45(.06)
Total effect	3.22***(.19)	2.94***(.11)	2.12***(.16)	.40*(.03)
Direct effect	1.75***(.19)	1.43***(.13)	1.09*(.15)	.36***(.15)
Indirect effect (IV → M → DV)	1.47	1.51	1.03	.04
Sobel z test	2.43**	3.06**	2.08**	0.42

Note: *** $P < .0001$, $M = \text{Mediator}$

Discussion

The present study was based on the notion that WB can be a risk factor leading to poor mental health outcomes, especially when an individual is already suffering from workplace burnout. Workplace burnout would play a mediating role in the relationship between measures of WB and mental health problems, confirmed.

The present study found a significant positive relationship between workplace burnout, WB, and mental health problems. There are several possible reasons for poor mental health out-

comes. For instance, bullied employees can develop anxiety about their job security and become dissatisfied with their job routines. Moreover, bullied employees can succumb to burnout and be fatigued by the very idea of their work, and dissatisfaction at work can bring other problems such as insomnia. The resultant chronic fatigue could affect their proficiency at work, thereby becoming the cause of many other physical and mental health problems and issues. As the situation worsens, those targeted by bullying are likely to develop negative opinions of their workplace, resulting in further stress and a negative attitude

at work. Years of research into work-related bullying have shown that victims can suffer from various problems, ranging from depression to burnout (17). The present study results can also be viewed in the light of Transformation Theory (TFT). According to TFT, the occurrence of a life-changing event alters the mind frame of individuals significantly. (18). Concerning the Pakistani context, the work environment matters more than the individual does. More emphasis is placed on work productivity, ignoring the need for personal growth, grooming, and interpersonal communications (1).

Person-related bullying, the second type of WB, can also cause poor mental health problems in developing stress, depression, and anxiety among hospital employees due to workplace burnout. In some cases, feelings of guilt increase so individuals lose confidence in their capabilities. Person-related bullying can also cause a loss of empathy, and this professional lack of empathy for either patients or colleagues can affect the employee's mental health (19).

Another finding of the present study was that physically-intimidating bullying, the third type of WB, also has the same results as personal-related and work-related bullying. Increased physical, intimidating bullying can cause poor mental health outcomes due to workplace burnout. Employees subjected to this type of bullying can suffer from stress, depression, and anxiety as their sense of personal achievement is affected. Under such circumstances, employees working in hospitals and other medical facilities tend to assess themselves negatively. The present study's findings of a significant association between measures of WB and poor mental health can also be justified in the light of Resource Theory which proposes that WB triggers a sequence of resultant and problematic behaviors which blur the boundaries between workplace and personal life.

Although the present study found significant associations of indicators of WB (i.e., work-related, person-related, and physically-intimidating) with indicators of mental health (i.e., depression, anxiety, and stress), the context and setting also play very important roles. WB cannot simply be a

matter of mistreatment between a bully and their victim but an organized group phenomenon-taking place in the social context where several elements suppress, maintain or promote such behaviors (20). In light of stress theories, a growing body of research has emphasized that exposure to WB can induce several health-related problems and decrease overall physical and psychological well-being (21).

When testing the mediation hypothesis, the present study found that workplace burnout was a mediator between WB and poor mental health. These results partially align with past findings that tested the mediating role of emotional exhaustion, which is one component of workplace burnout in the relationship between WB and common health issues (22,23). When facing WB, exposure to workplace burnout increases the probability of experiencing a high level of depression, anxiety, and stress.

Many past studies (22, 24,25) have demonstrated that exposure to WB directly influences workers' physical and mental health levels. The present study's results supplemented these findings and showed the same direct and indirect effects of workplace burnout. Along with direct associations, studies (e.g., 25,26) have partially examined the indirect association between WB and depressive symptoms through workplace burnout (27). However, only a few have explored the intermediate role of depressive symptoms, which is one indicator of mental health in the present study (28). Moreover, the present study included Muslim medical practitioners. The participants' religion should also be considered when explaining WB, burnout, and mental health in a Muslim-majority country (97% in Pakistan). For example, a previous study (29) among 102 Malaysian adults found a buffering effect of religion/religious involvement in the association between job security and workplace burnout (emotional exhaustion). In addition, because workplace behavior varies across cultures (7), adverse outcomes such as WB, burnout, and mental health are also likely to vary. Therefore, it is important to identify whether WB is more common within the wider (na-

tional) culture or within an organization located in that culture (30).

In our study, females reported a high level of WB and mental health problems at the workplace. Earlier empirical studies documented mixed findings on the consequences of WB. In a Norwegian study, male employees were at risk of being bullied even after five years of their experience. Additionally, mental health indicators such as anxiety symptoms were associated with WB (3). Interestingly, WB was found more strongly associated with anxiety for men as compared to women (31).

Limitations and future research

The present study has some limitations. For instance, the data were collected through self-report measures, which may trigger some responses not reflective of real levels of mistreatment, abuse, and bullying-related behaviors. Therefore, using more objective and reliable assessment forms such as longitudinal assessments could be used in future studies. Moreover, testing these mediation models utilizing longitudinal studies may better look at fluctuation over time because WB could be assessed more robustly when evaluated in prospective studies. Conceptually and theoretically speaking, the proposed mediation model is one possible direction. However, the same study variables may be tested in another direction. For example, workplace burnout may facilitate mental health problems and be mediated by WB (29, 30).

Conclusion

The present study adds to the pool of studies on the relationship between WB, mental health problems, and workplace burnout. The factors highlighted as the root causes of poor mental health among employees need to be avoided to protect the effective functioning of any organization and the psychological well-being of its employees. No such studies have been published examining such factors in a Muslim country.

Journalism Ethics considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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Conflict of interest

The authors declare that there is no conflict of interests.

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