

Identifying Key Areas of Worklife and Their Interactive Effect in Explaining Pakistani Nurses' Burnout

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Abstract

We examined the effect of incongruence in the areas of worklife (AWL) on burnout of nurses. Specifically, we were interested in identifying the most important AWL and interactions among AWL and psychological resilience in explaining nurses' burnout. Incongruence in the worklife escalates burnout and resilience is a coping trait. The phenomenon needs to be studied in developing countries where entirely different health dilemmas exist. A cross sectional survey was conducted from 147 nurses. SEM through AMOS 21 and Process Macro of SPSS was used for data analysis. Two AWL namely control and reward, emerged out to be the most important factors in explaining burnout; community further mitigated reward-burnout relationship. Also, psychological resilience has a powerful independent explanatory role. Healthcare work environment must be equipped to minimize incongruence of the AWL. This congruence would need job redesigning to increase control of nurses over their jobs and reinforcement with all kinds of reward coupled with a supportive co-worker's community.

Keywords: areas of worklife, burnout, nurses, resilience, Pakistan

1. Introduction

There has been a rising research interest in nurses' burnout in health care professions (Chang & Chan, 2015; Elpert, & Wagner, 2017; Lu et al., 2015; Troppmann, & Troppmann, 2017; Wu et al., 2014), and it has become a worldwide barometer for understanding the phenomena of individual well-being. Burnout is an umbrella term composed of emotional exhaustion, cynicism, and inefficacy (Boamah & Laschinger, 2016). Occupational health studies are trying to unleash effects of occupational stress on health workforce experiences (Zhou & Gong, 2015) as working in a healthcare facility can be very stressful. Human resources in health care faces challenges with work demands (Zhou & Gong, 2015). A typical nurse is expected to work for long shifts and countless hours. They have to deal with stressful situations (death and emergencies), emotionally demanding patients and their relatives, the volume of patients supervised and caseloads.

They often face diminished resources; administrative burdens work-life conflict, (Elpert, & Wagner, 2017; Lu et al., 2015; Potter et al., 2010; Troppmann & Troppmann, 2017; Zhou & Gong, 2015) and exposed to a stressful environment (Chang & Chan, 2015). These unmanageable work expectations relinquish the emotional capacity to perform any further (Howard & Johnson, 2004; Wu et al., 2014) leading to further stress and burnout for nurses.

One of the most important themes of organizational psychology is to build interaction between the individual and work environment in the form of person-job fit and person-organization fit (Maslach et al., 2012). The two types of fits are often configured as areas of worklife initially theorized by Leiter and Maslach (1999) and are considered very important in explaining workers' burnout. Many subsequent studies found the empirical support for this theory. However, not much is known about the comparative explanatory power of the various areas of worklife. In this study, we argue that in different contexts, the rank order of these areas regarding their variance explained may be very useful for decision makers. This rank ordering of the AWL would enable them to focus on two or three most critical areas. Likewise, we do not know enough about how these areas interact with each other to jointly explain burnout over and above the direct impacts.

Further, we argue that the interaction of the areas of worklife for explaining burnout should be tested in the presence of psychological resilience of nurses – a heavily researched mechanism of reducing burnout. By advancing knowledge in these directions, we would be able to understand the variation in burnout more comprehensively, and can parsimoniously understand nurses' burnout and suggest an actionable solution for the hospital administrator.

Therefore, the study aimed to highlight which areas of worklife make Pakistani nurses more vulnerable to burnout. Specifically, the objectives were: a) to identify and rank the areas of worklife in term of their explanatory power to predict nurses' burnout, thereby looking parsimonious understanding in this regard, and b) to examine the interaction of the areas of worklife that can further explain burnout. Keeping in view the extraordinary relevance of psychological resilience in burnout research, the examination of all possible interactions of the five areas would be in the presence of psychological resilience in the model.

2. Overview of the Literature

2.1 Areas of Worklife

The areas of worklife are divided into six broad dimensions (Leiter & Maslach, 1999). We have used only five areas of worklife in this study, excluding 'workload.' Keeping in view the Pakistan's extremely worse nurses-to-the general population ratio (about 31 times more than the US), in coming years 'the amount of work expected to be completed in each time' is always likely to be high in the context of Pakistan. Hence workload is not a factor that could be possibly controlled by the hospital administrator, therefore not included in this study for the further examination.

The remaining five areas of worklife include control, reward, community, fairness, and values. Control engages perceived capacity to influence decisions and gain access to the resources (Leiter et al., 2010). Reward demonstrates the usage of reinforcements to configure the behavior and facilitate learning and produce acceptable norms and values. Community captures work on social support and affective association of individuals with one another (Boamah & Laschinger, 2016). Fairness emerges on the pattern of justice, and equity and Values pick up how the organization's mission, ethics, and goals are matched

with that of individuals (Boamah & Laschinger, 2016; Hendel & Kagan, 2014; Hunt, 2014; Leiter & Maslach, 2009). The genesis of areas of worklife model lays in its etiology of congruity or incongruity (Gascon et al., 2013). Matches in the worklife escalate constructive relationship with the work environment whereas mismatch leads to reduced involvement (Leiter & Maslach, 1999). Nature of the tipping points concerning the areas must be judged for nurses in their respective current conditions of the work environment (Potier, 2007).

Burnout majorly stems from incongruence in the areas of worklife. Psychological distress and anxiousness are higher for employees who experience unfairness (Cole et al., 2010; Judge & Colquitt, 2004; Tepper et al., 2001). Insufficient rewards lead to feelings of inefficacy and a supportive social environment buffers the inequities at work and result in work engagement, whereas, value incongruence leads to inefficacy and exhaustion (Maslach et al., 2001; Truchot & Derogard, 2001).

2.2 Psychological Resilience

Workplaces are traumatized by stressful events. Resilience is the act of fighting vulnerabilities and adversaries (Jackson et al., 2007). It is both a personality trait (Hart et al., 2014; Ong et al., 2004; Tusaie & Dyer, 2004) and a dynamic process (Hart et al., 2014; Jacelon, 1997). Individuals who possess this trait maintain a positive outlook and resourcefulness to take care of their emotional well-being whereas others languish in helplessness and hopelessness (Zellarsi et al., 2004).

Workplace adversity has gained significant relevance in the international medical literature (Jackson et al., 2007). Hospital work settings contain occupational hardships for nurses (Vahey et al., 2004) such as workloads, lack of autonomy, bullying and restructuring (Demerouti et al., 2000; Hart et al., 2014). They are faced with challenges such as widespread shortages of experienced nurses, ageing workforce, increased use of casual staff in the nursing workforce, disruptive behaviors from colleagues, ethical dilemmas (Hart et al., 2014); organizational change and restructuring, health and safety issues (Gormley, 2011; Jackson et al., 2001; Strachota et al., 2003) etc. These problems create an impetus of cascading negative opinions about work place resulting in retention problems for a viable nursing workforce.

This situation leads to turnover (Gormley, 2011) and burnout (McVicar, 2003; Strachota et al., 2003). On the other hand, nurses exhibiting resilience remains audacious against constraints (Ong et al., 2004) and ultimately exercise better coping mechanisms (Garcia & Calvo, 2012). Studies have found a strong link between resilience and burnout (Edward, 2005) that further leads to enhanced quality of life and work satisfaction (Hart et al., 2014).

2.3 Burnout

Burnout is a psychological response to work related stressors in the form of exhaustion when people feel emotionally drained due to the lack of resources to deal with job-related demands and stressors. The lack of energy leads to maladaptive coping, known as cynicism, where individuals detach themselves from their jobs and colleagues, further leading to inefficacy. It is a physical, cognitive, and emotional deterioration of health as well as chronic long-term mental health impairment that builds strong with time (Demerouti et al., 2005). Burnout occurs as result of connections people associate with their jobs and the demanding workplaces (Leiter & Maslach, 2009). Exhaustion is the widely-reported dimension of burnout and results in cynicism and inefficacy (Maslach et

al., 2001). Burnout has serious individual and organizational level consequences such as decreased productivity, absenteeism, turnover, reduced commitment (Cropanzano et al., 2003; Van der Colff & Rothmann, 2014) high neuroticism, less self-monitoring (Lewig et al., 2007).

Burnout is heavily researched in preventive medicine and hospital management. Among all other medical deliverables, nurses face high rates of burnout; 40% of hospital nurses are victimized with this work place stress, and 40% report high burnout and 20% of them intent to leave within the first year of their employment (Aiken et al., 2001). An Australian study revealed that younger graduate nurses were most susceptible to burnout (Spooner-Lane & Patton, 2007). A recent survey of 856 nurses from Shanghai reported a high level of burnout (Lu et al., 2015). Burnout was also reported by 818 nurses from seven provinces of South Africa (Van der Colff & Rothmann, 2014). The studies suggest that nurses are more traumatized due to burnout as compared to other health care workers.

Lambert and Lambert (2001) in their systemic literature review report that only 9.5% of the studies on nurses' stress/strain were from Asia, which is far less representation because about 60% of the world population resides in this continent. Their data may not surprise many that none of the studies were from a Muslim or South Asian country. Keeping in view their call for research 'from around the world,' studied in countries like Pakistan are much needed because the situation has not changed much since then.

2.4 Nursing in Pakistan

There is a worldwide shortage of nurses as reported by WHO (Boamah & Laschinger, 2016; Lu et al., 2015). In developed nations, nurses to the general population ratio range between 1:140 to 1:320 (Wu et al., 2014), whereas, in Pakistan, this ratio is 1:3175. Just to present a comparison, the ratio in the US is 1:102 (Ahmad, 2012). The WHO international standards require hospitals to comply with the ratio of 1:3 for doctors to nurses. However, this ratio is 3:1 in Pakistan (Akram & Khan, 2007) i.e. nine times more overloaded, which is perturbing.

Pakistan's health sector is in an abysmal condition and is obstructed by health workforce crisis. It falls on the list of 57 countries, against the World Health Organization (WHO) standards (Hafeez et al., 2010). Due to over population and burden to serve a greater number of patients, deficiency of nurses exists about patient care, creating an enormous pressure of decreased supply and increased demand for medical professionals. With the current population of 185M people and the rate expected to grow to 210M by 2020; the shortage of nurses is alarming. The plight of health structure has crippled down the patient care (Chauhan, 2014) by further exacerbating the likelihood of burnout in Pakistani nurses.

3. Research Method

Self-administered, a cross sectional questionnaire survey was used for primary data collection. The ordinal data based on scaled items computed for the study variables served as a transformation onwards a continuous scale. These respondents were recruited through snowball sampling where waves of contacts were identified. The data were collected from November 2014 to January 2015 across nine different hospitals of Lahore, Pakistan. We determined sample size following Bartlett et al. (2001). The estimated target population size in the nine hospitals was 500 female nurses, with 0.3% margin of error and 0.01 Alppah level (t-value 2.58), our study, therefore, consisted of 147 female nurses. A total of 57.8% are married (n=85), the majority of them (55.8%) are permanently employed (n=82). About

42% of the participants (n=62) are aged above 30 and on the overwhelming majority (72.1 %, n=106) have hospital tenure of above one year. For more details about the participants' characteristics, please see Table 1. The measurements of these study variables are as under:

3.1 Areas of Worklife

The Areas of Worklife Scale is a widely-used instrument for capturing nurses' person-job fitness in the areas of worklife. We used 17 items adopted from Leiter and Maslach (2012) for measuring the five areas of worklife. Control and fairness were measured through 4 items each. The remaining areas of worklife (reward, community, and values) were measured through 3 items each. The scale used five points Likert scale as 1 (strongly disagree) to 5 (strongly agree). The alpha estimates for control, fairness, value, reward, and community were 0.79, 0.79, 0.64, 0.76 and 0.72 respectively.

3.2 Burnout

The Maslach Burnout Inventory-General Survey (MBI-GS) (Schaufeli, Leiter, Maslach, & Jackson, 1996) scale measured burnout of the nurses on a seven-point Likert type scale (range from 0=never to 6= every day). We used two subscales, emotional exhaustion, and cynicism of burnout (Boamah & Laschinger, 2016) in this study. Emotional exhaustion was measured through 4 items same was the case for measuring cynicism. In this study, alpha estimates for emotional exhaustion and cynicism were 0.80 and .70 respectively.

3.3 Psychological Resilience

The Connor–Davidson Resilience Scale (Campbell-Sills & Stein, 2007) is a ten items instrument measured using a 5-point Likert scale ranging from 1 (not true at all) to 5 (nearly always true). We adopted five items in our survey. Participants were asked to respond the questions keeping in mind a prior month. The alpha value for this scale was 0.75.

Table 1: Demographic Characteristics of Nurses (n=147)

Age	n	(%)
Under 30	85	(57.8)
31-40	44	(29.9)
41-50	8	(5.4)
Above 50	10	(6.8)
Marital Status		
Single	52	(35.4)
Married	85	(57.8)
Divorced	8	(5.4)
Widow	2	(1.4)
Employment Status		
Permanent	82	(55.8)
Contractual	65	(44.2)
The Hospital Tenure		
< 1 years	41	(27.9)
1-2 years	29	(19.7)
2-5 years	49	(33.3)
5-10 years	18	(12.2)
> 10 years	10	(6.8)

4. Data Analysis and Results

Statistical package for social sciences 21 with Amos program included was used for analyzing the data. In the first step, aberrant values, missing values, and data normality were checked for all the variables of interests. In next step, descriptive statistics and product moment correlation analyses were performed. We followed the guidelines of Jackson (2009) for interpreting correlations results. He states that the absolute value of $r = 0.70$ or higher shows strong correlation, while the absolute value of r between 0.30 and 0.69 shows moderate level and the value of r below 0.30 shows a weak relationship, with the level of significance $p < 0.05$. The results of the correlation analysis are presented in Table 2.

Table 2: Inter-correlations Among Variables

Variables	Control	Fairness	Value	Reward	Community	PR
Control	1					
Fairness	0.40***	1				
Value	0.48***	0.54***	1			
Reward	0.25**	0.31***	0.25**	1		
Community	0.33***	0.30***	0.30***	0.15	1	
PR	0.23**	0.27**	0.09	0.14	-0.04	1
BO	-0.41**	-0.31***	-0.21**	-0.32***	-0.25**	-0.41***

Note. PR = Psychological Resilience; BO = Burnout;

*** $p < 0.001$; ** $p < 0.01$, * $p < 0.05$

These results show that five areas of work life (i.e. control, fairness, value, reward, and community) negatively correlate with burnout. More specifically, prominent level of control, reward and community showed stronger negative correlation with burnout as compared to fairness and value. Psychological resilience also exhibited significant negative correlation with burnout. Further, a careful analysis of the absolute values of skewness and kurtosis of hypothesized constructs indicated the normal distribution of data i.e. the absolute values of skewness and kurtosis were in normal range (below |1|) (Table 3) (Tabachnick & Fidell, 2013).

Table 3: Descriptive Statistics of the Hypothesized Constructs

Variables	Mean	SD	Skewness	Kurtosis
Control	3.20	0.91	-0.42	0.20
Fairness	2.69	0.93	-0.09	0.20
Value	3.00	0.82	-0.53	0.20
Reward	3.14	1.03	-0.15	0.20
Community	3.42	0.86	-0.55	0.20
PR	3.36	0.84	-0.51	0.20
Burnout	2.46	1.24	0.42	0.20

Note. PR = Psychological Resilience

These results built the basis for formal testing of hypotheses and aims of the study. In further analysis, first, we performed confirmatory factor analysis (Model 1 for five areas of work life and Model 2 for psychological resilience and burnout; Table 4). Then the hypotheses were tested using structural regression model (Model 3 and Model 4 in Table 4). For analyzing the interaction effects, we used the Process Macro of Hayes (2013) in SPSS.

4.1 Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) was conducted using AMOS 21 for the validity of measures in the research context. Following fit indices were used to assess model adequacy (Byrne, 2001), namely Tucker–Lewis Index (TLI), Comparative Fit Index (CFI), and Root-Mean Square Error of Approximation (RMSEA). CFI and TLI values above 0.90 and RMSEA scores below 0.08 represent a good model fit (Hair, Black, Babin, & Anderson, 2010; Kline, 2011). The model 1 was tested for the 5 areas of work life which showed good fit to data ($\chi^2 = (94, n=147) = 145.43$, CFI = 0.93; TLI = 0.91, RMSEA = 0.06). CFA model 2 was tested for psychological resilience and burnout which also showed acceptable fit to the data ($\chi^2 = (51, n=147) = 76.59$, CFI = 0.95; TLI = 0.93, RMSEA = 0.06). Therefore, we used these models as bases for testing the structural regression model.

Table 4: Summary of Data Model Fit Statistics

Standardised Coefficients and Fit Indices	Model 1^a	Model 2^b	Model 3^c	Model 4^d
Chi-square	145.43	76.60	345.04	191.17
Df	94	51	235	125
RMSEA	0.06	0.06	0.06	0.06
CFI	0.93	0.95	0.90	0.92
TLI	0.91	0.93	0.87	0.90
Model R-square (%)	48.6	46.9	43.7	53.7

Note. CFI = Comparative Fit Index; Df = Degree of Freedom;
 RMSEA = Root-Mean Square Error of Approximation; TLI = Tucker–Lewis Index
 a Measurement model for Areas of Worklife (AWL) Scale.
 b Measurement model for Burnout and Psychological Resilience.
 c Structural regression model through which hypotheses are tested.

4.2 Structural Model

We built a structural regression model (i.e. Model 3) by combining the two CFA models and added the regression lines for the hypothesized relationships. The model fit indices for this model were not acceptable ($\chi^2 = (235, n=147) = 345.04$, CFI = 0.90; TLI = 0.89, RMSEA = 0.06). Upon examining the results, it reveals that three areas of work life (i.e. fairness, value, and community) exhibited an insignificant effect on burnout (i.e. $p > .05$). Then after removing the insignificant paths, we tested the model 4 for which the fit indices were acceptable ($\chi^2 = (125, n=147) = 191.17$, CFI = 0.92; TLI = 0.90, RMSEA = 0.06). These results highlighted that two areas of work life (i.e. control and reward) and psychological resilience have significant negative impact on burnout. The variance explained for the tested models ranged from 44% to 54%.

4.3 Interaction Effect

For testing the possible interactions between areas of work life for predicting burnout, we used Process Macro of SPSS. Multiple models were tested, but the only significant interaction effect was reported for community on the negative relationship between reward and burnout (Table 5). Which highlight that high level of rewards could decrease the degree of burnout. However, this effect can be more effective when high congruence with community is available. Therefore, these two areas together can play a more effective role in reducing the level of burnout (Figure 1 & Figure 2).

Table 5: Moderation of Community on Reward-Burnout Relationship

Variables	Point of estimate	S.E.	BC 95% CI	
			Lower	Upper
Reward	-0.3477***	0.0951	-0.5313	-0.1641
Community	-0.2969**	0.0929	-0.5170	-0.0768
Reward x Community	-0.1963*	0.1113	-0.3888	-0.0037

*** p <0.001; ** p<0.01, * p<0.05

5. Discussion

The relative importance of individual areas of work life has not been studied so far to the best of our knowledge in nursing context. Rather than focusing on determining the most critical areas of the worklife, there is a general tendency to sum ‘mean of each subscale’ and ‘produce a measure of the overall degree of the match in the areas of worklife’ (Boamah & Laschinger, 2016). We argue that focusing on all areas might not be actionable in many parts of the world. For example, when a shortage of nurses is felt even in US (Juraschek, Zhang, Ranganathan, & Lin, 2012) that is far better on nurses to general population ratio, then how countries like Pakistan can deal with ‘unmanageable workload’ of nurses. Further, many studies ‘frequently’ show a strong relationship between workload and burnout (Boamah & Laschinger, 2016; Lu et al., 2015). Thus its importance is beyond any doubt. The developing countries might not be able to overcome the shortage of trained nurses, due to severe budget constraints. Therefore, there are hardly any chances left for them to deal with workload generated burnout. From among the remaining areas of worklife, the study finds three areas more important.

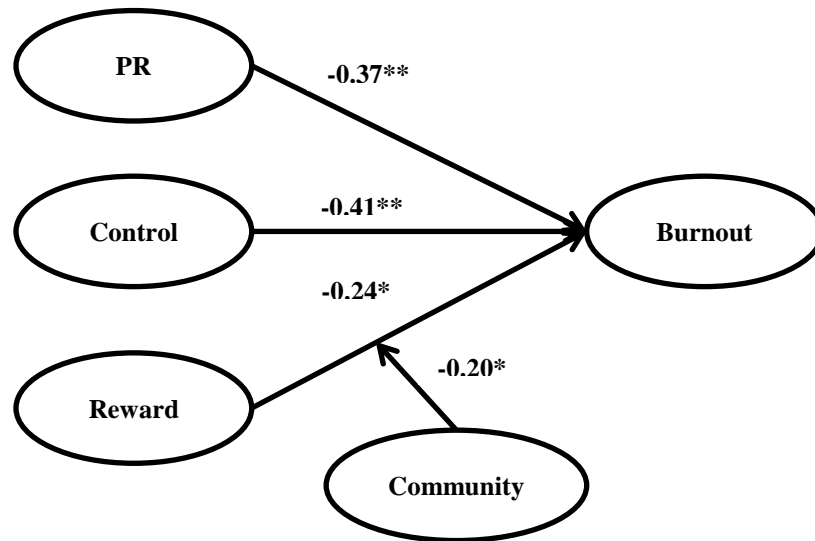


Figure1: Explaining burnout through PR and Areas of Worklife

Note. PR = Psychological Resilience; ** p < .01, * p < .05

This paper attempts to discover most important factors among the areas of worklife to explain nurses' burnout and interaction among these areas. The paper demonstrated that two areas of worklife, control, and reward remain significant along with psychological

resilience in predicting the burnout for nurses in Pakistan, and community can further improve the relationship between reward and burnout. Control and reward exhibited a direct negative relationship with burnout whereas community served as an important contingent variable. This fulfills our quest for finding the interactive effect of areas of worklife in predicting burnout at the workplace. Reward serves as a suitable mechanism for reducing burnout at healthcare facilities its effect is more attenuated in the presence of community support.

In our study, control emerges out to be more crucial factors regarding explaining burnout than all other factors. The existing literature consistently reports the role of job control in reducing burnout. A systemic review on role stress/strain of nurses noted the importance of job control in various parts of the world (Lambert & Lambert, 2001). Research highlights control as being one of the central work environment variables that can promote favorable nurses' workplace behaviors, curb burnout (Adriaenssens, De Gucht, & Maes, 2015) and suggest providing job autonomy (Zito, Cortese, & Colombo, 2016). Overall, we can infer control can play a vital role in minimizing burnout among nurses.

Many empirical pieces of evidence support our finding that rewards are one of the most key factors in decreasing nurses' burnout (Lambert & Lambert, 2001; Laschinger & Grau, 2012). In fact, the reward is one of the most frequently cited predictors of nurses' behaviors. Researchers promotes all types of rewards, formal and informal (Chou, Hecker, & Martin, 2012); financial and non-financial (Adriaenssens et al., 2015; Berger & Berger, 2008; Curran, 2004); and intrinsic and extrinsic rewards (Liu, While, Li, & Ye, 2015).

Our study demonstrates the interactive role of perceived sense of community with rewards in lowering burnout (Figure 2). This interactive role has never been focused before. However, many studies consistently demonstrate the relevance of community in minimizing burnout (Boamah & Laschinger, 2016; Lambert & Lambert, 2001; Laschinger & Grau, 2012). Fostering a scene of community becomes even more crucial for new nurses (Boamah & Laschinger, 2016; DiMeglio et al., 2005) or nurses working in a stressful and intense environment (Hayes, Douglas, & Bonner, 2015).

Nurses' well-being is affected by their perceptions of the working environment (Watts, Robertson, & Winter, 2013). In our study, the importance of three areas of worklife in predicting burnout is supported in the presence of psychological resilience - a good source of reducing burnout. Resilience plays a vital role as a personal resource; as nurses are exposed to a stressful working environment. Some of the most commonly reported challenges in which resilience is highly needed are workplace incivility, staff shortages, imposed organizational change, compassion, fatigue, lack of autonomy, occupational strain, health and safety issues, constant restructuring (Gormley, 2011; Debra Jackson et al., 2001; Strachota et al., 2003), patient deaths, interpersonal conflict, noise pollution (Beckstead, 2002), chaotic law and order situations, brain drain, job insecurity, on call check-ups and handovers of duties, psychological strains and service delivery. Psychological resilience is negatively related to burnout. Some individuals are better equipped in coping (Chang & H.-J. Chan, 2015; Garcia & Calvo, 2012) resulting in fewer signs of burnout (Howard & Johnson, 2004). These results complement with Edward (2005) that resilience reduces the risk of burnout and promote the occupational health of job performers. Per Howard and Johnson (2004) resilient informants exhibit a sense of agency leading to reduced burnout. Consistent with Ong et al. (2004), individuals low in psychological resilience are charged with hyper anxiety. None the less some features of

workplace environment (control, reward, and community) can play a role over and above psychological resilience in explaining nurses' burnout.

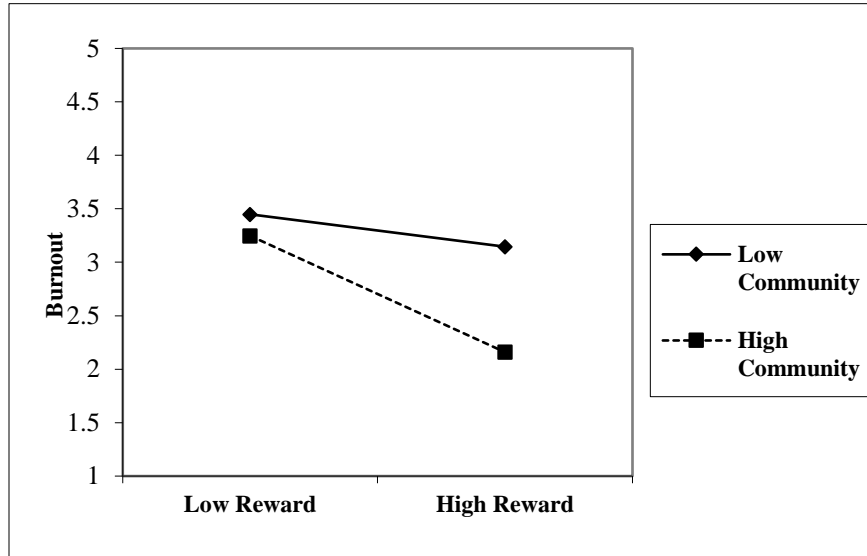


Figure 2: Moderation Effect of Community on Reward-Burnout Relationship

6. Limitations and Future Directions

First, we believe that our findings can only be generalized to the cultures like Pakistani context (such as other south Asian countries), but generalization to other non-similar cultures may not be suitable. *Second*, a cross-sectional design was used which does not allow for a test of causality; in the future longitudinal study is recommended for overcoming this limitation. *Third*, the self-reported measures utilized in the study can cause common method bias due to mood conditions and response bias (Taris, Peeters, Le Blanc, Schreurs, & Schaufeli, 2001). In future research use of multiple source or objective data is recommended. In future, studying distinct types of control (pacing control, task control and scheduling control) with burnout and areas of worklife (Ganster, 1988) may further enrich the research. *Lastly*, the benefits of various training programs like 'clinical ladder' (Drenkard & Swartwout, 2005), self-care intervention (Kravits, McAllister-Black, Grant, & Kirk, 2010) and self-awareness (Unal, 2012) for professional development of nurses in building their psychological resources are yet to be fully examined particularly in developing countries.

7. Implications for Nursing Management

The study offers a pragmatic approach to find solutions in the form of prevention and viable policy interventions. Areas of worklife model serve as a useful diagnostic tool (Boamah & Laschinger, 2016). Particularly, hospitals administrators must dedicate full attention to the three areas of worklife (i.e. control, reward, and community) to boast meaningful involvement of health workforce and develop the psychological resources of nurses.

The implications for nursing managers are many folds. Job analysis as an integrated function of HRM needs to focus on carefully redesigning nurses' job such that they have more control over how they do their work, empowering them to influence management in

obtaining need space and equipment in performing their duty. In other words, their job design should cater professional autonomy (Cao, Chen, Tian, & Diao, 2016; Zito et al., 2016) and influence in decisions relating to their work. Flexible shift scheduling coupled with automatically generated adequate feedback related to performance and self-management teams are useful in this regard (Adriaenssens et al., 2015). The job analysis aspect must be reinforced with an effective reward management system in place. Along with formal financial rewards, informal nonfinancial rewards are equally important. Their contributions need to be recognized by everyone, appreciated in all kinds. Thereby generating the feeling that their work is being noticed, consequently keeping them energetic in their jobs. The supervisors can be specially given the realization to maintain these reward aspects of the nurses' worklife. The impact of rewards in decreasing nurses' burnout can be further enhanced when administration successfully creates a climate in which nurses feel strong group spirit and social support (Adriaenssens et al., 2015; Chou et al., 2012; Maes & van der Doef, 2004; Sawatzky & Enns, 2012). The ultimate target should be to build a climate where mutual trust in fulfilling roles, cooperation, and open communication becomes easy. Thus, nurses would feel that they are close to their colleagues and are a member of a supportive work group.

Lastly, various training and development activities ranging from socialization, orientation and mentoring to professional development (Campana & Hammoud, 2015; Chou et al., 2012; Hayes et al., 2015; Zander, Hutton, & King, 2010) should be utilized to build psychological resilience among staff. Evidence shows that self-awareness training can improve self-concept of nurses (Unal, 2012). The organization can specially design appropriate educational training like 'self-care intervention' as proactive strategy to build psychological recourses of nurses rather than confining to reactive, 'repairing damage' mode (Chang & Chan, 2015; Kravits et al., 2010). For a nursing manager, it is not possible to bestow an employee with eventful moments to enjoy at the workplace; rather it is more of a question of making the work environment enough to let people decide whether they enjoy working there or not. There is a sincere need for true commitment to introduce applied ways of increasing job engagement, aligning areas of worklife with job incumbent's welfare and establish bilateralism among management and nursing workforce.

8. Conclusion

While there is a plethora of research on burnout in western countries, it appears that not much has captured in the context of developing countries like Pakistan yet. This study significantly portrayed burnout as a major healthcare dilemma. Areas of worklife and psychological resilience are part of an essential framework to increase the individual's capability to perform better and producing engagement. Nurses report their concerns regarding work environment and these concerns shape their perceptions about worklife ideals. The worklife congruence in all six areas is not always practically doable particularly in developing countries like Pakistan. The unmanageable workload is going to be faced almost all the time; however, improving three areas of worklife namely control, reward and community can create a notable impact in minimizing nurses' burnout. Human resource management functions, particularly, job analysis, reward management and training and development should be utilized not only to create a supportive climate but also to build on the psychological resilience and coping recourses of nurses. There is a strong need to devote legitimate interest in the construction of a vibrant work environment that strengthens the psychological contracts and cultivates a culture of employee well-being.

9. Ethical consideration

This study was carried out following approval by the Institutional Review Board (IRB No. LBS/2014/10-6) to provide the participants with ethical protection. Informed consent (assurances of confidentiality and the right to withdraw from the study at any time) was obtained before the data collection.

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REFERENCES

- Adriaenssens, J., De Gucht, V., & Maes, S. (2015). Causes and consequences of occupational stress in emergency nurses, a longitudinal study. *Journal of Nursing Management*, 23(3), 346-358.
- Ahmad, D. (2012). Honor or disgrace? A glimpse in the nursing community of Pakistan. [Online] Available at: <http://www.nursingworldnigeria.com/2015/02/honor-or-disgrace-a-glimpse-in-the-nursing-community-of-pakistan>
- Aiken, L. H., Clarke, S. P., Sloane, D. M., Sochalski, J. A., Busse, R., Clarke, H. & Shamian, J. (2001). Nurses' reports on hospital care in five countries. *Health Affairs*, 20(3), 43-53.
- Akram, M., & Khan, F. J. (2007). Health care services and government spending in Pakistan (Pakistan Institute of Development Economics Working Papers 32). Pakistan Institute of development economics Islamabad [Online] Available at: <http://www.pide.org.pk/pdf/Working%20Paper/WorkingPaper-32.pdf> (March 31st, 2016).
- Bartlett, J. E., Kotrlik, J. W. and Higgins, C. C. (2001). Organizational research: Determining appropriate sample size in survey research. *Information Technology, Learning, and Performance Journal*, 19(1), 43-50.
- Beckstead, J. W. (2002). Confirmatory factor analysis of the Maslach burnout inventory among Florida nurses. *International Journal of Nursing Studies*, 39(8), 785-792.
- Berger, L. A., & Berger, D. (2008). *The compensation handbook* (5th ed.). New York, NY: McGraw-Hill Professional.
- Boamah, S.A., & Laschinger, H. (2016). The influence of areas of worklife fit and work-life interference on burnout and turnover intentions among new graduate nurses. *Journal of Nursing Management*, 24(2), E164–E174.
- Byrne, B.M. (2001). *Structural equation modeling with AMOS: Basic concepts, application, and programming*. Hillsdale, NJ: Lawrence Erlbaum.
- Campana, K.L., & Hammoud, S. (2015). Incivility from patients and their families: Can organisational justice protect nurses from burnout? *Journal of Nursing Management*, 23(6), 716-725.
- Campbell-Sills, L., & Stein, M. B. (2007). Psychometric analysis and refinement of the Connor–Davidson resilience scale (CD-RISC): Validation of a 10-item measure of resilience. *Journal of Traumatic Stress*, 20(6), 1019-1028.

- Cao, X., Chen, L., Tian, L., & Diao, Y. (2016). The effect of perceived organisational support on burnout among community health nurses in China: The mediating role of professional self-concept. *Journal of Nursing Management*, 24(1), E77-E86.
- Chang, Y., & Chan, H. J. (2015). Optimism and proactive coping in relation to burnout among nurses. *Journal of Nursing Management*, 23(3), 401-408.
- Chauhan, N. (2014). Nursing in Pakistan: Handle with care. [Online] Available at: <http://tribune.com.pk/story/801156/nursing-in-pakistan-handle-with-care/> (July 4th, 2015).
- Chou, H.Y., Hecker, R., & Martin, A. (2012). Predicting nurses' well-being from job demands and resources: A cross-sectional study of emotional labour. *Journal of Nursing Management* 20(4), 502-511.
- Cole, M. S., Bernerth, J. B., Walter, F., & Holt, D. T. (2010). Organizational justice and individuals' withdrawal: Unlocking the influence of emotional exhaustion. *Journal of Management Studies*, 47(3), 367-390.
- Cropanzano, R., Rupp, D. E., & Byrne, Z. S. (2003). The relationship of emotional exhaustion to work attitudes, job performance, and organizational citizenship behaviors. *Journal of Applied Psychology* 88(1), 160-169.
- Curran, C. R. (2004). Rewards, respect, responsibility, relationship and recognition. *Nursing Economics*, 22(2), 57-63.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2000). A model of burnout and life satisfaction amongst nurses. *Journal of Advanced Nursing*, 32(2), 454-464.
- Demerouti, E., Verbeke, W. J. M. I., & Bakker, A. B. (2005). Exploring the relationship between a multidimensional and multifaceted burnout concept and self-rated performance. *Journal of Management*, 31(2), 186-209.
- DiMeglio, K., Padula, C., Piatek, C., Korber, S., Barrett, A., Ducharme, M., DeNicola, V. (2005). Group cohesion and nurse satisfaction: Examination of a team-building approach. *Journal of Nursing Administration*, 35(3), 110-120.
- Drenkard, K., & Swartwout, E. (2005). Effectiveness of a clinical ladder program. *Journal of Nursing Administration*, 35(11), 502-506.
- Edward, K. (2005). The phenomenon of resilience in crisis care mental health clinicians. *International Journal of Mental Health Nursing*, 14(2), 142-148.
- Elpert, L. R., & Wagner, L. A. (2017). Work-life balance and preventing burnout. In Robert J. Habicht & M. S. Gulati (Eds.), *Hospital Medicine* (pp. 55-61). Switzerland: Springer.
- Ganster, D. C. (1988). Improving measures of work control in occupational stress research. In J. J. Hurrell, L. R. Murphy, S. L. Sauter & C. L. Cooper (Eds.), *Occupational stress: Issues and developments in research*. New York: Taylor and Francis, 88-99.
- Garcia, G. M., & Calvo, J. C. A. (2012). Emotional exhaustion of nursing staff: Influence of emotional annoyance and resilience. *International Nursing Review*, 59(1), 101-107.
- Gascon, S., Leiter, M. P., Stright, N., Santed, M. A., Montero-Marín, J., Andrés, E. and García-Campayo, J. (2013). A factor confirmation and convergent validity of the areas of worklife scale (AWS) to Spanish translation. *Health and Quality of Life Outcomes*, 11: 63.

Key Areas of Worklife and Nurses' Burnout

- Gormley, D. K. (2011). Are we on the same page? Staff nurse and manager perceptions of work environment, quality of care and anticipated nurse turnover. *Journal of Nursing Management*, 19(1), 33-40.
- Hafeez, A., Khan, Z., Bile, K., Jooma, R., & Sheikh, M. (2010). Pakistan human resources for health assessment, 2009. *Eastern Mediterranean Health Journal*, 16(Suppl), S145-S151.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Prentice Hall.
- Hart, P. L., Brannan, J. D., & Chesnay, M. D. (2014). Resilience in nurses: An integrative review. *Journal of Nursing Management* 22(6), 720-734.
- Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. New York, NY: Guilford Press.
- Hayes, B., Douglas, C., & Bonner, A. (2015). Work environment, job satisfaction, stress and burnout among haemodialysis nurses. *Journal of Nursing Management*, 23(5), 588-598.
- Hendel, T., & Kagan, I. (2014). Organisational values and organizational commitment: Do nurses' ethno-cultural differences matter? *Journal of Nursing Management*, 22(5), 499-505.
- Howard, S., & Johnson, B. (2004). Resilient teachers: Resisting stress and burnout. *Social Psychology of Education*, 7(3), 399-420.
- Hunt, D. (2014). Does value congruence between nurses and supervisors effect job satisfaction and turnover? *Journal of Nursing Management*, 22(5), 572-582.
- Jacelon, C. (1997). The trait and process of resilience. *Journal of Advanced Nursing*, 25(1), 123-129.
- Jackson, D., Firtko, A., & Edenborough, M. (2007). Personal resilience as a strategy for surviving and thriving in the face of workplace adversity: A literature review. *Journal of Advanced Nursing*, 60(1), 1-9.
- Jackson, D., Mannix, J., & Daly, J. (2001). Retaining a viable workforce: A critical challenge for nursing. *Contemporary Nurse*, 11(2-3), 163-172.
- Jackson, S.L. (2009). *Research methods and statistics: A critical thinking approach* (3rd ed.). Belmont, CA: Wadsworth Cengage Learning.
- Judge, T. A., & Colquitt, J. A. (2004). Organizational justice and stress: The mediating role of work- family conflict. *Journal of Applied Psychology*, 89(3), 395-404.
- Juraschek, S. P., Zhang, X., Ranganathan, V., & Lin, V. W. (2012). United States registered nurse workforce report card and shortage forecast. *American Journal of Medical Quality*, 27(3), 241-249.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). New York: Guilford Press.
- Kravits, K., McAllister-Black, R., Grant, M., & Kirk, C. (2010). Self-care strategies for nurses: A psycho-educational intervention of stress reduction and the prevention of burnout. *Applied Nursing Research*, 23(3), 130-138.
- Lambert, V., & Lambert, C. (2001). Literature review of stress/ strain on nurses: An international perspective. *Nursing and Health Sciences*, 3(3), 161-172.

- Laschinger, H. K. S., & Grau, A. (2012). The influence of personal dispositional factors and organizational resources on workplace violence, burnout, and health outcomes in new graduate nurses: A cross-sectional study. *International Journal of Nursing Studies*, 49(3), 282-291.
- Leiter, M. P., & Maslach, C. (1999). Six areas of worklife: A model of the organizational context of burnout. *Journal of Health and Human Services*, 21(4), 472-489.
- Leiter, M. P., & Maslach, C. (2009). Nurse turnover: The mediating role of burnout. *Journal of Nursing Management*, 17(3), 331-339.
- Leiter, M. P., & Maslach, C. (2012). *The areas of worklife scale*. California, Palo Alto: Mindgarden Press.
- Leiter, M. P., Price, S. L., & Spence, L. H. K. (2010). Generational differences in distress, attitudes and incivility among nurses. *Journal of Nursing Management*, 18(8), 970-980.
- Lewig, K. A., Xanthopoulou, D., Bakker, A. B., Dollard, M. F., & Metzger, J. C. (2007). Burnout and connectedness among Australian volunteers: A test of the job demands-resources model. *Journal of Vocational Behavior*, 71(3), 429-445.
- Liu, Y., While, A., Li, S., & Ye, W. (2015). Job satisfaction and work related variables in Chinese cardiac critical care nurses. *Journal of Nursing Management*, 23(4), 487-497.
- Lu, M., Ruan, H., Xing, W., & Hu, Y. (2015). Nurse burnout in China: A questionnaire survey on staffing, job satisfaction, and quality of care. *Journal of Nursing Management*, 23(4), 440-447.
- Maes, S., & van der Doef, M. (2004). Worksite health promotion. In A. Kaptein & J. Weinman (Eds.), *Health psychology* (pp. 358-383). Oxford: BPS Blackwell.
- Maslach, C., Leiter, M. P., & Jackson, S. E. (2012). Making a significant difference with burnout interventions: Researcher and practitioner collaboration. *Journal of Organizational Behavior* 33(2), 296-300.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52(1), 397-422.
- McVicar, A. (2003). Workplace stress in nursing: A literature review. *Journal of Advanced Nursing*, 44(3), 633-642.
- Ong, A. D., Bergeman, C. S., & Bisconti, T. L. (2004). The role of daily positive emotions during conjugal bereavement. *Journal of Gerontology: Psychological Sciences and Social Sciences*, 59 B(4), 168-176.
- Potier, G. (2007). Burnout in the medical profession: Causes, consequences and solutions. *Occupational Health at Work*, 3(6), 134-140.
- Potter, P., Deshields, T., Divanbeigi, J., Berger, J., Cipriano, D., Norris, L., & Olsen, S. (2010). Compassion fatigue and burnout: Prevalence among oncology nurses. *Clinical Journal of Oncology Nursing*, 14(5), 56-62.
- Sawatzky, J. A., & Enns, C. L. (2012). Exploring the key predictors of retention in emergency nurses. *Journal of Nursing Management*, 20(5), 696-707.
- Schaufeli, W. B., Leiter, M. P., Maslach, C., & Jackson, S. E. (1996). Maslach burnout inventory-general survey. In C. Maslach, S.E. Jackson & M.P. Leiter (Eds.), *The maslach burnout inventory: Test manual* (3rd ed., pp. 22-26). Palo Alto, CA: Consulting Psychologists Press.

Key Areas of Worklife and Nurses' Burnout

- Spooner-Lane, R., & Patton, W. (2007). Determinants of burnout among public hospital nurses. *The Australian Journal of Advanced Nursing*, 25(1), 8-16.
- Strachota, E., Normandin, P., O'Brien, N., Clary, M., & Krukow, B. (2003). Reasons registered nurses leave or change employment status. *Journal of Nursing Administration*, 33(2), 111-117.
- Tabachnick, B.G., & Fidell, L.S. (2013). *Using multivariate statistics* (6th ed.). Boston: Allyn & Bacon.
- Taris, T. W., Peeters, M. C., Le Blanc, P. M., Schreurs, P. J., & Schaufeli, W. B. (2001). From inequity to burnout: The role of job stress. *Journal of Occupational Health Psychology*, 6(4), 303-323.
- Tepper, B. J., Lockhart, D., & Hoobler, J. (2001). Justice, citizenship, and role definition effects. *Journal of Applied Psychology*, 86(4), 789-796.
- Troppmann, K.M., & Troppmann, C. (2017). Work-life balance and burnout. In H. Chen & L. Kao (Eds.), *Success in academic surgery* (pp. 175-185). Switzerland: Springer.
- Truchot, D., & Deregard, M. (2001). Perceived inequity, communal orientation and burnout: The role of helping models. *Work & Stress*, 5(4), 347-356.
- Tusaie, K., & Dyer, J. (2004). Resilience: A historical review of the construct. *Holistic Nursing Practice*, 18(1), 3-10.
- Unal, S. (2012). Evaluating the effect of self-awareness and communication techniques on nurses' assertiveness and self esteem. *Contemporary Nurse*, 43(1), 90-98.
- Vahey, D. C., Aiken, L. H., Sloane, D. M., Clarke, S. P., & Vargas, D. (2004). Nurse burnout and patient satisfaction. *Medical Care*, 42(2 Suppl), II57-II66.
- Van der Colff, J. J., & Rothmann. (2014). Burnout of registered nurses in south Africa. *Journal of Nursing Management* 22(5), 1-13.
- Watts, J., Robertson, N., & Winter, R. (2013). Evaluation of organisational culture and nurse burnout. *Art & Science*, 20(6), 24-29.
- Wu, H., Liu, L., Sun, W., Zhao, X., Wang, J., & Wang, L. (2014). Factors related to burnout among chinese female hospital nurses: Cross-sectional survey in Liaoning province of China. *Journal of Nursing Management*, 22(5), 621-629.
- Zander, M., Hutton, A., & King, L. (2010). Coping and resilience factors in pediatric oncology nurses. *Journal of Pediatric Oncology Nursing*, 27(2), 94-108.
- Zellars, K. L., Hochwater, W. A., Hoffman, N. P., Perrewe, P. L., & Ford, E. W. (2004). Experiencing job burnout: The roles of positive and negative traits and states. *Journal of Applied Social Psychology*, 34(5), 887-911.
- Zhou, H., & Gong, Y.H. (2015). Relationship between occupational stress and coping strategy among operating theatre nurses in China: A questionnaire survey. *Journal of Nursing Management*, 23(1), 96-106.
- Zito, M., Cortese, C. G., & Colombo, L. (2016). Nurses' exhaustion: The role of flow at work between job demands and job resources. *Journal of Nursing Management*, 24(1), E12-E22.