Research

FOULING OFF THE CURVES: THE MEDIATING ROLE OF RESILIENCE AS AN ASSAULT AGAINST TEACHERS STRESS

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Abstract

The purpose of this research is to test the mediating role that resilience plays between job demands and job stress of university teachers. For this purpose a total of 243 questionnaires were collected from university teachers and data so gathered was analyzed using Structural Equation Modeling, to test the fit of the proposed model. The results show that the relationship between teachers' job demands and job stress is mediated by teachers' resilience. The model serves as a source for epitomizing the key concepts in the given field of study and furthering the research in exploring other positive constructs and their interaction with job stress.

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Introduction

Stress that teachers face is well-documented and teaching, due to work complexity and workload, has been declared as one of the most stressful professions (Nash, 2005). Considering their job complexities and responsibility, teachers require personal resources to overcome the workplace hazards. Resilience can prove to be one such personal resource of the teachers that can mitigate the negative effects of their job demands such as stress (Munson, 1991).

There is a limited research, if any, that deals directly with teachers' resilience and only pockets of researches exist that examine the related constructs. Teachers' resilience focuses on what enables teachers to flourish rather than simply surviving in the profession (Kitching, Morgan & O'Leary, 2009). It was never that important in the past, as it is today for a teacher to be resilient due to increased teachers' responsibilities which has made this profession too demanding (Aluede, 2009). Moreover it is unrealistic to expect students to be resilient in case their teachers, who constitute a basic source of their role models, do not demonstrate qualities of resilience (Henderson and Milstein, 2003).

Hence teaching is recognized as the most demanding professions that have the potential to bring forth devastating effects on teachers' well-being. For this reason it is indispensable to seek ways to reduce the impact of stress on teachers.

Thus this study brings forth the construct of teachers' resilience, which may help buffer them against the negative effects of job demands. This study is in alignment with the transactional model of stress which describes stress as a consequence of job demands determined by the individual's personal capabilities and the social support experiences (Lazarus and Folkman, 1984). From this perspective, the remainder of this paper will explain the interaction between various job demands of the teaching profession and the

potential role that personal capabilities such as teachers' resilience can play in buffering the negative effects of job demands.

Literature Review

In recent years, teachers' stress has received great deal of attention of the researchers (Kauts and Saroj, 2010). Besides job demands, the societal demands of teachers are also very high. Teachers are responsible for the management of their academic and their emotional lives. Teachers are expected to articulate a warm and nurturing classroom environment; additionally, they have to manage conflicts between students, foster supportive relationships with parents and colleagues and to symbolize themselves as role models in the times of challenges and adversities. All these expectations increase the job demands of the teachers and it is not surprising that teachers respond to these demands with common stress manifestations (Winzelberg&Luskin, 1999). In extreme cases teachers respond to the demands of their job by quitting from teaching altogether. In fact, poor management of stress has been reported as the leading cause behind teachers' turnover intentions (Montgomery & Rupp, 2005). It has been reported that almost more than half of the teachers quit from teaching during the initial days of their career (Ingersoll & Smith, 2003), further incurring attrition cost in billions of dollars every year.

Not necessarily all teachers quit their profession but those who sustain stress, because of their job; they are vulnerable to developing another problem called burnout. Burnout consists of three dimensions, including emotional exhaustion, depersonalization and reduced personal accomplishment (Maslach, Jackson, &Leiter, 1997). It results due to the teachers' inefficiency to cope with stress over long periods of time (Kyriacou, 2001). It is surprisingly noticeable that despite teaching being the most stressful profession, still some of the teachers prosper regardless of all its adversities. Certain temperamental characteristics may prepare some individuals to

confront stressful events better than others and such personalities have been introduced as "stress hardy personality". This personality comprises three attributes including commitment (a sense of purpose), control (being able to incorporate stressful events in to one's life) and challenge (responding to stress as an opportunity to grow) (Kobassa, 1982). The component of stress hardy personality can be strongly related to resilience, which is a construct researched in this study.

Resilience is defined as the development of competence at the time of adversity. It is a dynamic process of positive adaptation and development while encountering a significant level of adversity (Luthar, Cicchetti& Becker, 2000). According to the resilience model of Richardson, Neiger, Jensen, &Kumpfer, (1990), resilience has been presented as a process rather than a trait, initiated by adversity or life disruptions, which produces chaos and stress. In case of poor coping, the event may lead to further disruption and maladaptation. During the disruptive life events an individual consciously or unconsciously strives to reintegrate. Hence, it is with disruption, the individual either learns to adapt and tap resiliency, or disqualify based on prior learning and experiences. Dynamics of resilience, according Richardson, Neiger, Jensen, &Kumpfer, (1990) thus includes occurrence of disruptive events during which the individual's learning to adapt successfully keeps fainting and developing, throughout the lifespan of an individual, based on prior experiences. According to Luthans & Youssef (2007) both research clique as well as the business community are inquisitive about researching resilience, consequently extending the applications of this concept from its original domain i.e. risk children to adults and then particularly, employees.

Dumont & Provost (1999) describe the contextual background of the resilience research, according to which this phenomenon has been stemmed out of research on children, who are at risk. Research on resilience can be traced back to the most cited study conducted by Werner and Smith (1992), who began exploring the development of about 698 children, who were vulnerable to risk

factors like poverty, divorce, stress, mental illness and parental alcoholism. The purpose of their study was to find out that why the children, who have been provided the same set of risk factors or circumstances, do well whilst others struggle to achieve. It was found that these children had significant behavioral as well as developmental problems by the age of 10 years, whereas by the age of 18 years many of them were convicted for issues including arrests, pregnancy and mental health (Reivich & Shatt, 2002). However, amongst them, one child in every three grew to develop successfully without any issues, however by comparing these successful children with other members of their group, at birth there were a number of factors (protective factors), including life events or situations that increased and decreased the vulnerability of a child. Some of those protective factors included positive social orientation, good communication skills, positive self-concept, desire to improve and internal locus of control. According to Luthans, Youssef and Avolio (2007) the mere presence of risk factors was not subject to child's hardship or failure. Thus it may be inferred that the presence of risk factors or negative circumstances do not necessarily results in negative outcomes or behaviors. This may also be further confirmed by the argument of Werner and Smith (1982) that the development of an individual is based on the balance that he/she, can effectively maintain between their personal power and the external environment, including the social as well as the physical environment. Therefore the presence of hardship or challenge given the level of personal power of an individual may be assumed as a catalyst that may convert risk factors in to either positive or negative outcomes.

While probing the resilience literature pertinent to teachers, it is ascertained that this field is still emerging. Majority of resilience studies refer to children (Freedman, 2008; Osofsky, 1979) with negligible importance given to adults (Morris, 2002) and more precisely teachers (Beltman, Mansfield and Price, 2011). However, in one of the study Glaser, Butler, and Pryor (1998) found a relationship between low levels of apprehension about communication and high levels of

resilient characteristics of teachers. It was found that low levels of apprehension regarding communication were related to a moderately higher level of resilience. Likewise there are some researches that encapsulated the factors which foster resilience in teachers. Those factors included providing teachers' an intellectual stimulation, giving them an opportunity to raise their voice, freedom for meaningful participation in decision making, building collegiality and reducing the chain of negative reactions followed by negative experiences or risk (Montano, 1998).Similarly, Henderson and Milstein (1996) reported the factors that can block the resiliency in teachers. The factors included isolation, deficit thinking about professional development, and lack of time for people to develop caring relationships.

Hence based on the limited, yet meaningful insights provided by the literature on teachers' resilience and the stress associated with their profession, one can discern that it will prove useful to the educators in case they have been provided more comprehensive findings regarding the interaction of resilience and job demands further instigating teachers' stress. Since teachers play a dominant role in the educational system and at the same time teachers who are more exposed to risk, they can further place their students at risk. Therefore, the educational system should seek ways to foster knowledge regarding resilience factors and how they can prove to be protective for teachers as well as the educational system (Hammond & Onikama, 1997).

In contrast to this projection, as stated in earlier paragraphs, most of the researches about teachers stress to date have a heavy concern to identify the factors that may restrict the influence of the job demands on the formation of stress. This research therefore aims to introduce resilience as a mediator that can help teachers to reduce the effects of their job demands over the stress that they use to encounter while teaching. Hence the following hypotheses have been formulated on the basis of the reviewed literature:

H$_1$: *Teachers are likely to experience high job stress with increasing job demands.*

H$_2$: *Teachers are likely to experience low job stress due to high resilience*

H$_3$: *Resilience will mediate the association between the job demands and job stress.*

Methods

The study adopted a survey research design for the purpose of data collection from the respondents of the study.

Sample

The population of this study included teachers from all the public and private sector universities of Peshawar. On the basis of the method of sample size estimation (Yamane, 1967), a sample of 243 respondents has been drawn from the population of the study. The sample of the study included the faculty members of universities of Peshawar only because being the capital city, it represents maximum universities belonging to the entire province. Moreover, by application of Kaiser-Meyer-Olkin (KMO) test with the value 0.949 on data collected examined the adequacy of the sample size as well (Naidoo, 2011).

Instruments

For *job demands s*urvey instrument was adopted from *Teachers stress inventory* (Fimian, 1984). Validity and reliability of the instrument has already been proven by several researches (Hanif, 2004). Principal component analysis (PCA) performed on 17 items of job demands, resulted in to 2 factors accounted for 63% of variance in the data. Similarly, The Kaiser-Mayer-Olkin (KMO) value 0.904 indicated 90% of variance within the data that could be explained by a factor structure. The Bartlett's Test of sphericity was also significant ($p< 0.000$) which indicated that data is factorable as there is inter correlation between items. The factors collectively represented an acceptable reliability i.e. $\alpha= 0.889$.

Job stress was measured with the brief version of Perceived Stress Scale (PSS; Cohen, Kamarck, &Mermelstein, 1983). Principal Component Analysis (PCA) with varimax rotation, found one component for the four items of the Scale which accounted for 69 % of variance, with all factor loadings greater than 0.50. The Kaiser-Mayer-Olkin (KMO) value 0.762 indicated 76% of variance within the data that could be explained by a factor structure. The Bartlett's Test of sphericity was significant X^2 (445.301, N=243), p < 0.000 which indicated that data is factorable as there is inter correlation between items. Four items in a single component demonstrated higher internal consistency with α= 0.852.

Resilience was measured by the scale that is used in Luthan, Avolio, Avey& Norman (2007). One of the items, out of three had been dropped after consultation with the committee of the human resource experts who evaluated the face validity of the questionnaire (Hinkin, 1995). For the two items, one principal component analysis was determined that accounted for 76% of variance with the factor loadings more than 0.50. The Kaiser- Mayer- Olkin (KMO) value 0.52 and the Barlett's Test of sphericity X^2(76.767, N=243), p < .000 confirmed that the data is factorable. A two item, single component demonstrated higher internal consistency with α= 0.682.

Moreover, for ensuring further the relevance of the scales to the education sector in Pakistan, the final questionnaire of the study was shown to many experts in the field of human resource management. The questionnaire was considered by them as a valid measure of intended concept. In total 250 questionnaires were distributed, the overall response rate was 100 % and after discarding the incomplete questionnaires the remaining 243 questionnaires constituted the sample for the present study.

Analysis and results

Confirmatory Factor Analysis

For the three scales of the study, CFA was conducted with the main sample. All constructs achieved acceptable fit with slight re-specification of the model. The re-specification of the model was done on the basis of large modification indices (d" 4) (Dabholkar&Bagozzi, 2002), and low standardized factor loading (< 0.35) (Hatcher, 1994). The measurement model achieved the acceptable level of fit after elimination of the items that could not match these criteria.

For job demands scale, fit was achieved (X^2/df=2.49, GFI= 0.949, IFI= 0.966, TLI= 0.951, CFI= 0.966, RMSEA= 0.078) with elimination of one item. For job stress scale and resilience scale fit was achieved without elimination of any item. The fit measures of the two scales were (X^2/df=1.234, GFI= 0.997, IFI= 0.999, TLI= 0.997, CFI= 0.999, RMSEA= 0.031) and (X^2/df= 0.000, GFI= 1.000, IFI=1.000, TLI= 1.000, CFI= 1.000, RMSEA= 0.561) respectively.

Construct Validity and Reliability

Convergent validity of the constructs was measured by two ways. Firstly, it was determined that whether each indicator's estimated path coefficient on its underlying construct was significant with a minimum loading of 0.5(Byrne, 2010). Secondly the validity was assessed by using squared multiple correlations or item reliability (Hair, et al., 2006). The evidence of convergent validity was found by the CFA results since all indicators showed significant factor loading which was 0.50 and above. Besides one item from job demands, that was eliminated due to poor factor loading (0.22). In addition to this the squared multiple correlations of the indicators also met the criteria of 0.40 (Taylor &Todd, 1995).

The assessment of convergent validity of the construct requires the measurement of construct reliability as well, which should be more than 0.70 (Nunnally& Bernstein, 1994). The re-specified model of the present study exhibited adequate reliability with Cronbach alpha coefficient of 0.902. Hence, considering together, the measurement model displayed acceptable convergent validity. Table 1, demonstrate the factor loadings and reliability of the items of the constructs of the study.

Table 1:

Reliability of the construct

Construct	Number of items	Item loadings	Reliability of the construct
Job demands	9	0.763-0.823	0.933
Job stress	4	0.716-0.893	0.891
Resilience	2	0.660-0.769	0.668

Source: survey data, 20

Hypothesis Testing

The plausible mediator model of the study examined the mediating role of resilience in the influence of job demands on job stress of the teachers. There are two direct and one indirect or mediation hypothesis. An indirect effect suggests a causal path through which a predictor variable causes a mediating variable, which successively causes the principle variable (Sobel, 1990).

The direct model exhibited a structural model with the causal effect of job demands on job stress and resilience on the job stress of the teachers. The fit measure of the direct path model presenting a relationship between job demands and job stress, demonstrated a good fit (X^2/df= 2.24, GFI= .925, IFI=.960, TLI= .949, CFI= .960, RMSEA= .072). Additionally, the regression weights of the hypothesized causal path demonstrated that job demands influenced the job stress of the teachers (0.99, p< .000). These findings thus supported the first

hypothesis of the study that job demands influence the job stress of the teachers. Similarly the second direct path extending from teachers resilience towards job stress also demonstrated a good fit (X^2/df= 1.93, GFI= 0.982, IFI=0.989, TLI= 0.977, CFI= 0.989, RMSEA= 0.062). The regression weights of the causal path also exhibited that resilience influenced the job stress of the teachers (-.642, p<0.000). Hence the second hypothesis of the study was supported with these findings that resilience reduces the levels of teachers stress. Table 2 represents the comparison of the structural models of the present study.

The mediation of resilience was examined through the structural model with causal path influence of job demands and job stress in the presence of resilience. The model fit indices depicted a good fit (X^2/df= 2.12, GFI= 0.914, IFI=0.955, TLI= 0.943, CFI= 0.954, RMSEA= 0.068). Job demands had a significant influence on resilience (-0.698, p<0.000); the influence of resilience on job stress was also found significant (-.234, p<0.000).

Table 2:

Comparison of structural Models

Model	X^2/df	GFI	IFI	CFI	TLI	RMSEA
JD → JS	2.24	0.925	0.960	0.960	0.949	0.072
TR → JS	1.93	0.982	0.989	0.989	0.977	0.062
JD → TR → JS	2.12	0.914	0.955	0.954	0.943	0.068

Source: survey data, 2014

The inspection of the indirect paths, revealed that the direct effect of job demands on job stress reduced from (β=1.133, p=.000) to (β= 0.971, p= 0.000) after the inclusion of mediator (resilience). Considering the results it is interpreted that resilience partially mediated the effects of job demands on job stress since the direct effect of job demands on job stress still remained significant after resilience entered in to the model, even though the effect of job demands on job stress reduced after the inclusion of resilience.

Abridging the results, it may be concluded that job demands had significant effect on resilience and correspondingly, resilience had significant effect on job stress.

Discussions and implications for future research

The results show that the job demands and resilience are the antecedents of job stress. The findings of this research hence confirmed the existing theories regarding the role of personal resources mediating the effects of job demands on job stress (Xanthopoulou et al. (2007).

Similarly, majorities of available researches within the domain of resilience have been done on children (Freedman, 1979; Osofsky, 1979) whereby the only available research relevant to teachers' resilience is by Glaser, Butler, and Pryor (1998), who found a relationship between teachers' apprehensions regarding communication and resilience characteristics of teachers. Likewise, there are few studies which explored the factors contributing towards building teachers' resiliency (Montano, 1998). Despite this, to date, any significant evidences of studies regarding teachers' resiliency in general and the interaction of teachers' resiliency with job stress in particular are still missing. Hence, the present research while addressing this deficiency, rooted an empirical justification for building teachers' resiliency in order to manage teachers' stress effectively. In future, researchers can also explore the factors that can either build or block teachers' resiliency. Additionally, it can also be tested as a positive construct turning in to positive organizational behaviors, such as teachers' job satisfaction, work engagement, commitment, etc. Positive organizational behavior is a recent field, emerging within the domain of organizational behavior that includes individual capacities like, hope, optimism and self efficacy. Also, since the present research is a quantitative and a cross-sectional survey research, future research studies can validate findings of this study by utilizing qualitative methods, including, focus group discussions and interviews. As multi-

method studies despite being challenging, provide more assurance regarding their findings. Another possibility to extend this research in the future is to use a different sampling framework. Since this research is limited to the teachers' largely drawn from public and private sector universities of Peshawar, it is therefore not known that the findings of this research would be applicable to other contextual settings. In future the researchers can examine similar concept among other contextual settings, this will further improve the generalizability of the present research.

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