

Work Demand and Psychological Distress among Pre-School Pupils' Caregivers: Does Resilience Matter?

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Abstract. This study investigated the moderating effect of resilience between work demand and psychological distress among preschool pupils' caregivers in Ekiti State, Nigeria. A descriptive survey research design was adopted with a sample of 605 caregivers was chosen through stratified random sampling technique participating. Data were collected using: (i) Demographic Data Form, (ii) Kessler Psychological Distress Scale, (iii) Perceived Work Demand Scale, and (iv) Connor-Davison Resilience Scale. Data were analyzed using Regression Analysis and Pearson Product Moment Correlation Coefficient with result tested for significant at .05 level. Findings revealed, that there is a significant positive relationship between psychological distress and resilience ($r = .263$; $p < .001$), but not between psychological distress and work demand ($r = .071$; $p > .05$). There was a moderating effect of resilience in the relationship between work demand and psychological distress of caregivers. Based on the findings, recommendations were made for research and practice.

Keywords: Caregivers; Pre-School Pupils; Psychological Distress; Resilience; Work Demand

1. Introduction

Numerous studies have been conducted on psychological distress. This might not be unconnected with its negative impacts on individuals and organizations. Psychological distress has been defined in numerous ways. It is a general term used to describe unpleasant feelings or emotions that impact the level of functioning. In other words, it is the psychological discomfort that interferes with ones activities of daily living. It is largely defined as a state of emotional suffering characterized by symptoms of depression (e.g., loss of interest; sadness; hopelessness) and anxiety - e.g., restlessness; feeling tense (Mirowsky & Ross, 2002). Psychological distress can result in negative views of the environment, others, and the self.

Literature confirms the relationship between psychological distress and variables like job insecurity, suggesting that increased levels of job insecurity are associated with increased levels of psychological distress (Mofokeng, 2008), limitations in day-to-day activities due to emotional problems (Muhsen, Garty-Sandalon, Gross, & Green, 2010), maladaptive use of both the Internet and the mobile phone (Beranuy, Oberst, Carbonell, & Chamarro, 2009), smoking

status (Holm *et al.*, 2010), higher suicidal ideation, even when accounting for resiliency (Cleverley & Kidd, 2011), preoperative anxiety, depression, and postoperative pain (Chou *et al.*, 2016), psychosocial work environment (Salas *et al.*, 2015), sleep disturbances (Almoznino *et al.*, 2015), quality of life (Wang, Li, Stanton, & Fang, 2010), and impaired health-related quality of life (Hyphantis, 2011). The severity of psychological distress is negatively associated with job satisfaction (Lee, Lee, Liao, & Chiang, 2009). It is expected that high work demand would lead to high psychological distress. However, limited studies have examined the relationship between work demand and psychological distress. For example Shimazu, Bakker, Demerouti and Peeters (2009) found that job demands were only directly related to psychological distress.

Psychological stress have been widely studied especially among medical undergraduate students (Radeef & Faisal, 2014), medical workers (Minnotte, Gravelle, & Minnotte, 2013), and hospital nurses (Kunie, Kawakami, Shimazu, Yonekura, & Miyamoto, 2013). Studies have also been conducted on psychological distress among nursing students (Zhang *et al.*, 2016), and drug users (Scott *et al.*, 2016; Yi *et al.*, 2016).

Psychological distress have also been investigated among caregivers particularly of people with chronic obstructive pulmonary disease (COPD: Grant, Cavanagh, & Yorke, 2012), patients with psychosis (Koutra, Simos, Triliva, Lionis, & Vgontzas, 2016), patients with schizophrenia (Chen *et al.*, 2016), symptomatic lung cancer patients (Mosher *et al.*, 2016), women with ovarian cancer (Butow *et al.*, 2014), patients with lung cancer (Porter *et al.*, 2011; Porter, Keefe, Garst, McBride, & Baucom, 2008), and individuals with affective disorders (Zendjidjian *et al.*, 2012).

Work demand are the psychological stressors involved in accomplishing the workload, stressors related to unexpected tasks, and stressors of job-related personal conflict (Bakker & Demerouti, 2007; Karasek, 1979). Job demands refer to the things that have to be done or activities to be performed, and include the

physical, social or organizational aspects of the job that require sustained physical and mental effort (Demerouti *et al.*, 2001). Job demands include situational factors such as role ambiguity, role conflict, stressful events, heavy workload and work pressure, pressure to make critical and immediate decisions, being assigned more responsibility, and having to meet deadlines (Rothmann & Joubert, 2007; Schaufeli & Enzmann, 1998). Job demand is hindrance job stressors or work circumstances that involve excessive or undesirable constraints that interfere with or inhibit an individual's ability to achieve valued goal (LePine, Podsakoff, & LePine, 2005; Podsakoff, LePine, & LePine, 2007). To Schaufeli and Taris (2014) job demands consume energy and may therefore eventually lead to exhaustion and related health problems (the health impairment process). Work demands refer to pressures arising from excessive workload and time pressures (Yildirim & Aycan (2008).

Literature suggests that work demands such as number of hours worked, workload, shift work are positively associated with work-family conflict. Work demand has been positively linked with burnout syndrome and musculoskeletal complaints, higher work stimuli were associated with lower burnout (Jaworek, Marek, Karwowski, Andrzejczak, & Genaidy, 2010). Qiu, Bures, & Shehan (2012) found that work demands put higher-educated workers at risk of less favorable health outcomes. Higher job demands are detrimental in men, whereas for men, it seems to be more related to work demands (Pons, Ramos, & Ramos, 2016). Pons, Ramos, and Ramos (2016) observed that higher job demands stimulate promotion of ideas among men but were detrimental for innovation among women. In another study the 'costs' of psychosocial work demands were stronger among women (Qiu *et al.*, 2012). Linton *et al.* (2015) found that high work demands, job strain, bullying, and effort-reward imbalance were related to more future sleep disturbances. Job demands were only directly related to psychological distress (Shimazu *et al.*, 2009). Awadh, Gichinga, and Ahmed (2015) also found that a strong positive correlation existed between performance and job demand.

Resilience is a term used across all research disciplines and in everyday discourse (Molyneaux, Brown, Wagner, & Foster, 2016). According to Exner *et al.* (2016), resilience has become a prominent concept to understand system vulnerabilities and flexible ways of adapting to crises. Resilience is typically conceptualized as successful adaptation to serious negative life events (Seery & Quinton, 2016). Slepian, Ankawi, Himawan, and France (2016) also view resilience as the ability to maintain positive emotional and physical functioning despite physical or psychological adversity. Chi *et al.* (2016) views resilience as an adaptive mindset that generally enables people to survive and thrive in adversity. Amstadter *et al.* (2016) define resilience as the difference between the twins' total score on a broad measure of internalizing symptoms and their predicted score based on their cumulative exposure to stressful life events.

Resilience relate positively to psychological well-being and negatively with psychological distress, depression and anxiety (Haddadi, & Besharat, 2010; Pakalniškienė, Viliūnienė, & Hilbig, 2016). Min, Yu, Lee, and Chae (2013) found that adaptive strategies were more strongly correlated with resilience than maladaptive strategies. Self-esteem, spirituality, quality of life, and hopelessness were correlated with resilience (Mizuno *et al.*, 2016). Ungar, Liebenberg, Dudding, Armstrong, and Van de Vijver (2013) also found resilience to be related to service satisfaction but not the quantity of services used by youths. High resilience was associated with a reduction in depression scores at higher levels of sexual abuse (Goldstein, Faulkner, & Wekeerle, 2013). Resilience has a significant positive relationship with work engagement (Mase & Tyokyaa, 2014). Negative correlation existed between job insecurity and resilience as well as resilience and general health. Individuals with high levels of resilience reported low levels on job insecurity and psychological distress (Mofokeng, 2008).

Pakalniškienė *et al.* (2016) found that resilience can even be a predictor of psychiatric symptoms. Resilience can predict severity of symptoms mindfulness and psychological well-being

(Pidgeon & Keye, 2014) and adjustment to university life and its sub-dimensions (Rahat & İlhan, 2015).

Several research models exist to showcase the mediating role of resilience in such relationship between mindfulness and life satisfaction and affect components (Bajaj & Pande, 2016), depressive symptoms and psychological health status (Liu, Chang, Wu, & Tsai, 2015) and work stress and burnout (Hao, Hong, Xu, Zhou, & Xie, 2014). Resilience also mediate the effects of age and gender on emotional distress (Cohen, Baziliansky, & Beny, 2014), and the impact of risk factors on outcomes and is affected positively by the quality, but not the quantity of the psychosocial services provided to adolescence with complex needs (Ungar *et al.*, 2013). The mediating influence of resilience between work demands and psychological distress has not been well documented. It is however conceived that with resilience, the negative effect of work demand on psychological distress would be reduced.

2. Statement of the Problem

Working with young children of age three to five years may not be an easy task. The work is highly challenging, and sometimes it can be wearisome, traumatic and awesome. Caregiving may be very strenuous, demanding and laborious. It can affect every area of caregivers' life; be it physical, spiritual, psychological, financial, health and as well his or her vocational wellbeing.

Caregivers face a lot of challenges in the process of carrying out their duties and responsibilities, challenges from the children, parents, colleagues the school management, environment and community at large. This situation in most cases translates to psychological distress. Studies on psychological distress have been done on caregivers of children with autism spectrum disorder (Lovell & Wetherell, 2012; 2015; 2016; Lovell, Elliot, Liu, & Wetherell, 2014) and children with asthma (Fagnano, Berkman, Wiesenthal, Butz, & Halterman, 2012), children with a disorder of sex development (Wolfe-Christensen *et al.*, 2012; 2014). However, not

much has been done on caregivers of normal preschool pupils in Nigeria generally and in Ekiti State to be specific.

In spite of numerous works on psychological distress among various workers, the incident persists and has continually been noted. While numerous empirical works have been done to determine various correlates of psychological distress, only few could be cited on the relationship between job/work demand and psychological distress. Studies have however not looked into the moderating role of resilience in the relationship between work demand, and

psychological distress among caregivers. The focus of this study therefore was to examine the moderating role of resilience in the relationship between work demand and psychological distress among preschool pupils' caregivers.

It was therefore hypothesised that there is significant moderating effect resilience in the relationship between work demand and psychological distress among preschool pupils' caregivers in Ekiti State, Nigeria. A model (Fig. 1) was therefore built to indicate the relationship among the study variables.

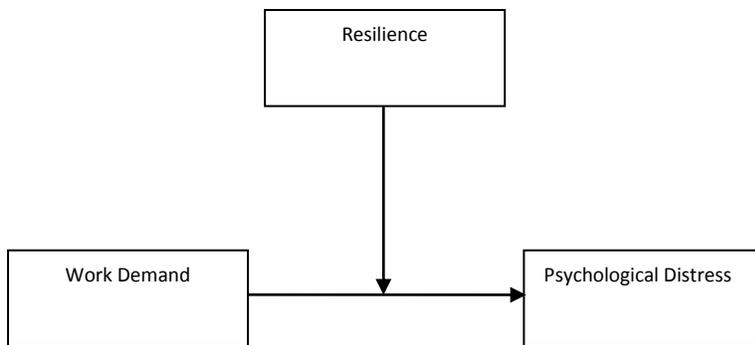


Figure 1: Conceptual model for the study

3. Method

3.1 Design

The descriptive survey research design type was adopted in this study because it allowed for direct investigation of a large sample with the use of questionnaire without manipulation of the independent variables.

3.2 Participants

A sample of 605 caregivers was chosen through proportional stratified random sampling among the 1576 caregivers in the 874 public and 702 private pre-primary schools in Ekiti State, Nigeria. All the 16 Local Government Areas in the State were used for the study. In each Local Government Area, 50% each of public schools and private schools were randomly chosen. In each school, two caregivers were randomly chosen. This gave a total sample size of 605.

3.3 Instruments

Demographic Data Form

The demographic data of respondents were collected using the DDF. These data were on sex, ownership of school, age, employment status, educational status, work experience,

Kessler Psychological Distress Scale (K10)

Psychological distress was assessed in this study using The Kessler Psychological Distress Scale (K10) developed by Kessler (1996). It is a widely used self-report measure of psychological distress designed to measure depressive distress. This scale measures cognitive, affective, and behavioural symptoms of psychological distress which can be used to identify those in need of further assessment for anxiety and depression. The K10 consists of 10 items with a 5-point Likert scaling format ranging from 5 = 'All of the time', to 1 = 'None of the time'. Sample items include: "So nervous that nothing could calm you down" and "That everything was an effort". The total score ranges from 10 to 50 with the maximum score of 50 indicating severe distress whereas the minimum

score indicates no distress. Kessler *et al.* (2002), found that the Cronbach's alpha for the K10 (a measure of internal consistency reliability) to be high (.93). The brief questionnaire has been shown good construct and criterion validity being significantly associated with measures of mental health symptoms and disability as well as the frequency on consultations.

Perceived Work Demand Scale (PWDS)

Work demand was measured using the Perceived Work Demand Scale (PWDS). The scale was developed by Boyar, Car, Mosley, and Carson (2007) to measure job demand. It is a 5-item self-report scale measuring how the employees perceived the demands placed on them by their works in their various organizations. It is rated on a 5 point Likert-type scale with responses ranging from strongly disagree (1) to strongly agree (5). Sample items include: “My job requires all of my attention”. The scale has a reliability coefficient of .83 Cronbach’s alpha. The score on this scale range between 5 at the minimum and 25 at the maximum.

Connor-Davidson Resilience Scale. (CD-RISC)

Resilience was assessed using the Connor-Davison Resilience Scale developed by Connor and Davidson (2003). Connor Davidson Resilience Scale (CD-RISC) is a measure of stress coping ability; as such could be an important instrument in the diagnosis of anxiety symptoms depression, and stress reactions. Items included in the scale were selected through a search of resilience literature. The Scale comprises of 25 items, each rated on a 5-point scale (0-4), with higher scores reflecting greater resilience as follows: not true at all (0), rarely true (1), sometimes true (2), often true (3), and true nearly all of the time (4). Sample items

include: “Having to cope with stress can make me stronger.” “I am able to adapt when changes occur” “Under pressure, I stay focused and think clearly”. CD-RISC is a brief, self-rated measure of resilience that has sound psychometric properties (Connor & Davidson, 2003).

3.4 Procedure

The researchers visited each of the selected schools and explained the study mission to the head teacher/school authority, and obtained permission to administer the instruments on the caregivers. Thereafter, the caregivers were met in their classrooms during break time. The purpose of the study was again explained with an assurance of the confidentiality of their responses. They were informed that they are free to decide whether to participate in the study or not. Caregivers who willing chose to participate were administered with the instruments. The instruments were administered as a battery by the researchers. The researchers waited for the participants to complete the questionnaires which were collected immediately after completion. Data were analyzed using both descriptive and inferential data analyses. Regressions Analysis and Pearson Product Moment Correlation were used to test the hypotheses.

4. Results

Preliminary Analysis of Data

Initial analysis was conducted on the data to determine the range, mean, and standard deviation of the scores of the variables of the study. Pearson Product Moment Correlation was also conducted. Results are as presented in Tables 1 and 2.

Table 1: *Descriptive Statistics of range, mean, standard deviation, skewness and kurtosis of the scores of the study variables*

	Range	Min.	Max.	Mean	Std. Dev.	Skewness (SE =.099)	Kurtosis (SE = .198)
Psychological Distress	61.00	30.00	91.00	43.922	4.427	2.111	23.611
Work Demand	16.00	5.00	21.00	15.255	3.233	-1.115	1.051
Resilience	77.00	11.00	88.00	62.488	17.888	-.698	-.559

Table 2: *Correlations Matrix of the relationship among study variables*

	Psychological Distress	Work Demand	Resilience
Psychological Distress	1	.071	.263**
Work Demand		1	.372**
Resilience			1

** $p < .001$

The results in Table 2 revealed significant relationships among the study variables. Psychological distress was found to be related to resilience ($r = .263$; $p < .001$) but not to work demand ($r = .071$; $p > .05$). However, work demand was found to be significantly and positively related to resilience ($r = .372$; $p < .001$).

Test of Moderating Effects

The moderating effect of resilience on the relationship between work demand and psychological distress was tested using the Hayes (2016) PROCESS for SPSS version 2.15. Results are as presented in Tables 3 and 4.

Table 3: *Regression coefficients, standard errors, and model summary information for the moderating effects of resilience between work demand and psychological distress of preschool pupils’ caregivers*

Antecedents	Consequent (Psychological Distress)					
	coeff	se	t	p	LLCI	ULCI
Constant	43.77	.18	237.89	.00	43.41	44.14
Work Demand	-.03	.06	-.59	.55	-.15	.08
Resilience	.07	.01	6.90	.00	.05	.09
Work Demand X Resilience	.01	.00	2.52	.01	.00	.01
Model Summary	$R^2 = .28$; $R^2(\text{adj}) = .08$; $F(3,598) = 17.33$; $p < .001$					

The results in Table 3 revealed that was no significant effect of rework demand on psychological distress among preschool pupils’ caregivers (coeff = $-.03$; $t = -.59$; $p > .05$). However, there was significant effect of resilience on psychological distress among preschool pupils’ caregivers (coeff = $.07$; $t = 6.90$; $p < .05$). Resilience also moderated the influence of work demand on the psychological distress of preschool pupils’ caregivers (coeff = $.01$; $t = 2.52$; $p < .05$)

Table 4: *Conditional effect of Work Demand on Psychological Distress at values of Resilience*

Resilience	Effect	se	t	p	LLCI	ULCI
-17.89	-.16	.08	-2.18	.03	-.31	-.02
.00	-.03	.06	-.59	.55	-.15	.08
17.89	.10	.08	1.20	.23	-.06	.25

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

The results in Table 4 showed that was a significant effect of work demand on psychological distress when resilience was low (coeff = $-.16$; $t = 2.18$; $p < .05$). This implies that when redilience is low, there is a negative relationship between work demand and psychological distress indicating that as work demand increases, psychological distress reduces.

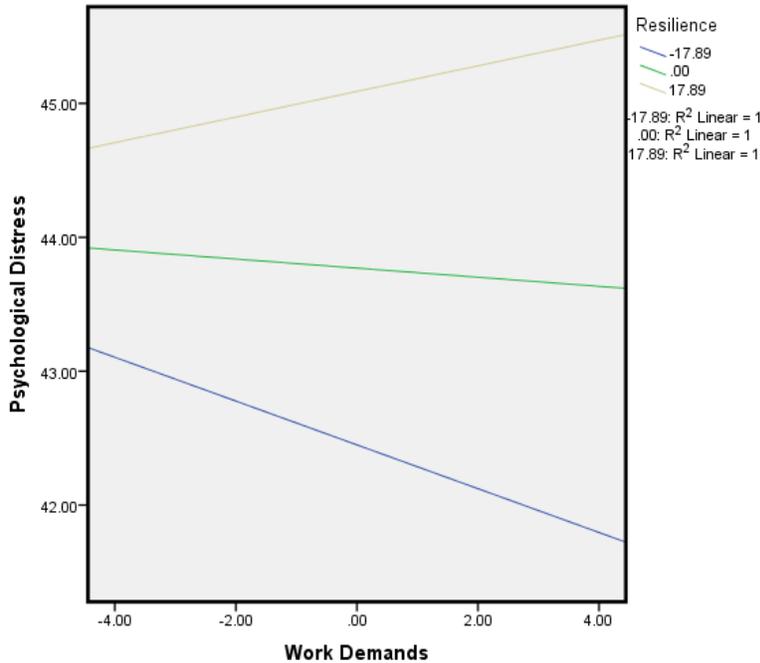


Figure 1: Chart showing the interaction effect of resilience in the relationship between work demand and psychological distress

5. Discussion

This study examined the moderating role of resilience between work demand and psychological distress among preschool pupils’ caregivers. First, preliminary analysis on the relationship among the study variables was carried out. Analyses revealed that there is a significant and positive relationship between psychological distress and resilience but not between psychological distress and work demand.

The finding of this study in connection to the relationship between psychological distress and resilience however contradicted the finding of Lee, Shen, and Tran (2009) who found that people with more psychological distress showed less psychological resiliency, in other words, that there is a negative relationship between psychological distress and psychological resilience. The finding further disagreed with that of Zou *et al.* (2016) who indicated that resilience was negatively related to psychological distress and that of Haddadi and Besharat (2010) who found that resilience was negatively associated with psychological distress. Goldstein *et al.* (2013) also observed that high resilience was associated with a

reduction in depression. This implies that resilience was negatively related to psychological distress since depression is a significant element of psychological distress. The findings of the present study is however not surprising. In fact, it could be said to be revealing. Being resilient doesn’t mean that a person doesn’t experience difficulty or distress. Various factors contribute to resilience. These include factors such as personal mastery, intellectual functioning, cognitive adaptability, attachment, spirituality, change in brain structure, neurobiological, system, etc. The result might be attributed to the complexity in the nature of resilience.

The results again revealed no significant relationship between psychological distress and work demand. The result of this study support the findings in the study carried out by Marchand, Demers, and Durano (2005) who did not found any relationship between psychological demand and psychological distress but negated that of Alberstan, Nielsen, and Borg (2001) Bourbonnias *et al.* (2005), Sanza (2010) as well as Vermulen and Mustard (2000) who observed that psychological demands were significantly related to

psychological distress. Also De Jonge, Janssen and Bakker (1999) found a relationship between physical demand and psychological distress. The finding of this study is not surprising in that work demand can yield either positive or negative outcomes for the individual. Vézina, Cousineau, Mergler, and Vinet (1992) confirmed the contention that high work demands do not automatically produce negative consequences for an individual. On the contrary high demands can help an individual develop new skills if work organization allows for decisional authority and social support. In essence, organisational characteristics and variables may have significant role to play in work demand and psychological distress; such organisational characteristics and variables may need to be further investigated.

Finding of this study showed no significant direct effect of work demand existed on psychological distress among caregivers independent of resilience and optimism. Notwithstanding the importance of work factors in causing mental health problems in the workplace, in recent decades, researchers have come to the conclusion that mental distress at work is not solely the direct consequence of a stressor-strain relationship (Sanza, 2010). In their 2006 study, Marchand *et al.* concluded that only 11% of the variation in distress was associated with work factors alone, while 21% of the variation was associated with personal factors, such as personality, family, social network, etc. We can conclude from these findings that different characteristics may act as a buffer, which makes certain individuals more or less likely to be affected by a stressor in their environment. Of the different potential individual characteristics identified by researchers, personality has been the most pervasively retained as a moderating factor in this stressor-strain relationship (Grant & Langan-Fox, 2006).

6. Conclusion

Based on the findings of this study, it was concluded that resilience would moderate the relationship between work demand and

psychological distress among preschool pupils' caregivers

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