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Article

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Pakistan Journal of Commerce and Social Sciences (PJCSS)

Provided in Cooperation with:
Johar Education Society, Pakistan (JESPK)

Suggested Citation: Jamal, Muhammad (2016) : Job stress and job performance relationship in challenge-hindrance model of stress: An empirical examination in the Middle East, Pakistan Journal of Commerce and Social Sciences (PJCSS), ISSN 2309-8619, Johar Education Society, Pakistan (JESPK), Lahore, Vol. 10, Iss. 3, pp. 404-418

This Version is available at:
https://hdl.handle.net/10419/188260

Pakistan Journal of Commerce and Social Sciences
2016, Vol. 10 (3), 404-418
Pak J Commer Soc Sci

Job Stress and Job Performance Relationship in Challenge-Hindrance Model of Stress: An Empirical Examination in the Middle East

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Abstract

This study examined the nature of the relationship of overall job stress, challenge and hindrance stress with job performance and turnover motivation among nurses (N=255) employed by three hospitals in the Gulf States of the Middle East. Multiple sources of data collection were employed. A structured questionnaire was used to collect data on measures of job stress, turnover intention and social support. Job performance data were obtained from hospital files. Multiple regression, curvilinear coefficients and moderated multiple regressions were used to analyze the data. Overall job stress, challenge stress and hindrance stress were all related to job performance and turnover motivation. The nature of the relationship between the measures of job stress and performance was primarily a negative linear. Perceived social support moderated more than eighty percent relationship between the measures of job stress and two dependent variables. Overall, the results of the present study supported the convergence instead of divergence perspective in cross cultural management research. Implications of the findings are discussed for future researchers in international and cross-cultural management.

Key words: challenge-hindrance stress, job performance, nurses, Middle East.

1. Introduction

Job performance along with work attitudes and withdrawal behavior are perhaps the most important variables both in management theory and empirical research for the past sixty years (Chao et al. 2015; Ganster & Rosen, 2013; Harrison, et al., 2006; Jex, 1998). Concerted efforts have been made to identify the predictors and outcomes of these important constructs on a regular basis (Dewa, et al, 2011; Fatough, et al., 2011; Yoon & Kim, 2013). The present study examined the nature of the relationship between the job stress measures and job performance and turnover motivation among hospital nurses in the Gulf States, Middle East. A number of recent meta-analyses of stress and outcome have highlighted the importance of this type of empirical study in non-Western countries (Clarke, 2012; Gilboa, et al., 2008; Lee et al. 2015; Muse, et al., 2003). In a recent thought-provoking article, Zahra (2011) has also alluded to the importance of conducting rigorous empirical research similar to the Western tradition in the (new) Middle East. In addition, the present study also examined the role of social support in job stress and performance relationship.

2. Literature Review

Until recently, job stress has been primarily viewed as a uni-dimensional construct affecting individuals' work attitudes and behavior (Jamal & Ahmed, 2012). It has been suggested more recently that some inconsistent findings between measures of job stress and employees' attitudes and behavior might be due to the convention of treating job stress as uni-dimensional. These scholars have suggested two distinct dimensions of job stress: challenge stress and hindrance stress (Cavanaugh,et al., 2000; Tuckey,et al., 2015). Challenge stressors are perceived to be stimuli such as high work load, time pressure and high levels of responsibility. They were labelled as such because they include potentially stressful demands perceived effectively under the control of the individual and, if overcome, they might allow the opportunity for personal growth (Wallace, et al., 2009). Hindrance stressors are stimuli such as organizational policies, red tape, work role ambiguity and resource inadequacy. They were labelled as such because they create potentially stressful demands generally perceived as beyond the control of the employees, so that they might restrict opportunity for personal growth (Wallace et al., 2009).

To date, there are only a few empirical studies reported in the literature employing the two-dimensional framework of job stress (Jamal & Ahmed, 2012; Rodell & Judge, 2009; Tuckey et al. 2015; Wallace et al., 2009). The present study examined the nature of the relationship between challenge stress and hindrance stress with job performance and turnover motivation among nurses working in hospitals in the Gulf States, Middle East. Constructs like job stress, burnout, job satisfaction, organizational citizenship behavior (OCB), and social support are developed and primarily tested in developed countries (Baba, et al., 1998; Maslach, 2003; Yao & Jamal, 2015). Their portability and usefulness in developing and non-Western countries have rarely been tested despite repeated suggestions to do so (Jamal, 2010; Jamal & Ahmed, 2016; Pudelka, et al. 2006; Kazmi et al 2008; Zahra, 2011). In this respect, the present study contributes to international stress management literature by examining the newly proposed two dimensions of stress (challenge and hindrance) along with an independent overall job stress scale (Parker & Decotiis, 1983) with job performance and turnover motivation. A conceptual model was developed which guided the present study. The conceptual model is presented in Figure 1.

3. Conceptual Model

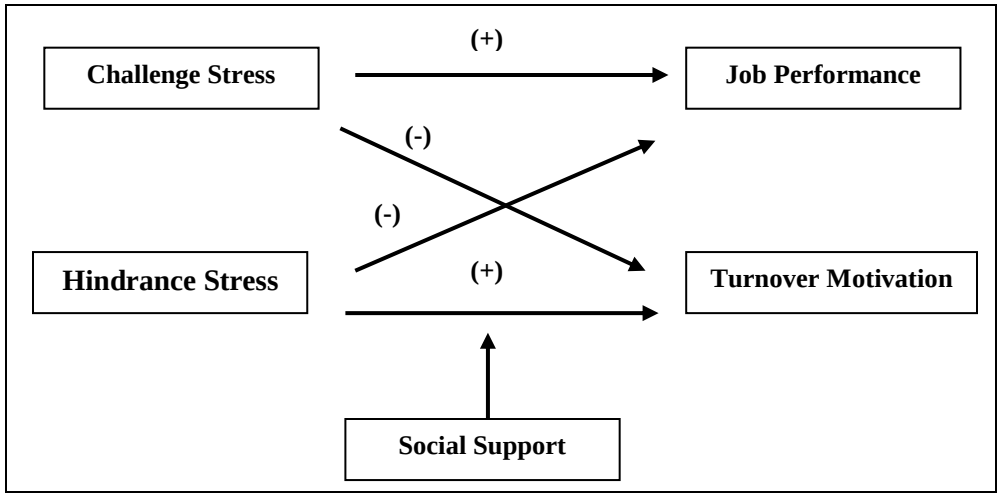

Figure 1: A Conceptual Model of Job Stress and Outcome Relationship

Job stress can be viewed as an individual's reactions to characteristics of work environment that are perceived to be emotionally and physically threatening to the individual (Jamal, 1984). It points to a poor fit between the individual's capabilities and his work environment, in which excessive demands are made of the individual or the individual is not fully prepared to handle the situation (Jamal, 1984). In general, the higher the imbalance between the demands and the individuals' abilities, the higher will be experienced job stress (Jamal, 2007). Job performance can be viewed as an activity in which an individual is able to accomplish successfully the task assigned to him, subject to the normal constraints of the reasonable utilization of available resources (Jamal, 1984). At the conceptual level, four types of relationships were proposed earlier to exist potentially between the measures of job stress and job performance; a negative linear relationship, a positive linear relationship, a curvilinear / u-shaped relationship and no relationship between the two (Jamal, 2007).

Since the nature of the relationship between job stress and job performance, to the best of our knowledge, has not been empirically examined under a two-dimensional model of job stress, a brief review of the four relationships is warranted. A negative relationship between job stress and performance was conceived by those who viewed job stress as essentially dysfunctional for the organization and its employees (Gupta & Beehr, 1979; Kahn, et al. 1964; Tourigny, et al, 2016). They contended that chronic job stress (lasting more or less permanently) by its very nature is extremely aversive to most employees, creating a noxious situation in the work setting. In such situations, individuals are most likely to spend a sizeable chunk of their time and energy coping with stress, thus adversely affecting their performance (Jamal, 2007). The advocates of a positive relationship between job stress and performance generally equate stress with challenge (Meglino, 1977). This perspective can be originally traced back to the writings of John Dewy and Arnold Toynbee who viewed problems, anxieties, difficulties, and challenges as occasions for constructive activities and improved performance. The model suggested

that at low levels of permanent stress, the individual does not face any serious challenge and, therefore, is not likely to show any improved performance. At the medium level of stress, the individual is moderately aroused and thus exhibits mediocre performance. At a high level of stress, the individual experiences optimal challenge and his performance will improve accordingly (Jamal, 2007). The curvilinear / u-shaped relationship between job stress and performance is probably the most popular one in terms of management/organizational behavior textbooks (Ivancevich, et al., 2013; Kazmi et al. 2008; Robbins & Judge, 2013). The reasoning behind this model tends to be that when and individual experiences low stress at the job, he is most probably not activated and thus would not exhibit improved performance. By contrast, if the individual experiences a high level of chronic job stress, he may spend time in coping with stress and his efforts on the job may be reduced, resulting in marginal performance. The model suggests that a moderate amount of stress is optimal for job performances because, at such levels, the individual is not only activated but also able to direct his energies toward better performance (Jamal, 2007). The perspective of no relationship between job stress and performance viewed individuals who are primarily concerned with performance because they know that they are being compensated for doing their job. The notions of psychological contract between the individual and the employer, and the rational being perspective of human nature seem to be more dominant in this formulation. Individuals are expected to ignore the adversities creating hindrances toward better job performance regardless of what happens in the work environment. Their performance will remain more or less at the same level under high chronic job stress as well as in the absence of it (Jamal, 2007; Dubin, et al. 1976).

It is also proposed in the present study that employees' perceived social support will moderate the relationship between job stress and performance among nurses. Social support has been recognized as one of the most important and used moderators in stress research in Western countries (Demirtas, et al., 2015; Halbesleben, 2006). The ways social support might influence employee performance and general well-being are derived from two models of social support; the direct model and the buffer model. The direct model assumes that social support meets basic human needs for affection and thus might have a positive effect on the immune system and general well-being of the individual (Fiske, 1998). The buffer model, which is dominant in job stress literature, treats social support as a conditioning variable that influences the relationship between stressors and outcome variables (Bradley & Cartwright, 2002). In the present study, the buffer model of social support provided the insights in developing the research framework. To the best of our knowledge, no empirical study has been reported in the literature examining the nature of the relationship between challenge-hindrance stress and job performance moderated by the quality of perceived social support. It is argued here that social support might be more crucial and beneficial for employees experiencing hindrance stress than for employees experiencing challenge stress because hindrance stress creates feelings of uneasiness and frustration. A listening ear could be perceived as being helpful and pleasant. However, even for employees experiencing high challenge stress, social support might act as an encouragement gesture and positive reinforcement, and employees might feel activated for improved performance when social support is available.

In light of the proposed conceptual model as well as the previous empirical literature on job stress, challenge-hindrance stress and job performance, a number of hypotheses were proposed and tested in the present study. Both overall job stress and challenge-hindrance stress were employed as independent variables. Job performance and turnover motivation were employed as dependent variables. Social support was used as a moderator variable. The proposed hypotheses are listed below:

- **H_1:** Overall job stress will be negatively related to job performance and positively related to turnover motivation.
- **H_2**: Challenge stress will be positively related to job performance and negatively related to turnover motivation.
- **H_3**: Hindrance stress will be negatively related to job performance and positively related to turnover motivation.
- **H_4**: Social support will moderate the relationship between the measures of job stress and job performance and turnover motivation. It is hypothesized that nurses with high social support will be better off than nurses with lower social support.

4. Methodology

4.1 Research Setting

The present study was conducted among hospital nurses in the Gulf States, Middle East. A number of hospitals were invited to participate in the study, explaining the scope and purpose of the study. All hospitals were publicly funded and had state-of-the-art facilities. Data were collected from three hospitals which showed the willingness to participate in the study.

4.2 Procedures

Data were primarily collected by means of a structured questionnaire. All nursing staff in three hospitals were the potential respondents. With the help of the hospital administration, copies of the questionnaire were given to randomly selected potential respondents. They were given instructions to return the completed questionnaire directly to the researcher at the university address. Approximately 450 questionnaires were distributed and with one follow-up reminder in 2 weeks, 255 completed questionnaires were returned, yielding a response rate of 59 percent. A modest incentive was paid for participation. It is acknowledged that this type of research is rather rare in the Middle East and it might be responsible for a modest response rate.

4.3 Sample Characteristics

The majority of the respondents were female (88%) and were married (78%). The average respondent was 34 years of age, had 14 years of education, 9 years of seniority in the hospital and had 6 dependents to support. Respondents were quite similar to non-respondents and to nursing staff in general in three hospitals with regard to a number of background and socio-demographic variables.

4.4 Measures

In line with the suggestion of cross-cultural researchers, standardized scales were used to assess the study's independent, dependent and moderator variables (Schaffer & Riordan, 2003; Zahra, 2011). It is a requisite for the meaningful comparison of results with studies done in other cultures and regions.

4.4.1 Overall Job Stress

Overall job stress was assessed with the 13-item scale developed by Parker & De Cotiis (1983). It is a Likert-type scale with five response options, one indicating a strong agreement with the item and five indicating a strong disagreement. The scale is regularly used to assess overall job stress and has good psychometric properties (Baba, et al. 1998; Jamal, 2007).

4.4.2 Challenge Stress

Challenge stress was assessed by the 6-item scale developed by Cavanaugh, et al. (2000). This is a Likert-type scale with one to five response options, one indicating a strong agreement and five indicating a strong disagreement with the item. Because of its recancy, only a few empirical studies have used this scale. However, available empirical evidence indicated good internal consistency reliability (Jamal & Ahmed, 2012; Yao & Jamal, 2015).

4.4.3 Hindrance Stress

Hindrance stress was assessed by the Cavanaugh et al. scale (2000). This is also a Likert-type scale with one to five response options. Because of its newness, only limited psychometric data are available about this scale, which has indicated its reasonable internal consistency and stability (Jamal & Ahmed, 2012; Yao & Jamal, 2015).

4.4.4 Job Performance

Job performance data were obtained from hospital records. All hospitals used a 10-item graphic rating scale for annual performance assessment completed by the immediate supervisors. Each item has one to five response options, five indicating an excellent performance and one indicating a poor performance. In all three hospitals, the same performance scale and ratings were used. In the present study, ratings on ten items were combined to create the index of overall job performance.

4.4.5 Turnover Motivation

Turnover motivation was assessed by asking each respondent to state the probability of his/her staying with the same hospital for two years, the date the questionnaire was completed. The measure has been reported to be highly correlated with actual turnover (Heavey, et al. 2013).

4.4.6 Social Support

Social support was assessed with the scale developed at the University of Michigan (House, 1981). Respondents were asked to state how much they could depend on their immediate supervisor, co-workers, spouse/partner and relatives/friends to listen to their work-related concerns. Response options varied from one to four, one representing "not at all" and four representing "very much". A higher score indicated a higher degree of available social support. This scale is regularly used in health/social sciences and has good psychometric properties.

5. Data Analysis

The means (M values), standard deviations (SD values) and reliability coefficients of all variables with multiple items are presented in Table 1. Reliabilities (Cronbach's alpha) varied from .88 (overall job performance) to .75 (social support).

Table 1: Means, Standard Deviations and Reliability Coefficients of Variables

Variable	Number of Items	Mean	Standard Deviation	Reliability
Overall Job Stress	13	2.36	1.23	.88
Challenge Stress	6	3.44	0.69	.83
Hindrance Stress	5	3.15	0.89	.81
Job Performance	10	3.45	0.63	.84
Turnover Motivation	1	2.63	1.02	--
Social Support	4	2.75	0.93	.75

N = 255

Overall, reliabilities were considered acceptable for survey-type research design. Inter-correlations among the study's variable were computed and are presented in Table 2. The average correlation among three job stress scales was .37.

Table 2: Inter Correlation among Variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) Overall Job Stress	--					
(2) Challenge Stress	.29	--				
(3) Hindrance Stress	.43	.39	--			
(4) Job Performance	-.43	-.23	-.54	--		
(5) Turnover Motivation	.20	.13	.19	-.16	--	
(6) Social Support	.09	.11	-.13	.27	-.18	--

N = 255, r = .15, p < .05

The two dependent variables (job Performance and turnover motivation) were weakly correlated with each other (-.16, $p < .05$). Social support was also weakly correlated with three job stress scales as well as with two dependent variables. The average correlation of social support with five variables was .15 ($p < .05$).To test hypotheses 1, 2, and 3, bivariate multiple regressions were computed after controlling for age, gender, marital status and seniority. Results are presented in Table 3.

Table 3: R and R^2 from Multiple Regressions and Curvilinear Coefficient

Stress Measures	Outcome Variable	R for Multiple Regression	R^2	R for Curvilinear Coefficient	R^2
(1) Overall Job Stress	Job performance Turnover motivation	.40 .18	.16 .03	.43 .19	.18 .04
(2) Challenge Stress	Job performance Turnover motivation	.20 .09	.04 .01	.22 .11	.05 .01
(3) Hindrance Stress	Job performance Turnover motivation	.48 .17	.24 .03	.51 .20	.26 .04

N = 255, R = .14, $p < .05$

Overall job stress and hindrance stress was significantly related in the predicted direction to job performance and turnover motivation, thus supporting hypothesis 1 and 3. Contrary to our predictions, challenge stress was significantly related to job performance inversely, but not related to turnover motivation. Thus, hypothesis 2 was not supported by the data in the present study.

In order to test the nature of the relationship between the measures of job stress and performance both linear and curvilinear analyses were performed. Bivariate multiple regression with a significant R between and independent and dependent variable was considered as supporting a linear relationship. Hierarchical multiple regression was performed to test the curvilinear relationship between stress and performance (Cohen & Cohen, 1983). This procedure requires that a quadratic term for the independent variable be added to the increment in R^2 attributable to the term and be tested with the appropriate formula (by using SPSS software). To support the curvilinear relationship between the measures of job stress and job performance, non-linear R values, must be significantly higher than the linear R values. Results presented in Table 3 indicated that in all six comparisons between the measures of job stress and performance, non-linear R values were not significantly higher than the linear R values. Thus, in the present study, the nature of the relationship between the measures of job stress and performance appear to be primarily negative linear.

Moderated multiple regressions were used to test hypothesis 4 which concerned the interactive effects of social support on job performance and turnover motivation. Hierarchical regression analysis was performed in which overall job stress was entered first, followed by social support, and then overall job stress and social support. A summary of results are presented in Table 4.

Table 4: Results from Hierarchical Moderated Multiple Regressions

Regression Results	Job Performance		Turnover Motivation	
	R^2	♠R^2	R^2	♠R^2
(1) Overall Job Stress (OJS)	.16	.16*	.03	.03*
Social Support (SS)	.17	.01	.03	.00
OJS x SS	.22	.05*	.07	.04*
(2) Challenge Stress (CS)	.04	.04*	.01	.01
Social Support (SS)	.05	.01	.02	.03
CS x SS	.05	.01	.06	.04*
(3) Hindrance Stress (HS)	.24	.24*	.03	.03*
Social Support (SS)	.26	.02	.04	.01
HS x SS	.29	.03*	.090	.05*

* $p < .05$

Social support appeared to be a very important moderator in this sample of nurses, moderating over 80% of the relationship between the measures of job stress and job performance. The unique variance explained by the interaction effects of overall job stress and social support was 5% for job performance and 4% for turnover motivation. The unique variance explained by the interaction effects of hindrance stress and social support was 3% for job performance and 5% for turnover motivation. Interaction effects of challenge stress and social support explained 4% unique variance in turnover motivation. Social support did not interact with challenge stress and job performance relationship. Thus, hypothesis 4 was generally supported by the data in the present study.

6. Discussion

The results of the present study derived from hospital nurses in the Gulf States of the Middle East supported the relationship of overall job stress, challenge stress and hindrance stress with job performance and turnover motivation. Both overall job stress and hindrance stress were negatively related to job performance and positively related to turnover motivation. Contrary to our prediction, challenge stress was also negatively related to job performance but unrelated to turnover motivation. Before the findings are discussed any further, a note of caution is warranted about the limitations of this study which included perceptual measures of job stress, turnover motivation, and social support, a modest response rate and a cross-sectional research design. For future research, it will be desirable to use objective measures of job stress along with perceptual

measures and to use longitudinal research design for greater confidence in reported results.

7. Results

The dominant findings of a negative linear relationship between the measures of job stress and job performance tend to be in agreement with the meta-analysis on the topic (Muse et al., 2003). Their analysis indicated that among the studies reviewed, 46% supported a negative linear relationship, 13% supported a positive linear relationship, 4% supported a curvilinear / u-shaped relationship, and 12% found no relationship between stress and performance. The findings of a negative linear relationship between job stress and performance might surprise many even to date, because it tends to be contrary to the Yerkes-Dodson Law (1908) and to the activation theory of motivation (Scott, 1966). The popularity of the curvilinear/u-shaped perspective of Yerkes-Dodson may owe to several organizational behavior and management textbooks, and books on stress management which regularly highlight such relationship between stress and performance at the theoretical level (e.g. Ivancevich et al., 2013; Robbins & Judge, 2013). Moreover, the intuitive appeal of the curvilinear/u-shaped relationship has been almost as hard to ignore as was the intuitive appeal for a positive relationship between job satisfaction and job performance during the 1940's to 1960's. It took 30 to 35 years to convince researchers that a positive relationship between job satisfaction and job performance may not be valid for all, despite a large number of empirical studies on the topic. It might take even longer to convince scholars that the curvilinear/u-shaped relationship between job stress and performance has limitations given the paucity of relevant empirical studies (Jamal, 2007). However, it is felt that the meta-analysis review of Muse et al. (2003) is a step in the right direction to highlight the importance of this controversy.

The absence of differential effects of challenge stress and hindrance stress on nurses' job performance and turnover motivation is not only contrary to the two-dimensional framework of job stress, but also to a few empirical studies on the topic. For example, in a recent study (N=215) across 61 offices of a state agency in the U.S.A., the authors noted a modest positive relationship between challenge stress and role-based performance and a negative relationship between hindrance stress and role-based performance (Wallace et al., 2009). However, the average correlation between challenge stress and four indicators of performance was a meager +.12, while the average correlation between hindrance stress and four indicators of performance was -.35. In a recent study of employees in a multinational organization in Malaysia (N=305) and Pakistan (N=325), job stressors similar to challenge stress (i.e., work overload) and stressors similar to hindrance stress (i.e., work conflict, ambiguity, resource inadequacy) were found to be negatively related to job performance (Jamal, 2011). The results of the present study along with two recent studies on the topic (Jamal, 2011; Wallace et al., 20009) lend support to the pervasive effects of stress on employee and organization well-being and in general tend to be consistent with the bulk of the existing literature on job stress (Jamal, 2010; Tourigny et al. 2016). Empirical evidence, perhaps, suggests that chronic job stress, lasting permanently or even a relatively long period of time, affects employees' and organizations' well-being inversely. Any notion of calling some chronic stress as challenge and good for the individual is not well supported by the empirical studies on job stress and outcome relationship. Since the data for the present study were collected in the Gulf States of the Middle East with a strong collectivistic cultural orientation

(Hofstede, 2001), the results of the present study might be considered to be more supportive of the convergence as opposed to divergence perspective in cross-cultural research (Pudelko et al., 2006).

8. Conclusion

Social support moderated significantly more than 80% relationship between the measures of job stress and performance and turnover motivation. According to the test suggested by Brozek and Tiede (1952), the probability of this number of differences occurring by chance is less than. 01. The role of social support as a buffer in stress and outcome relationship has long been recognized in the literature (Halbesleben, 2006), but what is unique to the present study is, to the best of our knowledge, it is used for the first time in the two-dimensional framework of challenge-hindrance stress. Our results indicated that, in general, social support was more beneficial as a buffer for employees experiencing hindrance stress than challenge stress. Employees who experienced high hindrance stress but were fortunate enough to have high social support did not lower their performance as severely as compared to employees who had high hindrance stress and low perceived social support. Thus the results of the present study in conjunction with the bulk of the literature on social support extend the role of social support in two-dimensional framework of challenge and hindrance stress. Since the study was conducted in a non-Western collectivistic culture, it also seems to add further support to the convergence perspective in management research.

9. Directions for Future Research

In sum, the dominant finding of the present study is the negative linear relationship between the measures of job stress and performance and turnover motivation. Social support appeared to be a very important moderator of stress - performance relationship among nurses in this study. Measures of job stress assessed in the present study were of the nature especially hindrance stressors, which will be affected primarily through management actions. Therefore, it is recommended that management invest time and resources toward discovering how job stress among nurses might be managed for improved performance and retention of hospital nurses (Jamal 2007). In additions, it is felt that despite management's concerted efforts and serious actions to combat job stress, it is probably going to remain an important concern for many in the world of work for years to come, primarily due to our incomplete knowledge of what causes stress in many situations. Among hospital nurses, providing and enhancing social support may be an important mechanism in combating some of the aversive effects of job stress (Gould & Fontenla, 2006; Halbesleben, 2006). As the process of globalization becomes more pervasive in coming years, it seems more important that these strategies should reflect a cross cultural perspective both locally in studying minorities and employees in other cultures (Ali, et al, 201 5; Alvi & Al-Rubaie, 2001; Jamal & Ahmed, 2016; Zahra, 2001).

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Acknowledgements

This study was supported by grants from the Social Sciences Research Council of Canada (410-99-0203; S00 802, 2003-2006) and Fonds pour la formation de chercheurs de l'aide à la recherche from the Province of Quebec (99-ER-0506). The author acknowledges the cooperation and help of Dr. Muhammed Rashid, Dr. Amer Al-Roubaie, Dr. Shafiq Alvi, Dr. Muhammad Ismail, and many research assistants in Montreal and overseas in data collection and analysis. Requests for reprints should be made to Dr. Muhammad Jamal, Department of Management, John Molson School of Business, Concordia University, Montreal, Quebec, Canada, H3G 1M8 (E-mail: Muhammad.jamal@Concordia.ca)