

The Mediating effects of Work-Related Attitudes in The Relationship between Psychological Strain and Job Performance among Malaysian Technical Workers

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Abstract—This paper aims to investigate the effect of psychological strain on job performance among technical workers in Malaysia. In addition, this paper also tests the mediating effects of work-related attitudes, such as job satisfaction, affective commitment and turnover intentions in the relationships between psychological strain and job performance among technical workers in Malaysia. This study uses a non-experimental type research which employs questionnaire as the method of collecting data. A total of 429 technical workers from a large Telecommunication industry in Malaysia are selected as the respondents of this study. The selection of respondents is made using simple random sampling design. Data of the study are then analyzed using structural equation modeling. The result of the study indicates that psychological strain is related to job performance. The result also highlights that job satisfaction, affective commitment and turnover intentions function as mediator in the relationships between psychological strain and job performance.

Index Terms—Psychological strain, job satisfaction, affective commitment, turnover intentions, job performance, technical workers.

I. INTRODUCTION

Beehr [1] defined strain as states that are harmful and usually have an adverse effect on the individuals experiencing them. Lee and Ashforth [2] also defined strain as affective, feeling states of the individual characterised by depleted emotional resources and lack of energy. Much research has examined feelings of strain arising from certain job features (usually referred to as ‘stressors’) [3]. According to Lazarus and Folkman [4], strain arises when individuals perceive themselves as unable to meet environmental demands. If strain occurs, people will try to deal with either the stressor itself or with the negative effects of this stressor (coping) [4]. French, Caplan, and Harrison [5] suggested that strain can result from the mismatch between the person and the environment on dimensions important to the well-being of the individual. They described the relationship between the person-environment (P-E) misfit and strain as a U-shaped curve. For each individual’s capabilities there are optimal levels of environment demands. When these optimal levels are reached, strain will be minimal; with too little or too many demands, strain increases. In the present language, strains are the outcomes of stress in the workplace and they are usually

states associated with ill health [1]. Indices of strain assessed in previous research fall into three categories: affective/psychological, physical or physiological, and behavioural.

Psychological (affective) job strain is defined as aversive and potentially harmful psychological reactions of the individual to stressful work [6]. Psychological strain refers to a particular form of emotional distress arising in response to a situation involving perceived threat to a person’s well-being.

Psychological strain is often measured in terms of generalised distress (either job-specific or context-free), a combination of the two negative forms of well-being identified as anxiety and depression [3]. Jex and Beehr [7] noted that the relationships between the types of work stressors and psychological strain are stronger than the relationships between these stressors and other types of strains. Individual outcomes such as anxiety and depression are often related to occupational stressors [1].

Many studies of workplace stress have utilised self-reports to gauge the extent of psychological strain experienced. A self-report measure of psychological strain which has been frequently utilised is the General Health Questionnaire (GHQ), developed by Goldberg [8] to detect minor psychological disturbance in non-clinical populations. The GHQ focuses on issues such as:

- Ability to concentrate on tasks
- Losing sleep because of worries
- Feeling constantly under strain
- Feeling unhappy and depressed.

Banks, Clegg, Jackson, Kemp, Stafford, and Wall [9] recommended a twelve-item version of the GHQ for assessing strain in employment settings. This instrument (GHQ-12) has been utilised in numerous studies. Strain may also be manifested in terms of physiological or psychosomatic symptoms. A minority of studies have examined psychosomatic symptoms of strain in terms of reported sleeplessness, headaches and similar problems, and physiological variables such as heart rate, blood pressure and catecholamine levels [3]. Landsbergis, Schnall, Belkic, Baker, Schwartz, & Pickering [10] argued that physiological strain is also associated with hypertension and cardiovascular disease (CVD). Beehr [1] noted that complaints about aches and pains, sleeping difficulties, and general discomfort have been used as somatic strain, but it is difficult to conclude that these measures are clear indicators of actual physiological problems. Studies exploring physiological components of strain have typically focused on one or more of the following indicators: cardiovascular symptoms (especially increased

heart rate and blood pressure), biochemical reactions (such as blood cholesterol), and gastrointestinal symptoms (e.g., peptic ulcers). Fox *et al.* [11] submitted that stressors arising from excessive physical demands or psychological pressures can influence these physiological reactions.

Behavioural reactions to work-related stressors have been the least explored of all strain indicators [12]. Strain, in the context of job stress, means some type of deleterious condition of the individual that is due to job stressors. Therefore a behavioural strain would be a behaviour that is in itself harmful to the individual. According to Beehr [1], poor performance and high rates of absenteeism are not necessarily instances of behavioural strain. Poor performance is likely to be harmful to the organisation but it is often not harmful to the person unless it is very extreme. Similarly, absenteeism is also usually harmful to the organisation, but not necessarily harmful to the individual. Performance and absenteeism may be influenced by stressors at work, but they are classified as organisational consequences of stress and not as individual strain (Beehr and Newman, 1978). Beehr [1] suggested that examples of behavioural strain could include abuse of alcohol, tobacco, and drugs, over- or under-eating, suicide, risky behaviour (e.g. reckless driving), and behaviours leading to poor interpersonal relations (e.g. with family or friends). The keys to whether these are strains are (i) whether they are due to job stressors and (ii) whether they are deleterious to the individual personally. Kahn and Byosiere [13] classified behavioural strain into five categories, which they labelled work role disruptions (e.g., errors, accidents), job flight (e.g., absenteeism, turnover), aggressive behaviours (e.g., vandalism, rumour spreading), disruptions to non-work life (e.g., interference with marital relationship), and self-damaging behaviour (e.g., substance abuse).

In the current research, we employed the GHQ-12 scale to measure the levels of psychological strain among technical workers. This paper aims to discuss the effect of psychological strain on work performance among technical workers in Malaysia. In addition, this study also determines the mediating effects of work-related attitude in the relationships between psychological strain and work performance.

II. LITERATURE REVIEW

As stated by Morgeson and Campion [14], a key conceptual question in work design concerns the underlying psychological mechanisms through which work design influences affective and behavioural outcomes. According to Hackman and Lawler [15], jobs must allow workers to feel responsible for meaningful and identifiable parts of the work, provide outcomes that are intrinsically meaningful, and provide feedback about performance success. Hackman and Oldham [16] labelled these as critical psychological states and suggested they mediate between characteristics of the work and outcomes. Thus, changes in work design influence affective and behavioural outcomes because they alter these critical psychological states. However, there has been only mixed support for the intervening role played by the psychological states [17, 18]. Parker and Wall [19] argued that the nature of the mechanisms underlying the effects of

work design have been neglected by researchers.

Jex [20] argued that most types of stress do not result in immediate roadblocks to job performance, but first negatively affect important antecedents of job performance. The current study proposed that job satisfaction, affective commitment, and turnover intentions would mediate the relationship between psychological strain and job performance. Psychological strain is expected to be associated with job satisfaction, affective commitment and turnover intentions. These outcomes of psychological strain are also expected to predict job performance. Hence, feelings of strain among employees lead to decreased job satisfaction and affective commitment, and increase turnover intentions, which in turn will reduce job performance. The mediated model tested in this study follows this logic. Thus, the mediation hypotheses were:

- 1) H1a: Job satisfaction will mediate the relationship between anxiety/depression and job performance.
- 2) H1b: Job satisfaction will mediate the relationship between social dysfunction) and job performance.
- 3) H2a: Affective commitment will mediate the relationship between anxiety/depression and job performance.
- 4) H2b: Affective commitment will mediate the relationship between social dysfunction) and job performance.
- 5) H3a: Turnover intentions will mediate the relationship between anxiety/depression and job performance.
- 6) H3b: Turnover intentions will mediate the relationship between social dysfunction) and job performance.

III. METHODOLOGY

A. Sample and Procedures

Our sample was drawn from technical workers working for a large telecommunication company in Malaysia. We sent a questionnaire to the 1100 potential participants and included a stamped envelope addressed to the researcher, asking the employees to complete and return the survey within two weeks. A total of 452 technical workers completed the survey (for a response rate of 41%). We removed nine cases due to excessive missing data, leaving 443 usable respondents.

In terms of the demographic profile of the sample, ages of respondents ranged from 20-55 years (mean = 45.7, SD = 6.7), and 80% were male. Their job tenure ranged from 0.5-30 years (mean = 13.4, SD = 8.4). Virtually all were married (96%; 3% were single, and 1% were widowed or divorced). In terms of racial identity, 93.9% were Malay, 5.6% were Indian, and 0.5% was Chinese. Most respondents had obtained a Malaysian Certificate of Education (86.1%), while 11.8% had a diploma and 2% a university degree. Respondent positions were senior technicians (45.3%), technicians (33.9%), technical officer assistants (14.7%), and technical officers (6.1%).

B. Measures

Because the national language of Malaysia is Malay, we translated the measures from English to Malay. In order to

ensure transliteral equivalence and clarity of the measurement scales, we used the recommended method of translation followed by back-translation [21], and the translated questionnaires were translated back into English by two independent researchers who were proficient in both English and Malay.

Psychological strain: We used the 12-item version of the General Health Questionnaire (GHQ-12, Goldberg & Williams, 1988) to measure feelings of psychological strain. This scale is frequently used in JDC research (Häusser, Mojzisch, Niesel, & Schulz-Hardt, 2010), and consists of six positively-worded items and six negatively-worded items. Respondents were asked to rate how often during the last three months they had experienced the situations such as ‘having lost much sleep over worry?’ (anxiety/depression); ‘been able to concentrate on what you are doing’ (social dysfunction); ‘felt constantly under strain’ (anxiety/depression scale); and ‘been able to face up to your problems’ (social dysfunction).

Confirmatory factor analysis of the GHQ-12 for one-factor, two-factor, and three-factor solutions suggested that the two-factor model produced the best fit at both Times 1 and 2. The fit statistics for the two-factor model of GHQ-12 at Time 1 were $\chi^2(32, N = 429) = 78.13, p < .01, RMSEA = 0.05,$ and $CFI = 0.98.$ We found a similar pattern of fit statistics at Time 2. Our results are similar to those obtained by [22]. Therefore two dimensions of the GHQ-12 were used in this study, labelled ‘social dysfunction’ and ‘anxiety/depression’. The alpha coefficient for anxiety/depression was 0.85 and for social dysfunction was, respectively.

Job satisfaction: We measured job satisfaction with 15 items taken from [23], which were designed to gauge levels of satisfaction that participants felt about various work aspects (e.g., physical conditions, management, salary, and job security). The scale measures both intrinsic and extrinsic job components. Participants were asked to indicate how satisfied or dissatisfied they were on a seven-point response scale ranging from 1 = very dissatisfied to 7 = very satisfied. Sample items are ‘the physical work conditions’ and ‘the attention paid to suggestions you make’. Confirmatory factor analyses at both times revealed that a single factor provided a good fit to the data. Fit statistics were $\chi^2(66, N = 429) = 117.18, p < .01, RMSEA = 0.04,$ and $CFI = 0.99.$ Alpha coefficient was 0.92.

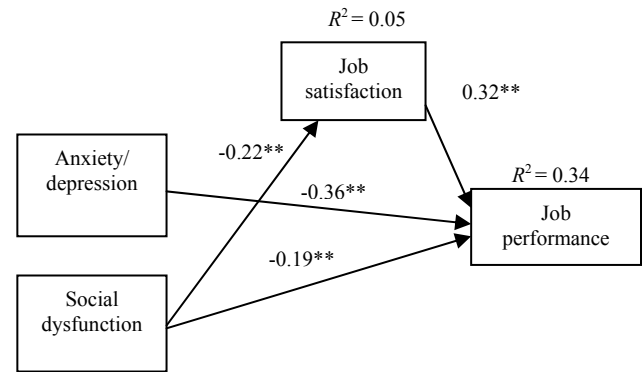
Affective commitment: We selected the Affective Commitment Scale by Allen and Meyer (1990) to measure affective commitment. Allen and Meyer (1990) found that this scale has a high reliability of 0.87. Fit statistics were $\chi^2(66, N = 429) = 20.45, p < .01, RMSEA = 0.04,$ and $CFI = 0.99.$ Alpha coefficient was 0.79.

Turnover intentions: We assessed turnover intentions with three items from [24]. Participants described their feelings by rating items from 1 = strongly agree to 7 = strongly disagree. Sample items are ‘I think a lot about leaving this organisation’ and ‘As soon as it is possible, I will leave this organisation’. Fit statistics were $\chi^2(11, N = 429) = 20.45, p > .05, RMSEA = 0.00,$ and $CFI = 1.00.$ Alpha coefficient was 0.86.

IV. RESULTS

A. Model A (Job Satisfaction as a Mediator)

This study examined the fit statistics for each sub-model before examined the specific mediation effects. For Model A (with job satisfaction as a mediator), the results of the original model yielded a $\chi^2/df(2, N = 429) = 53.53, p < 0.01;$ $RMSEA = 0.35;$ $RMR = 0.09;$ $CFI = 0.52;$ and $GFI = 0.90,$ indicating that the model fit was not acceptable. The modification indices suggested that two new direct pathways and one direct path deleted would significantly improve the model fit. These modifications made both logical and conceptual sense given the underlying theory. Fig. 1 presents the modified Model A.



Note. ** $p < 0.01$

Fig. 1. Modified model A with standardized parameter estimates

The new direct pathways added in the model were direct paths from anxiety/depression and social dysfunction to job performance. The direct path deleted in the model was the direct path from anxiety/depression to job satisfaction, where the path coefficient was not significant. The modified model yielded a reasonable fit ($\chi^2(1, N = 429) = 2.57, p > 0.05;$ $\chi^2/df = 2.5;$ $RMSEA = 0.06;$ $RMR = 0.02;$ $CFI = 0.99;$ and $GFI = 0.99).$

The main purpose in this analysis was to examine the specific mediation effects of job satisfaction in the relationships between the psychological strain dimensions and job performance. To examine the specific mediation effect of job satisfaction, we checked the direct effect, indirect effect, and total effect statistics. Table I presents the direct effects, indirect effects, and total effects for Model A (job satisfaction as a mediator).

TABLE I: MEDIATION EFFECTS OF JOB SATISFACTION AT TIME 1

Predictor→Mediator	Direct effect	Indirect effect	Total effect	Degree of mediation
A/D→JS→	-0.36**	.00	-0.36**	None
Job performance				
S/D→JS→	-0.19**	-0.07**	-0.26**	Partial
Job performance				

Note. A/D = Anxiety/depression; S/D = social dysfunction; JS = job satisfaction. * $p < 0.005;$ ** $p < 0.001;$ $N = 429.$

The indirect effect of job satisfaction was significant in the relationship between social dysfunction and job performance.

These results indicate that job satisfaction partially mediated the relationships between social dysfunction and job performance, thus supporting Hypothesis 1b. However, the indirect effect of job satisfaction was not significant in the relationship between anxiety/depression and job performance, indicating that job satisfaction did not mediate the impact of anxiety/depression on job performance. This result fails to support Hypothesis 1a.

B. Model B (Affective Commitment as a Mediator)

For Model B (with affective commitment as a mediator), the results yielded $\chi^2/df_{(2, N=429)} = 27.96, p < 0.01$; RMSEA = 0.25; RMR = 0.05; CFI = 0.85; and GFI = 0.94, indicating poor model fit. The modification indices suggested two added new direct pathways would significantly improve the model fit. Fig. 2 presents the modified Model B.

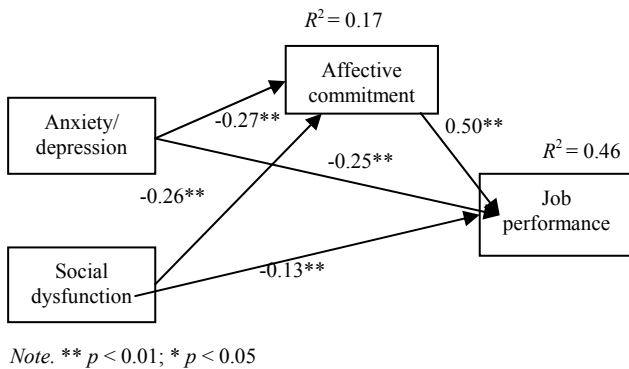


Fig. 2. Modified model B with standardised parameter estimates

The new direct paths added were direct links from anxiety/depression and social dysfunction to job performance. The modified Model B2 also yielded a reasonable fit ($\chi^2_{(1, N=429)} = 2.30, p > 0.01$; $\chi^2/df = 2.3$; RMSEA = 0.06; RMR = 0.01; CFI = 0.99; and GFI = 0.99).

The main purpose in this analysis was to investigate the specific mediation effect of affective commitment in the relationships between the psychological strain dimensions and job performance. Table II presents the results for of the mediation effects of affective commitment.

Predictor→Mediator	Direct effect	Indirect effect	Total effect	Degree of mediation
A/D→Affective→J ob performance	-0.25**	-.14**	-.39**	Partial
S/D→Affective→J ob performance	-.13**	-.13**	-.26**	Partial

Note. A/D = Anxiety/depression, S/D = social dysfunction; Affective = affective commitment. **p < 0.001; N= 429.

All the mediation routes tested in this study were significant. The indirect effect of affective commitment was significant in the relationship between anxiety/depression and job performance, indicating that affective commitment partially mediated the effect of anxiety/depression on job performance. Furthermore, the indirect effect of affective commitment was also significant in the relationships between

social dysfunction and job performance. This result also shows that affective commitment partially mediated the association between social dysfunction and job performance. Overall, these results support Hypotheses 2a and 2b.

C. Model C (Turnover Intentions as a Mediator)

For Model C (with turnover intentions as a mediator), the results yielded $\chi^2/df_{(2, N=429)} = 44.93, p < 0.01$; RMSEA = 0.32; RMR = 0.07; CFI = 0.62; and GFI = 0.91, indicating that the model fit was not acceptable. The modification indices suggested that two new direct pathways added and one direct path deleted would improve the model fit. These modifications made both logical and conceptual sense given the underlying theory. The new direct pathways added were direct paths from anxiety/depression and social dysfunction to job performance. The deleted direct path was a direct path from social dysfunction to turnover intentions, where the path coefficient was not significant. Fig. 3 presents the modified Model C. The modified model yielded a reasonable fit ($\chi^2_{(1, N=429)} = 0.01, p > 0.01$; $\chi^2/df = 0.01$; RMSEA = 0.00; RMR = 0.00; CFI = 1.00; and GFI = 1.00).

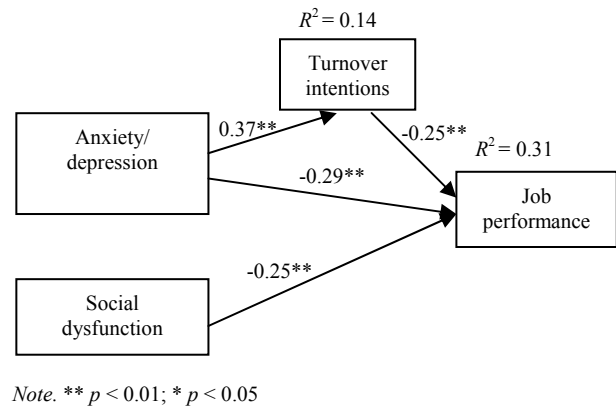


Fig. 3. Modified model C with standardized parameter estimates

As in the previous analyses, the main purpose in this analysis was to test the specific mediation effects of turnover intentions in the relationships between the psychological strain dimensions and job performance. I checked the direct effect, indirect effect, and total effect statistics in order to examine the mediation effect. Table III presents the results of this analysis.

Predictor→Mediator	Direct effect	Indirect effect	Total effect	Degree of mediation
A/D→Turnover→J ob performance	-.29**	-.09**	-.38**	Partial
S/D→Turnover→J ob performance	-.25**	.00	-.25**	None

Note. A/D = Anxiety/depression, S/D = social dysfunction; Turnover = turnover intentions. **p < 0.001; N= 429.

Only one out of two mediation routes tested in this study were significant. Specifically, the indirect effect of turnover intentions was significant in the relationship between anxiety/depression and job performance. That is, turnover

intentions partially mediated the relationships between anxiety/depression and job performance, thus supporting Hypothesis 3a). However, turnover intentions did not mediate the relationship between social dysfunction and job performance. This result fails to support Hypothesis 3b.

V. DISCUSSION AND IMPLICATION

Overall, there were relatively few significant mediation effects of job satisfaction, affective commitment and turnover intentions in the relationships between the psychological strain dimensions and job performance. The cross-sectional analyses provided support for mediation effects of job satisfaction, affective commitment and turnover intentions. Specifically, job satisfaction mediated the effect of social dysfunction on job performance, whereas affective commitment mediated the effects of both anxiety/depression and social dysfunction on job performance. Turnover intentions only mediated the effect of anxiety/depression on job performance.

These results confirm that technical workers consistently experiencing strain may experience job dissatisfaction, lack of affective commitment and increased turnover intentions, which in turn reduce job performance. The present findings also confirm the nature of the mechanisms underlying the effects of work design on job performance as recommended by Parker and Wall [19]. This study highlights that job satisfaction, affective commitment and turnover intentions have considerable merit in explaining the relationship between psychological strain and job performance. Support for these psychological mediating processes provides insight into the likely processes unfolding as individuals experience strain at work. Consistent with the transactional model [4], stressed employees' responses to their stressful experience, including job dissatisfaction, lack of affective commitment and intention to leave the aversive job situation, which in turn reduced job performance. As mentioned earlier, psychological strain is a consequence of work design variables such as job demands and job control variables. Feelings of strain among technical workers led to lower feelings of job satisfaction and affective commitment and higher feelings of turnover intentions, which in turn reduced job performance.

Another plausible explanation is that employees with high job satisfaction, affective commitment and low turnover intentions will perform better in their job. This is consistent with social-cognitive theory [25] that attitudes toward the job (e.g., job satisfaction and affective commitment) would influence behaviours on the job (e.g., job performance). Furthermore, the mediation effect of turnover intentions is consistent with equity theory (Adams, 1963), suggesting that workers who feel stressed enough to want to leave the organisation might reduce their output to compensate for the feelings of distress. The cross-sectional analyses provide support for the theoretical tenet that job satisfaction, affective commitment, and turnover intentions caused by psychological strain tend to contribute to reduced job performance.

The current research also highlights that short-term effects are more evident than long term effects. For instance, psychological strain only had an immediate relation with the criterion variables (i.e. job satisfaction, affective commitment, turnover intentions, and job performance). In addition, job satisfaction and turnover intentions had an immediate effect on job performance.

Finally, this research supports the previous literature that emotions exert a direct and powerful influence on individual strain [26]. Emotions are subjective experiences that are associated with feelings, mood, and attitude [27] and are presumed to monitor and regulate the effects of individual's cognitive appraisal of person-environment fit [28]. The current study suggests that psychological strain only had an immediate relation with the criterion variables (i.e. job satisfaction, affective commitment, turnover intentions, and job performance). In the long-term (e.g., six months) these effects had dissipated. As discussed by Liu and Spector [29], people in high power distance cultures tend to use emotion regulations as a coping strategy to reduce unpleasant affective reactions. For example, they are likely to use psychological mechanisms such as rationalisation and denial (Liu & Spector, 2005). By using rationalisation, they view the unsatisfying fact as "this is what it ought to be". By using denial, they simply deny the stressful incident happened at work. Hence, emotions should be incorporated in studies of the impact of psychological strain to examine their regulating effects on people's reactions to stressful work environments.

Managerial Implication

This research suggests the need for designing interventions to deal with high job demands and manage job strain. Practically, it may be difficult to reduce the levels of job demands because these may well constitute the core of one's task. Accordingly, secondary interventions can be carried out to reduce or manage job strain [30]. For example, interventions at the individual level are important to help employees manage and prevent job strain. Such interventions would focus on increasing the resistance of people to work stressors (e.g., job demands). The main focus of interventions has been on people instead of the job context [31]. Organisations and their managements can promote programs aimed at helping individuals cope with daily stresses. For example, in Malaysia, organisations could implement religious activities such as stress management from an Islamic perspective. This could strengthen employees' belief in God as one coping strategy to help deal with their daily stress. In high power distance cultures, changing oneself (emotion-focused coping) is a more feasible method for high power distance members to deal with stressful situations [29]. Thus, religious activities could help employees to manage their emotions by having the ability to rationalise stressful situations. In addition, stress management training such as relaxation, meditation, and biofeedback might also be effective to reduce strain.

VI. CONCLUSION

To conclude, this research adds new knowledge in relation

to the impact of psychological strain on employee well-being and performance in the Malaysian setting. The findings will aid both practitioners and managers to take action to reduce psychological strain by re-designing jobs, reducing strain by augmenting employee support programmes, and intervening in the process to enhance job performance by managing work attitudes. Human capital is an important asset to organisations, and organisations should strive to provide healthier work environments in order to reduce the negative effects of psychological strain and enhance worker productivity.

REFERENCES

[1] T. A. Beehr, *Psychological Stress in the Workplace*, New York: Routledge, 1995.

[2] R. T. Lee and B. E. Ashforth, "A meta analytic examination of the correlates of the three dimensions of job burnout," *Journal of Applied Psychology*, vol. 81, pp. 123-133, 1996.

[3] P. Warr, *Psychology at Work*, 5th ed., London: Penguin Books, 2002.

[4] R. S. Lazarus and S. Folkman, *Stress, Appraisal and Coping*, New York: Springer, 1984.

[5] J. French, R. Caplan, and V. Harrison, *The Mechanisms of Job Stress and Strain*, Chichester, England: Wiley, 1982.

[6] E. M. D. Croon, J. K. Sluiter, and R. W. B. Blonk, "Stressful work, psychological strain, and turnover: A 2-year prospective cohort study of truck drivers," *Journal of Applied Psychology*, vol. 89, no. 3, pp. 442-454, 2004.

[7] S. M. Jex and T. Beehr, "Emerging theoretical and methodological issues in the study of work-related stress, in Research in Personnel and Human Research Management," G. R. Ferris and K. M. Rowland, Editors, 1991, JAI Press: Greenwich, CT, pp. 311-364.

[8] D. Goldberg and P. Williams, *GHQ: A user's Guide to the General Health Questionnaire*, Windsor: NFER/Nelson, Windsor, 1988.

[9] M. H. Banks *et al.*, "The use of the General Health Questionnaire as an indicator of mental health in occupational studies," *Journal of Occupational Psychology*, vol. 53, pp. 187-194, 1980.

[10] P. A. Landsbergis *et al.*, "Work stressors and cardiovascular disease," *Work*, vol. 17, no. 3, pp. 191-208, 2001.

[11] M. L. Fox, D. J. Dwyer, and D. C. Ganster, "Effects of stressful job demands and control on psychological and attitudinal outcomes in hospital setting," *Academy of Management Journal*, vol. 36, pp. 289-318, 1993.

[12] C. L. Cooper, P. J. Dewe, and M. P. O'Driscoll, "Organizational stress: A review and critique of theory, research and application," Thousand Oaks, CA: Sage, 2001.

[13] R. L. Kahn and P. Byosiore, *Stress in Organizations*, in *Handbook of Industrial and Organizational Psychology*, M. D. Dunnette and L. M. Hough, Editors, Consulting Psychologists Press: Palo Alto, CA, pp. 571-650, 1992.

[14] F. P. Morgeson and M. A. Campion, "Work design," in *Handbook of Psychology*, I. B. Weiner, Editor., John Wiley & Sons: Chichester, pp. 423-453, 2003

[15] J. R. Hackman and E. E. Lawler, "Employee reaction to job characteristics," *Journal of Applied Psychology*, vol. 55, pp. 259-286, 1971.

[16] J. R. Hackman and G. R. Oldham, "Motivation through the design of work: Test of a theory," *Organization Behavior and Human Performance*, vol. 16, pp. 250-279, 1976.

[17] Y. Fried and G. R. Ferris, "The validity of the job characteristics model: A review and meta-analysis," *Personnel Psychology*, vol. 40, pp. 287-322, 1987.

[18] G. Johns, J. L. Xie, and Y. Fang, "Mediating and moderating effects in job design," *Journal of Management*, vol. 18, no. 4, pp. 657-676, 1992.

[19] S. K. Parker and T. D. Wall, "Work design: Learning from the past and mapping a new terrain," in *Handbook of Industrial, Work, And Organizational Psychology*, N. Anderson *et al.*, Editors, Sage publication: Thousand Oaks, pp. 90-109, 2001.

[20] S. M. Jex, *Stress and Job Performance: Theory, Research, and Implications for Managerial Practice*, Thousand Oaks, CA: Sage, 1998.

[21] R. W. Brislin, W. J. Lonner, and R. M. Thorndike, *Cross-Cultural Research Methods*, New York: Wiley, 1973.

[22] T. J. Kalliath, M. P. O'Driscoll, and P. Brough, "A confirmatory factor analysis of the General Health Questionnaire-12," *Stress and Health*, vol. 20, pp. 11-20, 2004.

[23] P. Warr, J. Cook, and T. Wall, "Scales for the measurement of some work attitudes and aspect of psychological well-being," *Journal of Occupational Psychology*, vol. 52, pp. 129-148, 1979.

[24] W. H. Mobley, S. O. Horner, and A. T. Hollingsworth, "An evaluation of precursors of hospital employee turnover," *Journal of Applied Psychology*, vol. 63, no. 4, pp. 408-414, 1978.

[25] I. Ajzen, "The theory of planned behavior," *Organizational Behavior and Human Decision Processes*, vol. 50, pp. 179-211, 1991.

[26] J. A. Russell, "Core affect and the psychological construction of emotion," *Psychological Review*, vol. 110, no. 1, pp. 145-172, 2003.

[27] K. R. Scherer, "What are emotions? And how can they be measured?" *Social Science Information*, vol. 44, no. 4, pp. 695-729, 2005.

[28] K. R. Scherer, "Ways to study the nature and frequency of our daily emotions: Reply to the commentaries on 'emotions in everyday life,'" *Social Science Information*, vol. 43, no. 4, pp. 667-689, 2004.

[29] C. Liu and P. E. Spector, "International and cross cultural issues," in *Handbook of Work Stress*, J. Barling, E. K. Kelloway and M. R. Frone, Editors, Sage Publication, Inc: Thousand Oaks, pp. 487-515, 2005.

[30] C. L. Cooper, P. J. Dewe, and M. P. O'Driscoll, "Employee assistance program," in *Handbook of Occupational Health Psychology*, J. C. Quick and L. E. Tetrick, Editors, American Psychological Association: Washington, DC, pp. 289-304, 2003.

[31] J. C. Quick *et al.*, *Preventive Stress Management in Organization*, Washington, DC: American Psychological Association, 1997.



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