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Recommended Citation

Siu, O.-I. (2003). Job stress and job performance among employees in Hong Kong: The role of Chinese work values and organizational commitment. *International Journal of Psychology*, 38(6), 337-347. doi: 10.1080/00207590344000024

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Job stress and job performance among employees in Hong Kong: The role of Chinese work values and organizational commitment

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Abstract

This study investigates the direct and moderating effects of Chinese work values and organizational commitment on the stress-job performance relationship. Chinese work values are the work-related Confucian values of Chinese societies, and include collectivism, hardworking, endurance, and harmonious social relationships (guanxi). A three-component (affective, continuance, and normative) conception of commitment (Meyer & Allen, 1991) is used. A self-administered questionnaire survey collected data from two samples of Hong Kong employees during 2001. These samples included 386 (197 males, 179 females, 10 unidentified) and 145 (51 males, 94 females) respondents. The purpose of recruiting two samples was to replicate the stress-performance relationship in a Chinese setting to enhance generalization of the results. The results consistently revealed that sources of pressure and self-rated job performance were negatively related. Furthermore, organizational commitment and Chinese work values were positively related to job performance. A series of hierarchical regressions, while controlling for age, tenure, and job level, revealed that Chinese work values and organizational commitment were significant stress moderators. Chinese work values were found to be significant moderators of the stress-performance relationship in both samples. However, those values only safeguarded performance when work stress was low or moderately high. When work stress was very high, employees with high levels of Chinese work values reported lower job performance. Organizational commitment, in contrast, protected employees from the negative effects of stressors and moderated the stress-performance relationship in a positive direction, but for the first sample only. The implications of the study are that it is essential to nourish work values among employees and cultivate employees' commitment to their organizations. However, in very high stress situations, it is more appropriate to alter the work environment to reduce stressors at work, in order to enhance job performance.

Cette étude visait à examiner les effets directs et modérateurs des valeurs de travail chinoises et de l'engagement organisationnel sur les relations entre le stress et la performance. Dans la présente étude, les valeurs de travail chinoises impliquent les valeurs confucéennes liées au travail, lesquelles sont communément acceptées dans les sociétés chinoises. Elles comprennent le collectivisme, l'ardeur au travail, l'endurance et les relations sociales harmonieuses (guanxi). Une conception tripartite de l'engagement (Myers et Allen, 1991) fut utilisée. Celle-ci inclut l'affectivité, la continuité et l'engagement normatif. Les données furent recueillies auprès de deux échantillons d'employés de Hong Kong, durant un intervalle de 7 mois, en 2001. Pour chaque échantillon, 386 (197 hommes et 179 femmes) et 145 (51 hommes et 94 femmes, 10 non identifiés) répondants, respectivement, ont complété un questionnaire d'enquête autorapporté. Le but de recruter deux échantillons était d'examiner les relations stress-performance dans deux milieux chinois afin

d'augmenter la générabilité des résultats. Les résultats révèlent que les sources de pression et la performance rapportée sont négativement associées. De plus, l'engagement organisationnel et les valeurs de travail chinoises sont positivement liés à la performance. Une série de régressions hiérarchiques, en exerçant un contrôle sur l'âge, le poste et le niveau d'emploi, révèlent que les valeurs de travail chinoises et l'engagement organisationnel sont des modérateurs significatifs du stress. Les valeurs de travail chinoises sont des modérateurs significatifs des relations entre le stress et la performance pour les deux échantillons. Cependant, elles favorisent la performance seulement lorsque le stress au travail est faible ou modérément élevé. Quand le stress au travail est très élevé, les employés dont les valeurs de travail chinoises sont fortes rapportent des niveaux plus faibles de performance. Concernant l'engagement organisationnel, celui-ci protège les employés des effets négatifs des stressseurs et il modère la relation stress-performance dans une direction positive, pour le premier échantillon seulement. Sur le plan des implications, cette étude soulève qu'il est essentiel de nourrir les valeurs de travail chez les employés et de cultiver l'engagement dans leurs organisations. Cependant, dans des situations hautement stressantes, il serait davantage approprié de modifier l'environnement de travail pour réduire les stressseurs, afin d'améliorer la performance des employés.

Este estudio se propone investigar los efectos directos y moderadores de los valores chinos hacia el trabajo y el compromiso con la organización sobre las relaciones entre estrés y rendimiento en el trabajo. En este estudio, los valores chinos hacia el trabajo se refieren a los valores de Confucio relativos al trabajo, aquéllos sobre los que existe acuerdo entre las sociedades chinas, que incluyen el colectivismo, la dedicación al trabajo, la resistencia y las relaciones sociales armoniosas (guanxi). Se empleó una concepción de compromiso formada por tres componentes (Meyer & Allen, 1991), que incluye el compromiso afectivo, continuo y normativo. Se recogieron datos de dos muestras de empleados de Hong Kong con 7 meses de intervalo entre una y otra durante el 2001, de 386 (197 hombres, 179 mujeres, 10 no identificados) y 145 (51 hombres, 94 mujeres) respectivamente, mediante el empleo de un cuestionario auto-administrado. La razón por la que se reclutó dos muestras fue llevar al cabo una réplica de las relaciones entre estrés y rendimiento en un contexto chino, para mejorar la generalidad de los resultados. Es más, se encontró una relación positiva entre compromiso con la organización y rendimiento en el trabajo. Los resultados de una serie de regresiones jerárquicas, después de controlar la edad, definitividad y jerarquía, revelaron que los valores chinos hacia el trabajo y el compromiso con la organización moderaban de manera significativa las relaciones entre estrés y rendimiento. Se encontró que los valores chinos hacia el trabajo moderaban de manera significativa las relaciones entre estrés y rendimiento en ambas muestras. No obstante, los valores chinos hacia el trabajo salvaguardan el rendimiento sólo cuando el estrés es bajo o moderadamente alto. Cuando el estrés en el trabajo es muy alto, los empleados con niveles altos de valores chinos manifiestan bajo rendimiento. Respecto al compromiso con la organización, éste protege a los empleados de los efectos negativos de los estresores y modera la relación entre estrés y rendimiento en una dirección positiva, pero sólo para la primera muestra. Las implicaciones de este estudio son: es esencial fomentar los valores hacia el trabajo entre los empleados y cultivar su compromiso para con sus organizaciones. Sin embargo, bajo situaciones de estrés extremo, será más apropiado alterar el ambiente laboral para reducir los estresores, y así mejorar el rendimiento en el trabajo.

INTRODUCTION

Job stress is an increasing problem for employees in Western industrialized societies, particularly the US (Sauter & Murphy, 1995), because it is costly. Workplace stress can lead to increased health/medical costs, higher rates of absenteeism and turnover, more accidents, and worse performance. It has been argued that almost all job stress research and theories were developed and empirically tested in Western industrialized countries (Jamal, 1999; Xie, 1996). However, the problem of occupational stress should also be particularly relevant for countries that are undergoing enormous economic and social changes. It is therefore important to replicate job stress research in Chinese societies to test the generalizability of Western organizational theories.

Furthermore, it has been consistently found that managers in Hong Kong report higher levels of stress than do UK managers (Siu, Cooper, & Donald, 1997). If the billion-dollar cost of managerial stress that has been estimated for countries such as the UK and the US (Cartwright & Cooper, 1997) is equally high among employees in Hong Kong, then it will constitute a considerable loss of resources. This further emphasizes the need to examine the stress factors and processes in this large Chinese society.

The Hong Kong economy has undergone a drastic structural shift over the last two decades. The industrial sector has contracted drastically, and the economy has become increasingly service-oriented. According to official statistics, at the end of 1999, employment in the service sector amounted to 1,926,078 job establishments, which accounted for about 85.5% of total employment. The Asian financial crisis of 1997 hastened structural economic changes in Hong Kong, and these have led to many organizational changes. It is therefore important to study the effects of work stress on employees' job performance. A systematic exploration of the job stress and job performance of employees in Hong Kong will be rather valuable in the improvement of productivity.

The present study

Jex (1998) argued that research into the relationship between stress and job performance has been neglected in the occupational stress literature. He also advocated the need to look for moderators of the stress– performance relationship. Hence, this study aims to investigate the direct and moderating effects of Chinese work values and organizational commitment on the stress–performance relationship, and to replicate this relationship in a Chinese setting so that the results can be generalized.

The structure of the Occupational Stress Indicator (OSI) demonstrates that stressful transactions are seen as a product of two intervening systems: people both exert an influence on and respond to their environments (Cooper, Sloan, & Williams, 1988). In other words, the process of stress depends on a person's appraisal of a situation. Stress occurs when the magnitude of the stressor exceeds the individual's capacity to cope. As advocated by Lazarus (1991), a transactional, process, and appraisal approach is needed to study work stress. Many studies based on the OSI that have been

conducted in Western societies have demonstrated that sources of stress at work are negatively related to workers' job satisfaction and well-being (e.g., Robertson, Cooper, & Williams, 1990). The present study adopts a modified OSI model as its theoretical framework, in which the total sources of pressure form the independent variable, job performance is the dependent variable, and Chinese work values and organizational commitment are stress moderators.

Main effects of job stress on job performance

It has been found that exposure to a stressor, such as role conflict or role ambiguity, has deleterious effects on employee job performance (Fried, Ben-David, Tiegs, Avital, & Yeverehyahu, 1998; Jackson & Schuler, 1985). To put it simply, as Jex (1998) concluded, high stress reduces job performance. Therefore, it is hypothesized that job stress will have direct negative effect on job performance.

H1: Sources of pressure will be negatively related to job performance

Stress moderators

There are variations in the stress–performance relation- ship from study to study. Such variations may be due to stress moderator variables. Stress does not always directly result from the source of pressure itself, but rather from the perception of that pressure. Therefore, individual difference variables that might relate to perceptions should be considered. Jex (1998) argued that across all stressors and performance dimensions the relation between stress and job performance is not particularly strong. He suggested, instead, looking for more moderators of the stress–performance relationship. The current study investigates the effects of two unexplored stress moderators, Chinese work values and organizational commitment, on the stress–performance relation- ship.

Chinese work values

Chiu and Kosinski (1995) argued that the perception of work stress is influenced by cultural and social variables such as values and attitudes. Job satisfaction and work strain as perceived and felt by individual workers may vary among cultures as these stress outcomes are manifestations of the cognitive, emotional, and motivational processes that develop through the socialization process in the unique culture of the individual worker. As Lazarus (1991) argued, we should not fail to account for personal agendas (e.g., goals and beliefs) when studying work stress processes.

In traditional Chinese philosophies such as Confucianism (with an emphasis on harmonious social relationships—guanxi—reciprocity, and loyalty), the value of work was strongly emphasized and taken as the base of social order and management. Chao (1990) suggested that the Confucian values of trust, subtlety, guanxi, protecting “face,” and loyalty are still prevalent in organizations in Chinese societies. In a cross- cultural study of cultural values and work, Schwartz (1999) reported that Hong Kong, China, and Taiwan place strong emphasis on “hierarchy” (which emphasizes power and ranking in social affairs and the distribution of resources), where work is likely to be experienced as central to life. Adkins and Naumann (2001) argued that work values are thought to

predict work behaviour and outcomes, including job performance. They demonstrated a direct relationship between the value of achievement and job performance in a service-sector field setting. Hence, it is hypothesized that respondents who score higher on Chinese work values will have greater trust in and more loyalty to their supervisors/organizations, and will therefore work harder and report higher levels of job performance.

H2: Chinese work values will be positively related to job performance.

As Hunt (1991) suggests, work values combine with other factors (objective/perceived sociotechnical working conditions) to generate psychological and other reactions (health and well-being) among workers, as well as work performance (e.g., productivity). Recently, Adkins and Naumann (2001) provided evidence that values play a role in the relationship between motivation and performance. In Chinese societies, the work values of loyalty, guanxi, and reciprocity (doing good to those who treat you well) are beneficial to organizations. It is expected that employees who possess Chinese work values will have more social support, which will result in more resources to address stress. Therefore, Chinese work values are hypothesized to be moderators of the stress–performance relationship

H3: The detrimental effects of stress on job performance will be reduced when the level of Chinese work values is high.

Most of the research in this area has used the Hofstede (1994) five value scales, and some of the reliabilities have been found to be low (Spector et al., 2001). This points to the need for a reliable measure of work values for the Chinese. Hence, this study conceptualizes Chinese work values as work-related Confucian values that are common in Chinese societies, including collectivism, hardworking, endurance, and guanxi.

Organizational commitment

Organizational commitment is defined as “the relative strength of an individual’s identification with and involvement in an organization” (Mowday, Porter, & Steers, 1982, p. 26). Recently, a three-component conception of commitment has been developed, which includes affective, continuance, and normative commitment (Meyer & Allen, 1991). It has been argued that there are significant links between affective commitment and job performance, but continuance commitment reveals no effect on performance (e.g., Angle & Lawson, 1994; Meyer, Paunonen, Gellatly, Goffin, & Jackson, 1989). In a recent meta-analytic study, Riketta (2002) provided evidence that affective commitment and performance, specifically self-rating measures of job performance, are related. However, other studies have demonstrated that the three facets of organizational commitment and job performance are positively correlated (e.g., Somers & Birnbaum, 2000; Suliman & Iles, 2000). For instance, Suliman and Iles reported positive relationships between the global form of commitment and its three components on one hand, and job performance on the other.

It has been argued that loyalty to one’s supervisor is common among Chinese employees, and that this concept is different from organizational commitment (Chen, Tsui, & Farh, 2002). However,

organizational commitment is also one of the characteristics of the Chinese workforce. For instance, Chao (1990) suggested that the Confucian values of loyalty, cohesion, and altruism are present in Chinese organizations. Recently, it has been argued that employees' emotional attachment and sense of belonging to an organization has positive and strong effects on their contributions to the organization (Wong, Wong, Hui, & Law, 2001). Given this characteristic, it is hypothesized that highly committed Hong Kong workers will report higher levels of job performance.

H4: Organizational commitment will be positively related to job performance.

Organizational commitment has been found to be a moderator of stress-strain relationships in Western and Chinese societies (e.g., Begley & Cazjka, 1993; Donald & Siu, 2001; Mathieu & Zajac, 1990; Siu, 2002; Siu & Cooper, 1998). However, empirical evidence of the moderating role of organizational commitment in the stress-performance relationship is rare. One of the very few to provide such evidence was Somers (1995), who investigated the direct and indirect relationships of organizational commitment, turnover, and absenteeism. As argued earlier, commitment is relevant in Chinese societies, and it is expected that organizational commitment is a moderator of the stress-performance relation. The rationale for this expectation is that employee commitment to the organization is the result of a paternalistic form of management and cultural norms of trust, subtlety, and loyalty; this kind of commitment protects individuals from the negative effects of stress because it enables them to attach direction and meaning to their work. It is therefore hypothesized that organizational commitment will interact with employees' perceptions of stressors at work to determine their self-ratings of job performance.

H5: The detrimental effect of stressors on job performance will be reduced at high levels of organizational commitment.

METHOD

A self-administered questionnaire survey method using structured questions was used to collect data from two samples of employees in Hong Kong. Two samples were used to yield evidence of convergent validity, and therefore to test the generalizability of the findings.

Sample

A purposive sampling method was adopted to select various types of finance/accounting, marketing, transport, catering, and personnel enterprises in the public and private service sectors in Hong Kong. These industries were chosen because heterogeneous samples of employees in the service sector are more likely to be sought there. Once a firm was selected, a quota sampling method was used to recruit equivalent numbers of employees from both genders, and from various ranks of various departments to participate in the survey. Employed part-time students were also targeted to obtain a broad sample of employees working in the public and private sectors. Telephone calls were made to set appointments with the chosen subjects before the survey to ensure a higher response rate.

The data collection was undertaken from April to May and from November to December in 2001. As expenses for the data collection were covered for the first period only, it was possible to recruit a larger sample at that time. For the first sample, 595 questionnaires were distributed to employed students and employees in various service industry settings. A total of 424 questionnaires were returned, making a response rate of 71.3%. However, after data cleaning, 38 incomplete questionnaires were discarded, which left a final sample of 386 (197 males and 179 females, 10 unidentified). This sample included executives and managers of different ranks from various private and public service sectors, including finance and insurance, medical and health care, the postal service, and the civil service. Of the respondents, 57.8% were married and 35.8% were single. Approximately one third were 35 years old or below, 40% were between 36 and 45, and the rest were 46 years old or above (with a mean age of 38.31 years, $SD = 8.24$). The average years of work experience was 9.55 ($SD = 8.96$).

For the second sample, 180 questionnaires were distributed to employees who worked in similar public and private service sectors. 152 questionnaires were returned (7 incomplete questionnaires were discarded), making a response rate of 80.6% and a final sample of 145 (51 males and 94 females). In this sample, employees were recruited from private and public service sectors, and they included office workers, medical and health care workers, and civil servants: 57.9% were married and 36.6% were single; 37% of the respondents were 35 years old or below, 28% were between 36 and 45, and the rest were 46 years old or above (with a mean age of 36.77, $SD = 9.69$). The average years of work experience was 8.71 ($SD = 7.95$).

Measures

Sources of pressure. Evers, Frese, and Cooper (2000) validated six items from the OSI that measure “intrinsic to the job,” “organizational role,” “relationships with others,” “organizational structure and climate,” “home/work interface,” and “career and achievement.” Each item was rated from “It is definitely not a source of pressure” (1) to “It is definitely a source of pressure” (6).

Job performance. Although job performance is usually measured by a supervisory performance rating, self-rating also plays an important role in the assessment of job performance (Scullen, Mount, & Goff, 2000). Five items were constructed to measure self-reported in-role performance in terms “quality of work,” “quantity of work,” and “overall competence in performing one’s job.” Each item was rated from “Absolutely incorrect” (1) to “Absolutely correct” (6).

Organizational commitment. The six-item Meyer, Allen, and Smith (1993) Affective, Continuance and Normative Commitment Scale was used. Each item was rated from “Strongly disagree” (1) to “Strongly agree” (6). As previous studies did not report any difference in job performance between the three facets of commitment (Somers & Birnbaum, 2000; Suliman & Iles, 2000), a summation score of the six items was used to measure organizational commitment.

Chinese work values. The Lu, Kao, Chow, and Siu (2001) 16-item scale that measures commonly agreed work-related Confucian values in Chinese societies was used because it had demonstrated high reliability ($\alpha = .85$) in Lu et al.'s study. The scale was constructed based on work of Huang, Eveleth, and Huo (1998), and consists of eight conceptual dimensions: functionalism, long-term orientation, collectivism, hardworking, endurance, authoritarianism, credentialism, and guanxi. Each item was rated from "Strongly disagree" (1) to "Strongly agree" (6).

Demographic information, including age, gender, education, marital status, occupation, tenure (years in the current job), and job level (position in the current organization) was also collected.

Table 1 presents the means, standard deviations, and coefficient alphas of the variables for the two samples. The reliabilities of the variables are acceptably high, all being above .6. A series of independent measures t-tests were conducted. Table 1 also shows that employees in the second sample reported lower scores in Chinese work values than did their counterparts in the first sample ($t = 2.98, p < .01$). However, employees in the second sample reported higher organizational commitment (specifically continuance commitment) than did their counterparts in the first sample ($t = -3.08, p < .01$). Table 2 shows that there was no difference in age or tenure between the two samples, but there was a significant difference in job level, with the first sample having more employees in higher ranks.

TABLE 1
Means, standard deviations, and coefficient alphas of the main variables

Variable	Sample 1			Sample 2			n	t	df
	Mean	SD	Alpha	Mean	SD	Alpha			
TSP	23.70	5.29	.82	22.90	5.31	.84	6	1.53	518
CWV	66.28	6.85	.77	64.23	7.10	.81	16	2.98**	503
OC	20.90	3.67	.62	21.98	3.22	.61	6	-2.68**	518
JP	19.38	3.41	.74	19.26	3.37	.76	5	0.37	523

TSP: total sources of pressure; CWV: Chinese work values; OC: organizational commitment; JP: job performance.

* $p < .05$; ** $p < .01$; *** $p < .001$.

TABLE 2
Means and standard deviations of demographic variables

Variable	Sample 1		Sample 2		t	df
	Mean	SD	Mean	SD		
Age	38.31	8.24	36.77	9.69	1.67	518
Tenure	9.55	8.96	8.71	7.95	0.97	493
Job level	2.25	1.06	1.75	1.08	4.64***	492

* $p < .05$; ** $p < .01$; *** $p < .001$.

TABLE 3
Intercorrelations among variables obtained from the two samples

	TSP	CWV	OC	JP	Age	Tenure	Job level
TSP	1	.12*	.03	-.10*	-.12*	-.01	-.09
CWV	.06	1	.26**	.32**	.01	.14*	-.02
OC	-.17	.26**	1	.57**	.25**	.35**	-.00
JP	-.23**	.31**	.50**	1	.17**	.19**	.12*
Age	-.08	.03	.24**	.32**	1	.65**	.09
Tenure	-.11	.02	.17	.19*	.61**	1	.01
Job level	-.10	.20*	.24**	.33**	.15	.08	1

The values above the diagonal were obtained from sample 1, and those below the diagonal were obtained from sample 2.

TSP: total sources of pressure; CWV: Chinese work values; OC: organizational commitment; JP: job performance.

* $p < .05$; ** $p < .01$.

RESULTS

Hypothesis tests

A series of correlational analyses of both samples consistently revealed that employees who perceived more sources of pressure reported lower ratings of job performance (Table 3). Furthermore, the respondents who had stronger Chinese work values and organizational commitment scored higher in job performance. Therefore, hypotheses H1, H2, and H4 are supported. As far as demographic variables are concerned, age, tenure, and job level were positively correlated with job performance for both samples.

A series of hierarchical regression analyses (Cohen & Cohen, 1983) were conducted to test the moderating effects of Chinese work values and organizational commitment on the stress–performance relationship while controlling for age, tenure, and job level. By commitment (OC) were then entered. Finally, TSP × CWV and TSP × OC were entered. The variables were centred before the construction of interaction terms (Aiken & West, 1991).

The results show that Chinese work values and organizational commitment were significant moderators of the relationship between sources of pressure and job performance for the first sample, with the change in adjusted $R^2 = 2\%$ (Table 4). However, only Chinese work values were found to significantly moderate the relationship between sources of pressure and job performance for the second sample, with the change in adjusted $R^2 = 9\%$ (Table 4). Therefore, hypothesis H3 cannot be supported, and H5 can only be partially supported.

TABLE 4
Hierarchical regressions with job performance as the dependent variable

	Sample 1			Sample 2		
	β	β	β	β	β	β
Step 1:						
Age	.05	.04	.05	.33**	.30**	.33**
Tenure	.18*	-.02	-.02	-.07	-.08	-.13
Job level	.13**	.14**	.14***	.30**	.21*	.19*
Step 2:						
TSP	—	-.16***	-.11*	—	-.08	-.02
CWV	—	.18***	.19***	—	.22*	.20*
OC	—	.50***	.48***	—	.20*	.12
Step 3:						
TSP × CWV	—	—	-.17***	—	—	-.38***
TSP × OC	—	—	.10*	—	—	.07
Adjusted R^2	.06	.35	.37	.18	.28	.37
F	6.63***	45.45***	5.07**	8.19***	4.92**	7.82**

TSP: total sources of pressure; CWV: Chinese work values; OC: organizational commitment.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Following Cohen and Cohen (1983), the beta value and constant of the moderated regression equation, obtained in Step 2 for sample one, were used to plot the regression of job performance on Chinese work values at two levels of stress: high stress (+1 SD above the sample mean) and low stress (-1 SD below the sample mean) (see Figure 1). Similar procedures were conducted to plot the moderating effect of organizational commitment on the relationship between sources of pressure and job performance (see Figure 2). The plot of the moderating effect of Chinese work values on the

stress–performance relationship for sample two is shown in Figure 3.

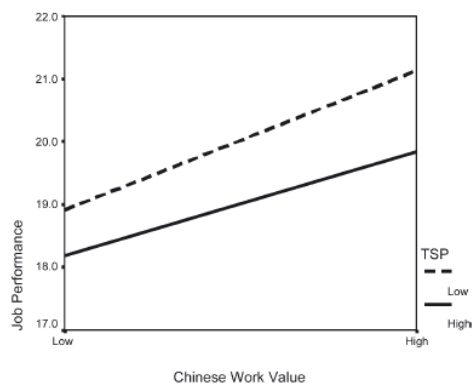


Figure 1. The moderating effect of Chinese work values (CWV) on the relationship between total sources of pressure (TSP) and job performance for Sample 1.

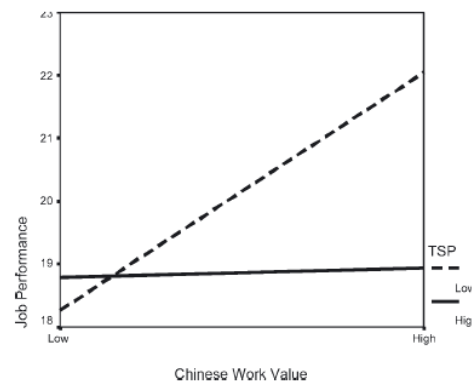


Figure 3. The moderating effect of Chinese work values (CWV) on the relationship between total sources of pressure (TSP) and job performance for Sample 2.

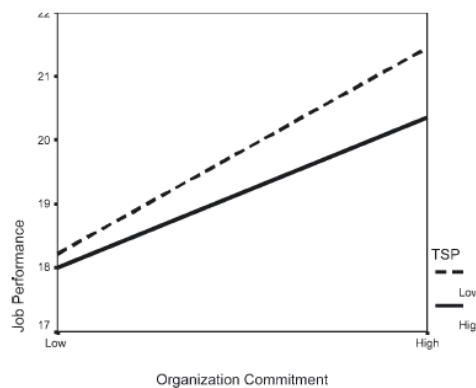


Figure 2. The moderating effect of organizational commitment (OC) on the relationship between total sources of pressure (TSP) and job performance for Sample 1.

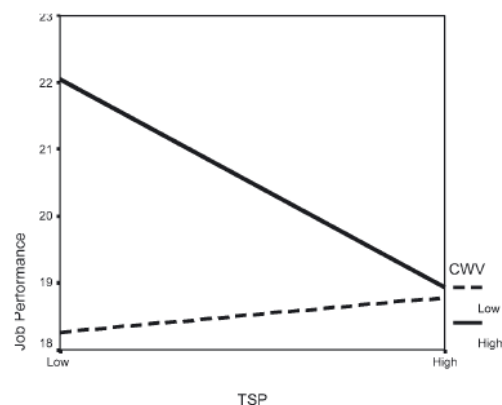
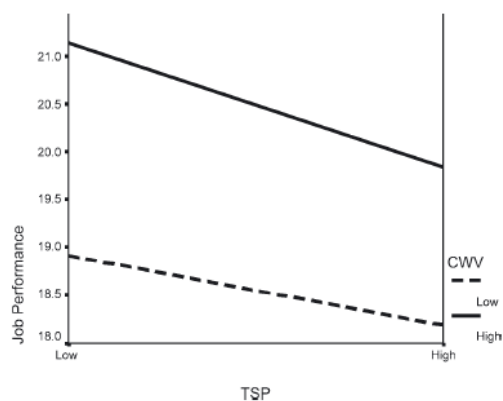


Figure 1 shows that employees who reported fewer sources of pressure reported better performance when they had high levels of Chinese work values than did respondents who possessed low levels of those values.

Figure 3 shows that Chinese work values did not have much effect on job performance when employees perceived more sources of stress; but respondents who perceived fewer sources of stress

when possessing high levels of Chinese work values reported better job performance than those who possessed low values. Therefore, Chinese work values were moderators of the stress–performance relationship among employees who perceived low or moderately high levels of stress. The simple slope analysis in Figure 2 shows that employees who perceived fewer sources of pressure and had high levels of organizational commitment reported better performance than those who had low levels of commitment. Therefore, organizational commitment is a moderator of the stress–performance relation.

As the beta value of the interaction term $TSP \times CWV$ was negative, further slope analyses, made by plotting the extreme ranges on the moderator, were used to show that in very high stress situations, employees who possessed high levels of Chinese work values reported low job performance (see Figures 4 and 5). Therefore, Chinese work values were negative buffers when stress was very high.

DISCUSSION

The purpose of the study was to test the direct and moderating effects of Chinese work values and organizational commitment on the stress–performance relationship. The positive relationship between Chinese work values and job performance was demonstrated across the two samples. This result corroborates those of previous studies with Western samples using Western measures of work values (e.g., Adkins & Naumann, 2001), and indicates that Hong Kong employees with the traditional work-related Confucian values of hardworking, endurance, reciprocity, and loyalty as central to work life want to contribute to their organizations. Therefore, they are more willing to perform well, and are consequently more likely to report higher self-ratings of competence in performing their jobs.

The direct effect of organizational commitment on job performance was also demonstrated across the two samples. This result corroborates those of previous studies (e.g., Riketta, 2002; Suliman & Iles, 2000), and can be attributed to the fact that loyal Hong Kong employees tend to psychologically attach themselves to their organizations and identify with the goals and benefits of those organizations. Thus, they are more likely to perform well at work. Furthermore, as argued earlier, employees' emotional attachment and sense of belonging to an organization has positive and strong effects on their contributions to that organization (Wong et al., 2001).

The results of the present study show that Chinese work values and organizational commitment are moderators of the stress–performance relationship. The moderating effects of Chinese work values were consistently found in the two samples, but only when stress was low or moderately high. However, the present study does not provide support for the positive buffering effects of Chinese work values under very high levels of stress. It would be logical to assume that employees who have traditional work-related Confucian values would find adverse work situations more endurable and be willing to work hard. Should nothing drastic happen (when work stress is low or moderately high), Chinese work values may serve to safeguard one's job performance. However, when work

stress is very high, individuals with traditional Confucian values rated themselves as not so productive. A possible explanation for this is that job performance is a self-rated score in the present study, and respondents who had high levels of Chinese work values were more conscientious at work, thus having higher expectations of themselves in more stressful situations. As they had higher demand of themselves, so they gave themselves lower ratings in job performance. Another explanation is provided by Lazarus (1991), who suggested that certain types of persons, such as those with rigid personalities, are likely to react with stress more often. Employees who adopt traditional work-related Confucian values are thought to have rigid personalities, and are more affected by very high stress situations.

This unexpected result has two implications for stress in the workplace. When discussing strategies for stress management, Lazarus (1991) advocated the need to alter the conditions of work under severe stress, instead of focusing on individuals. Therefore, senior management should find ways to alter the work conditions when stress is very high. Furthermore, as concluded by Smola and Sutton (2002), generational work values do differ. It seems that Hong Kong employees of the present generation place more value on independence, challenges, being responsible, and hardworking. It is possible that these types of work values may be positive buffers in the stress–performance relationship when the conditions of work are severely stressful. Future research should investigate facets of work values that are applicable and beneficial to Hong Kong employees of the current generation.

As far as the role of organizational commitment as a stress moderator is concerned, when committed employees perceived high work stress, they showed better job performance. As analyzed by Chao (1990), the work-related Confucian values of loyalty and cohesion may motivate employees to develop higher levels of commitment, which may lead to higher self-ratings of job performance. To provide further explanation, perhaps the work of Kobasa, Maddi, and Kahn (1982) can be applied here. It could be argued that commitment, like hardiness, protects employees from the negative effects of stressors, and therefore mitigates the potentially unhealthy effects of stress. Nevertheless, the moderating effect of organizational commitment was only significant in the first sample. One possible explanation is that the second sample was recruited in November and December 2001, shortly after the September 11 terrorist attack on the US. Even though Hong Kong people were not directly affected, the attack worked to deepen the downsizing of the economy and to boost retrenchment. The higher perception of stressors at work, including job insecurity, among employees might have weakened the moderating role of organizational commitment, which meant that it was not a significant stress moderator for the second sample. The nonsignificant moderating effect of commitment for the second sample can also be attributed to the fact that the respondents therein scored higher than did those in the first sample in terms of continuance commitment, which some previous studies (e.g., Meyer et al., 1989) found not to be related to job performance. Another reason for the failure to replicate the moderator in the second sample was the lower explanatory power of the smaller sample size. Future research should replicate this study in other Chinese

societies.

Limitations

It should be kept in mind that the data presented herein came from a cross-sectional survey of two samples of Hong Kong employees. One cannot draw causal conclusions, and there is concern about possible percept–percept bias. In other words, it is possible that total sources of pressure, Chinese work values, and organizational commitment are not the actual explanations. Another limitation is that representative samples were not feasible due to limited time and resources. One cannot conclude that the results obtained are representative of the workforce in the service sectors of Hong Kong. Furthermore, the potential difference between time points could reflect sampling error. This study is also limited by its use of self-reported job performance. As Riketta (2002) argued, affective organizational commitment is a better predictor of performance when performance is measured by self-reports. Future research should use multiple sources of reporting, including supervisory and peer ratings. The low reliability of the six-item organizational commitment measure is another limitation of the study. Future research in this area should adopt a longitudinal design using a random sample, objective measures of job performance, and the longer version of the organizational commitment instrument that was developed by Meyer and Allen (1991).

Conclusion

The results of the current study support nearly all of the hypotheses. To a certain extent, the two samples of Hong Kong employees demonstrated the generalizability of the findings. As Jex (1998) argued, research into the relationship between job stress and job performance is rare, and research into moderators of the stress–performance relationship is even rarer. Hence, this study has made a theoretical contribution.

It can be concluded that Chinese work values and organizational commitment, which are unexplored in Western societies, are potential stress moderators of the stress–performance relationship for Hong Kong employees. They deserve investigation in future research into other Chinese societies and Western countries. This study will bridge the gaps in cross-cultural studies of job stress and job performance, and will contribute to the theories of industrial and organizational psychology.

This study also contributes to the theory of work stress. The slightly different evidence of stress moderators in the two samples actually provides support for the transactional approach to stress as advocated by Lazarus (1991). According to Lazarus, stress is a transaction, a changing process, not static. The role of stress moderators varies with the changing external economic and financial environment in different societies.

In terms of practical implications, the findings of this study can help to enhance job performance,

and hence productivity, of employees in Hong Kong. Under the present adverse economic conditions, executives and managers should try to cultivate their employees' work values, and their involvement in and commitment toward their organizations. Furthermore, the reliabilities of the measures used are acceptably high. The 6-item organizational commitment measure (Meyer et al., 1993) and the 16-item Chinese work value measure (Lu et al., 2001) have great potential for use in future studies.

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Acknowledgement

The research that is reported herein benefited from Grant No.: RES200/014 of the Research Committee of Lingnan University. A portion of this paper was presented at the 2002 AIB Southeast Asia and Australia Regional Conference in Shanghai, China in July 2002.

I gratefully thank Professor Paul E. Spector for giving valuable advice on the revised paper. I also thank Ms Cat Luk and Mr Keith Chan for their assistance in data collection in the private sector.