

Managerial Stress, Locus of Control, and Job Strain in Taiwan and UK: A Comparative Study

Luo Lu,^{1,4} Shu-Fang Kao,¹ Cary L. Cooper,² and Paul E. Spector³

This study investigated managerial stress in Taiwan and UK using the Occupational Stress Indicator-2 (OSI-2) and the Work Locus of Control (WLCS) scale. Results showed that the reliability and validity of the measures used were acceptable and comparable in the two samples. There were similarities as well as differences in managerial stress in the two countries. "Recognition" and "Managerial role" were important predictors of strain for the Chinese managers, whereas "Relationships," "Organizational climate," and "Personal responsibility" were important predictors of strain for UK managers. There were consistent moderating (vulnerability) effects of internal control for the Taiwanese managers. Results corroborated some previous studies conducted in the West. However, caution was also suggested for generalizing Western-originated concepts and theories across cultural boundaries.

KEY WORDS: managerial stress; cross-cultural comparisons; locus of control.

INTRODUCTION

Stress has become one of the most serious health issues of the twentieth century—a problem not just for individuals in terms of physical and mental morbidity, but for employers, governments and the society at large who have started to assess the financial damage (ILO, 1993). The problem of occupational

¹Graduate Institute of Behavioural Sciences, Kaohsiung Medical University, Kaohsiung, Taiwan.

²Manchester School of Management, UMIST, Manchester, UK.

³University of South Florida, USA.

⁴Correspondence should be directed to Dr. Luo Lu, Graduate Institute of Behavioural Sciences, Kaohsiung Medical University, 100 Shih-Chuan 1st Road, Kaohsiung City 807, Taiwan, ROC; e-mail: luolu@cc.kmu.edu.tw or luolu@mail.nsysu.edu.tw.

stress is also relevant for countries undergoing enormous economic and social changes. Taiwan is one such territory.

Recent empirical evidence is concordant with these concerns. Compared with British industrial workers, a large random sample of their Taiwanese counterparts ($N = 1,054$) has suffered worse physical health (Lu et al., 1994). In another study, a considerable proportion of Taiwanese clinical nurses suffered mental (1 in 11) and physical ill health (1 in 4) at a level comparable to British psychiatric patients (Lu, Shiau, & Cooper, 1997). It seems that workers in Taiwan are suffering from occupational stress just like their Western counterparts, hence more concerted research efforts concerning work stress in Taiwan are clearly worthwhile.

Most important of all, work-related stress is costly. It has been estimated that 12% of the US's GNP and 10% of the UK's GNP is lost due to stress-related absenteeism and turnover (Cartwright & Cooper, 1996; Quick & Quick, 1984). The average annual real growth in Taiwan in 1970–1993 was 8.6%. If the cost of work stress estimated for other countries is equally high in Taiwan, it represents a considerable loss of resources.

Interestingly, few studies have examined the occupational stress of managers in Taiwan, particularly at the level of middle and upper management, and its impact on job satisfaction and health outcomes. This is surprising given the fact that increasing numbers of multinational companies are joining the rapidly developing Asian region and need to achieve multinational efficacy. Managers are arguably the most important human resources, who play a crucial role in the success or failure of any organization. Effective reduction of managerial work stress is one way to develop and improve existing managerial human resources. To develop suitable prophylactic measures, it is necessary to identify the sources and effects of job-related pressures. Therefore, it is worthwhile to obtain data from Chinese managers in Taiwan to see if there are any commonalities in sources of managerial stress as compared with those documented in the Western literature, and which, in turn, might affect managers' performance and their quality of working life.

In the West, sources of managerial stress have been well-documented since the late 1970s. Although different researchers developed or adopted different schemes of categorization, there are considerable commonalities. For instance, Burke (1988) provided a summary of findings for six categories of stressors: physical environment, role stressors, organizational structure and job characteristics, relationships with others, career development and work-family conflict. Cooper, Sloan, and Williams (1988) identified six sources of stress at work: intrinsic to the job, management role, relationship with others, career and achievement, organizational structure and climate, and home/work interface. In the West, the strain effects of managerial stress are also well-established. Managerial stressors are found to be related to ill health, low job satisfaction, high

absenteeism, and high turnover (Cooper, 1981; Cooper & Payne, 1978; Quick, Nelson, & Quick, 1990).

In Taiwan, although focused research on managerial stress is still absent, research with the general workforce has shown that work stressors are related to job strain. For instance, the inability to maintain a harmonious relationship between co-workers has been rated as a major factor for work-related stress, burnout, and resignation (Huang, 1986; Kuo, 1989; Kuo, 1990). Adopting the British-originated Occupational Stress Indicator (OSI) (Cooper, Sloan, & Williams, 1988) researchers have found four broad categories of work stress in a large random sample of 1,054 Taiwanese industrial workers. These were: role conflicts and lack of support, lack of stability and work/home conflicts, problems in job itself and career development, and finally, stress of the managerial role (Lu et al., 1995b). In a comparative study, clinical nurses reported higher work stress, suffered poorer physical and mental health, and lower job satisfaction—despite their greater efforts in coping—compared with the aforementioned industrial workers (Lu, Shiau, & Cooper, 1997). However, roles of job satisfaction, physical health, mental health, and quitting intention as job strain indicators still need to be clarified.

Rotter (1966) originally formulated “locus of control” (LOC) as a generalized belief about contingency between one’s action and actual outcome brought about through social learning mechanisms. Internal locus of control refers to the conviction that outcomes of events in life are contingent upon one’s own behavior, whereas the external locus of control refers to the conviction that outcome of events are not contingent upon one’s action, but upon luck, chance, fate, or powerful others. Researchers have agreed that LOC is an important individual difference factor, and can be regarded as a stable personality trait (Levenson, 1974; Paulhus, 1983).

In work stress studies, internal locus of control has been found to be related to successful adaptation to stressful work settings (Parkes, 1986). Internal locus of control also is strongly related to job performance (Peterson & Albrecht, 1996) and job satisfaction (Rees & Cooper, 1992). In a meta-analysis, Spector (1986) also confirmed that locus of control is related to job strain as indicated by job satisfaction, symptoms, and emotional distress. Other studies have also revealed that internal locus of control was related to a lowered perception of work role stress (Siu & Cooper, 1998). Recent evidence has suggested that the well-established protective effects of internal locus of control might be exerted through people’s subjective perception or interpretation of situations they encounter (Lu, 1999). Emerging evidence with a combined qualitative and quantitative nature also has offered tentative support for proposed mechanisms whereby locus of control affects experiences of work stress in Taiwan (Lu, Wu, & Cooper, 1999).

Interestingly, although international enterprises are a fact of life, cross-

cultural studies of organizational psychology have not grown proportionally. Those devoted to the work stress and well-being of managers are very few, and mostly are comparisons between two or three Western countries (Kirkcaldy & Cooper, 1992; DeFrank, Ivancevich, & Schweiger, 1988). A cross-cultural study found that compared with American and Indian managers, Japanese managers reacted most strongly to work stress (DeFrank, Ivancevich, & Schweiger, 1988). When comparing managers from two European countries, German managers perceived more work stress, made more coping efforts, and reported better mental health than their British counterparts; however, the British were more satisfied with their jobs (Kirkcaldy & Cooper, 1992). It seems that the experiences of work stress and well-being may be distinct within the same type of culture (e.g., European) as well as across different types of cultures (e.g., Asian vs. North American).

The purpose of this study was to investigate work stress among managers in Taiwan and UK as *representative cultures* of the East and the West. More specifically, the relationship between work pressure and strain, the possible moderating effects of coping and locus of control were examined in each country and compared across cultures.

METHOD

The self-administered questionnaire survey method was used to collect quantitative data on reports of job stressors and job strains.

Subjects

The data collection in Taiwan was conducted from December 1996 to July 1997. We intended to recruit a heterogeneous sample of Taiwanese managers working for various types of organizations (public vs. private, local vs. multinational, large vs. small), who worked in different industries and ranked at different levels within the organizations. Participants were recruited from:

- (1) associations such as The Rotary Clubs (n = 125);
- (2) commercial associations such as the Associations of the Import and Export Dealers (n = 125);
- (3) educational classes offered to managers by universities in southern Taiwan (n = 52);
- (4) personal networks (n = 51).

Questionnaires were distributed to potential respondents, yielding a response rate of 50%. By discarding the incomplete ones, the final sample consisted of 347 managers who were all based in central and southern Taiwan.

The data were collected in the UK from one large private sector and one large public sector organization during 1997. These were samples of middle to senior managers from a range of different management functions and in different geographical locations. There were 137 managers in one organization and 97 in the other. The questionnaires were distributed to two organizations. The response rate from these was 59% from the public sector and 57% from the private sector.

Instrument

The Occupational Stress Indicator-2 (OSI-2) (90 items) was adopted as the questionnaire battery for the study. The originally English-written Occupational Stress Indicator (OSI) (Cooper, Sloan, & Williams, 1988) has been widely used in the UK and some other countries, and has established reliability and both predictive and criterion validity (Cooper & Bramwell, 1992; Langan-Fox & Poole, 1995; Rees & Cooper, 1991; Robertson, Cooper, & Williams, 1990).

When the OSI was first introduced in Taiwan, the first author followed the strictest translation procedure: back translation, informal interviews, pre-test, item analysis and the sort, to ensure cultural equivalence. However, some items were modified in the result, to better fit the Taiwanese work environment. These procedures were described in Lu et al. (1995a; 1997) and Lu (1997).

The OSI-2 is a revised and shortened version of the OSI consisting of: Section 1—Job satisfaction (12 items measuring satisfaction toward the job itself and the organization; high scores indicate greater satisfaction); Section 2A—Mental well-being (12 items measuring contentment, resilience, and peace of mind; high scores denote greater well-being); Section 2B—Physical well-being (6 items measuring calmness and energy; high scores indicate better physical health); Section 3—Sources of stress (40 items measuring workload, relationships, home/work balance, managerial role, personal responsibility, recognition, hassles, and organization climate; high scores indicate more sources of stress); and Section 4—Coping strategies (10 items measuring control and support; high scores denote more frequent use of coping strategies). In addition, biographic questions on demographics, job characteristics, and quitting intention were included in the questionnaire.

Spector's (1988) 16-item Work Locus of Control Scale (WLCS) was used to measure the belief that work is under one's own control (internal) or under the control of chance, fate, or powerful others (external). In the present study, the WLCS was scored in the direction of "internal" control.

RESULTS

Sample Distributions

Table 1 presents a detailed description of sample characteristics in Taiwan and UK. The male/female ratio in the two groups was similar, and both groups had slightly more male than female managers. The Taiwanese sample was middle-aged, well-educated, married, long-serving middle-ranged managers, who worked in companies with fewer than 100 employees. The British sample was middle-aged, well-educated, married, long-serving middle- and senior-ranged managers, who worked for large corporations.

Reliability of Scales

Table 2 presents reliability of scales measured in Cronbach's alphas. In both samples, "Managerial role" had the lowest alpha of .54 and .49, whereas the complete scale of "Sources of stress" had the highest alpha of .94 and .91. The patterns of reliability across scales were rather similar in the two groups. This similarity ascertained transferability of the Western originated scales into the Chinese culture without translation biases.

Demographics, Job Characteristics, and Strain

Using Pearson's correlation, the relationships among demographics, job characteristics, and strain indicators including job satisfaction, mental well-being, physical well-being, and quitting intention were examined and results presented in Table 3.

Overall, there were more significant relationships in the Taiwan sample; there were similarities as well as differences between the two groups. Consistent across the two groups, education as a demographic background was not related to any strain measures. Among the four strain indicators, quitting intention seemed to be the most effective measure yielding the largest numbers of consistently significant relationships across the two cultural groups. In other words, quitting intention may be the most sensitive criterion against which strain profiles could be drawn along demographic and job characteristics.

Interrelations Among Stressors, Moderators, and Strain

Pearson correlation analyses were conducted to examine relationships among sources of stress, strain, and two proposed moderators in both groups.

Table 1. Sample Distribution in Taiwan and UK

	Taiwan	UK
<i>Age (in years)</i>		
Mean	37.87	43.70
S. D.	8.69	7.95
<i>Gender</i>		
Male	191 (55.0%)	117 (52.2%)
Female	151 (43.5%)	106 (47.3%)
Did not answer	5 (1.4%)	1 (0.4%)
<i>Education Level</i>		
Secondary	54 (15.6%)	59 (26.3%)
College /Degree	242 (69.7%)	85 (38.0%)
Postgraduate	50 (14.4%)	73 (32.6%)
Others	1 (0.3%)	6 (2.7%)
Did not answer	nil	1 (0.4%)
<i>Marital Status</i>		
Single	86 (24.8%)	23 (10.3%)
Married	254 (73.2%)	174 (77.7%)
Others (Co-habiting, Separated, Divorced, Widowed)	7 (2.1%)	26 (11.5%)
Did not answer	2 (0.6%)	1 (0.4%)
<i>No. of Years with Present Company</i>		
Mean	10.22	15.51
S. D.	7.91	9.15
<i>Level of Job</i>		
Top management	60 (17.3%)	8 (3.6%)
Senior management	39 (11.2%)	80 (35.7%)
Middle management	86 (24.8%)	58 (25.9%)
Junior management	159 (45.8%)	57 (25.4%)
Others	nil	19 (8.5%)
Did not answer	4 (0.9%)	2 (0.9%)
<i>Function of Job</i>		
Marketing	68 (19.6%)	4 (1.8%)
Production	54 (15.6%)	125 (55.8%)
Finance/Accounting	39 (11.2%)	17 (7.6%)
Personnel	34 (9.8%)	10 (4.5%)
Medical	47 (13.5%)	nil
Others	47 (13.5%)	67 (29.9%)
Did not answer	10 (16.7%)	1 (0.4%)
<i>No. of hours per week</i>		
Mean	47.93	45.26
S. D.	12.39	7.60
<i>No. of Employees in Respondent Company</i>		
up to 100	138 (39.8%)	2 (0.9%)
100–500	73 (21%)	3 (1.3%)
500–1000	35 (10.1%)	4 (1.8%)
1000–5000	76 (21.9%)	134 (59.8%)
over 5000	21 (6.1%)	81 (36.2%)
Did not answer	4 (1.2%)	nil
<i>Quitting Intention</i>		
Never	70 (20.25)	53 (23.7%)
Rarely	96 (27.7%)	2 (18.3%)
Sometimes	140 (40.3%)	83 (37.1%)
Somewhat often	26 (7.5%)	10 (4.5%)
Quite often	9 (2.6%)	22 (9.8%)
Extremely often	6 (1.7%)	14 (6.3%)
Did not answer	nil	1 (0.4%)

Table 2. Reliabilities of Scales and Comparisons of Means in Taiwan and UK

	Taiwan			UK			<i>t</i> *
	Mean	S.D.	α	Mean	S.D.	α	
<i>Sources of Stress</i>	159.00	24.69	0.94	124.79	23.93	0.91	5.83
Workload	24.30	4.77	0.78	20.41	6.03	0.81	8.08
Relationships	32.29	6.10	0.86	25.91	7.42	0.88	10.63
Home/work balance	23.35	4.69	0.74	14.18	5.32	0.76	20.69
Managerial role	14.72	3.04	0.54	11.58	3.29	0.49	11.61
Personal responsibility	17.30	3.40	0.74	13.01	3.28	0.74	14.78
Hassles	15.29	2.95	0.61	12.63	3.21	0.62	10.10
Recognition	15.78	3.18	0.75	12.09	4.35	0.84	10.88
Organizational climate	15.83	3.10	0.69	14.98	3.53	0.77	2.93
Job satisfaction	47.42	9.24	0.92	41.93	8.89	0.89	6.90
Mental well-being	47.62	8.47	0.81	47.89	9.36	0.76	-0.35 n.s.
Physical well-being	25.14	5.49	0.82	26.70	5.43	0.84	-3.31
Quitting intention	2.44	0.99	—	2.70	1.45	—	-3.26
Coping	43.56	5.15	0.76	39.53	4.62	0.62	9.44
Work locus of control	62.33	5.78	0.73	64.91	8.21	0.86	-4.29

*All *t*s $p < .05$, except as noted.

Table 3. Relationships Between Demographics, Job Characteristics and Strain in Taiwan and UK

	Job satisfaction	Mental well-being	Physical well-being	Quitting intention
Taiwan				
Gender	0	-.04	-.04	.06
Age	.12*	.24*	.25*	-.18*
Education level	-.10	.02	.01	.06
Married	-.14*	-.17*	-.17*	.24*
Seniority	.05	.19*	.17*	-.18*
Work hours	.07	.05	-.05	-.06
UK				
Gender	.02	-.09	-.13	.15*
Age	.12	.10	.06	-.18*
Education Level	.06	.10	.13	-.03
Married	-.12	-.06	-.07	.14*
Seniority	.09	.04	.05	-.15*
Work hours	.13	.15*	.08	-.14*

* $p < .05$.

Gender: 1 = male, 2 = female.

Married: 1 = married, 2 = single.

Results are presented in Table 4. Patterns of interrelations were rather similar in the two countries.

Regarding stress-strain relations, sources of stress were negatively related to job satisfaction, mental and physical health in both groups, and were further related to quitting intention among UK managers.

Regarding stress-moderators relations, sources of stress were not related to coping in either sample, but were related to work locus of control among UK managers. People with internal control tended to perceive lower work pressure.

Regarding moderator-strain relations, coping was positively related to job satisfaction and mental health among Taiwanese managers. Internal work locus of control was positively related to job satisfaction, mental and physical health, and negatively related to quitting intention in both groups. Taken together, coping did not seem like a significant correlate of either stressors or strain, hence was not eligible for a potential moderator. However, work locus of control performed like a potential moderator, and was worth further testing.

Considering the strength of those intercorrelations that reached statistical significance, the weakest correlation was that between coping and mental well-being ($r = .13, p < .05$), and the strongest was that between physical and mental well-being ($r = .59, p < .05$) in Taiwan; in UK, the weakest correlation was that between locus of control and physical well-being ($r = .17, p < .05$), and the strongest was that between job satisfaction and quitting intention ($r = -.56, p < .05$). The mean magnitude of the sixteen pairs of significant correlations was

Table 4. Relationships Between Stressors, Strain, and Moderators in Taiwan and UK

	1	2	3	4	5	6	7
Taiwan							
1. Sources of stress	1						
2. Job satisfaction	-.20*	1					
3. Mental well-being	-.33*	.32*	1				
4. Physical well-being	-.18*	.25*	.59*	1			
5. Quitting intention	.10	-.32*	-.29*	-.18*	1		
6. Coping	.07	.17*	.13*	.06	-.10	1	
7. Work locus of control	-.03	.25*	.24*	.17*	-.16*	.14*	1
UK							
1. Sources of stress	1						
2. Job satisfaction	-.45*	1					
3. Mental well-being	-.53*	.42*	1				
4. Physical well-being	-.40*	.31*	.50*	1			
5. Quitting intention	.36*	-.56*	-.35*	-.34*	1		
6. Coping	-.06	.02	.12	0	.03	1	
7. Work locus of control	-.29*	.45*	.31*	.17*	-.25*	.07	1

* $p < .05$.

$r = .24$ in Taiwan and $r = .38$ for the fifteen pairs in UK. It was clear that many of the variables were related to a moderate degree, similar to what have been found in most other studies (e.g., Cooper & Payne, 1978; Spector, 1986). Therefore, tests were conducted to rule out the danger of multicollinearity problems before proceeding to all multiple regression analyses reported below.

Predicting Strain

A series of stepwise multiple regression analyses were conducted to unravel the important predictors of job strain effects. Table 5 shows the summary of results. The eight sources of stress along with significant demographic and job characteristics in the correlation analyses (see Table 3) were entered into the equations as independent variables. Beta coefficients and F values were taken from the final equations, and R^2 values were cumulative.

Predictors for each strain effect in the two groups were quite different. For Taiwanese managers, being married was a common predictor for job satisfaction, mental well-being, and quitting intention. Age and "Managerial role" were common predictors for mental and physical health. "Recognition" was a common predictor for job satisfaction and quitting intention. In addition, "Organizational climate," "Hassles," "Personal responsibility," and "Workload" were predictors of at least one strain measure. These effects of predictors were small; none explained more than 10% of the variance except "Managerial role" as a predictor for mental well-being (14%). For UK managers, "Relationships" was a common predictor for all four strain measures. "Organizational climate" was a common predictor for job satisfaction and quitting intention. "Personal responsibility" was a common predictor for job satisfaction and mental health. "Workload" was a common predictor for mental and physical health. In addition, age could also predict quitting intention. In general, better models were obtained for the UK group compared with those for Taiwan group, in terms of the total percentages of variance explained. Furthermore, four predictors explained more than 10% of the variance independently. They were: "Workload" as a predictor of physical well-being (14%); "Organizational climate" as a predictor of quitting intention (16%); "Personal responsibility" as a predictor of mental well-being (22%); and "Relationships" as a predictor of job satisfaction (39%).

Overall, the average R^2 across the four equations predicting the criterion variables was not large: 13.75% in Taiwan and 30% in UK. It is clear that the predictors explained relatively small amounts of variance in the criterion measures, albeit this is typical of findings in similar research (e.g., Cooper & Payne, 1978; Spector, 1986). As work stress is best conceptualized as a dynamic process under the influence of multiple internal and external factors (Lu, 1997), there are very likely other potential predictors outside the scope of the present study.

Table 5. Predictors for Strain in Taiwan and UK

Strain variable Predictor	Beta	F	R ²
Taiwan			
Job satisfaction			
Recognition	-.14*		.05
Married	-.18*		.07
Organizational climate	-.15*	8.33*	.09
Mental well-being			
Managerial role	-.28*		.14
Married	-.16*		.18
Hassles	-.17*		.21
Age	-.14*	14.48*	.22
Physical well-being			
Age	-.21*		.06
Hassles	-.16*		.09
Personal responsibility	.30*		.11
Workload	-.17*		.13
Managerial role	-.15*	8.76*	.14
Quitting intention			
Married	.28*		.07
Recognition	.16*	14.26*	.10
UK			
Job satisfaction			
Relationships	-.50*		.39
Organizational climate	-.30*		.43
Personal Responsibility	.15	59.13*	.45
Mental well-being			
Personal Responsibility	-.29*		.22
Workload	-.27*		.30
Relationships	-.24*	38.15*	.35
Physical well-being			
Workload	-.31*		.14
Relationships	-.24*	25.95*	.19
Quitting intention			
Organizational climate	.25*		.16
Relationships	.23*		.20
Age	-.12*	18.97*	.21*

*p < .05.

Moderating Effects of Work Locus of Control

To test the moderating effects of work locus of control in the stress-strain relationship, the procedure suggested by Cohen and Cohen (1983) was used to demonstrate the statistical significance and form of the main and interaction terms. For an overall picture, a comprehensive analysis of work stressors and work locus of control was first conducted using total scores. Using hierarchical regression, the following variables were entered in the sequence indicated: (1) sources of stress (S); (2) work locus of control (C); (3) the product term repre-

senting stress \times work locus of control ($S \times C$). Table 6 shows a summary of results with job satisfaction, mental well-being, physical well-being, and quitting intention as dependent variables. As suggested by Cohen and Cohen (1983), unstandardized regression coefficients (B) were quoted when interactive effects were involved in the equations. Again, B and F values were taken from the final equations and R^2 values were cumulative.

Results showed that sources of stress and work locus of control contributed significantly to all equations except that control was not a significant predictor of physical well-being. More importantly, work locus of control significantly moderated the stress-strain (mental health) relationship for Taiwanese managers. This interaction is plotted in Figure 1.

Following this comprehensive analysis, a further series of analyses were then carried out to investigate the moderating effects of work locus of control on each specific stress-strain relationship. The same procedure as outlined earlier was repeated with eight sources of the stress in equations. The results of the 32 equations (8 sources of stress \times 4 strain indicators) are summarized below.

For Taiwanese managers, specific sources of stress were significant predictors of strain for most equations (75%). When non-significant effects occurred, they most often involved "Personal responsibility" as stressor and quitting intention as strain measure. For UK managers, a similar pattern (71.9%) emerged regarding effects of stress, although non-significant effects were more evenly spread across the four strain measures. Work locus of control contributed significantly to all equations, with only odd exceptions for UK managers (3 out

Table 6. Hierarchical Regression Analysis with Work Locus of Control as Moderator

Strain variable	Step	Entered Variable	Taiwan			U.K.		
			B	F	R ²	B	F	R ²
Job satisfaction	1	S	-.10*		.05	-.13*		.20
	2	C	.41*		.12	.37*		.31
	3	$S \times C$.17	12.02*	.12	-.32	31.88*	.31
Mental well-being	1	S	-.13*		.11	-.19*		.28
	2	C	.36*		.17	.18*		.31
	3	$S \times C$	-1.11*	21.36*	.17	-.61	31.65*	.31
Physical well-being	1	S	-.05*		.03	-.09*		.16
	2	C	.17*		.06	.04		.16
	3	$S - C$	-.53	7.53*	.07	-.07	13.60*	.16
Quitting intention	1	S	.01*		.02	.02*		.13
	2	C	-.03*		.04	-.03*		.15
	3	$S \times C$	-.03	3.96*	.04	-.13	13.52*	.16*

* $p < .05$.

S = Sources of stress.

C = Work locus of control.

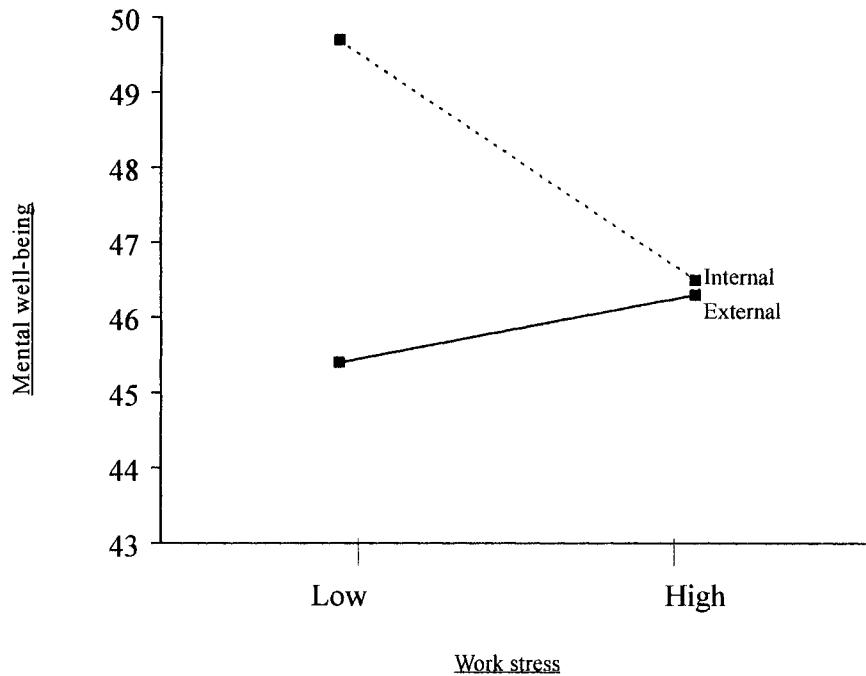


Fig. 1. The moderating effect of work locus of control on work stress-mental well-being nexus in Taiwan.

of 32). There were a total of 9 significant interactions for Taiwanese managers and 4 for UK managers. For Taiwanese managers, work locus of control moderated “Relationships”—job satisfaction/mental health relations, “Work/home balance”—mental health relation, “Personal responsibility”—physical health relation, “Hassles”—mental health/physical health relations, “Recognition”—mental health/physical health relations, and “Organizational climate”—mental health relation. For UK managers, work locus of control moderated “Relationships”—quitting intention relation, “Personal responsibility”—quitting intention relation, “Hassles”—job satisfaction relation, and “Recognition”—mental health relation.

Comparisons Between Taiwan and UK Managers

Direct comparisons between Taiwan and UK managers were carried out using *t* tests. Results are incorporated in Table 2. As can be seen, Taiwanese managers reported significantly higher work pressure across the board than their

UK counterparts. Nonetheless, they avowed higher job satisfaction and lower quitting intention than UK managers, perhaps because of their greater efforts in coping. Taiwanese managers, however, suffered worse physical well-being than UK managers, and reported a more external work locus of control.

A word of caution is necessary here. With multiple *t* tests, the risk of statistical error is inflated at a chosen alpha level. However, it is theoretically interesting and practically informative to see whether managers in the East and the West are any different in work stress and strain measures as well as their coping efforts and control beliefs. Nonetheless, these *t* test results should be seen as only exploratory and interpreted with due caution.

DISCUSSION

The purpose of this study was to investigate relationships among work stress, moderators, and strain among managers within Taiwan and UK, and to further compare these relationships across cultures along the East-West divide. Results indicated similar patterns of managerial stress in Taiwan and UK. Firstly, the fundamental stress-strain relationship seemed to be culturally universal. In both countries, managerial stress produced deleterious effects on work moral (job satisfaction and quitting intention), as well as personal health (mental and physical well-being). Secondly, the direct effects of work locus of control on strain were also similar in both places. Consistent across Taiwan and UK, managers who perceived more control over their work environment exhibited higher job satisfaction, better mental and physical well-being, and less quitting intention. These results corroborated previous findings (Spector, 1986), thus contributing to the generalizability of theories in organizational psychology.

However, there were striking differences in managerial stress in Taiwan and UK, too. First, predictors of strain for Taiwanese and UK managers were almost entirely different. For Taiwanese managers, "Managerial role" and "Recognition" seemed to be the more important sources of work stress, whereas "Relationships," "Organizational climate," and "Personal responsibility" seemed more important for UK managers. More detailed inspection revealed that for Taiwanese managers, "Recognition" was an important predictor of work moral, i.e., job satisfaction and quitting intention, whereas "Managerial role" was an important predictor of personal health.

This pattern may be understood when viewed from an *emic* Chinese cultural perspective. In Taiwan, Confucianism is a dominant philosophical system and a guiding ethic in daily life. Briefly, the Confucian ethics for arranging interpersonal relationships is based on two basic principles. The "Principle of respecting the superior" can be viewed as a guideline for procedural justice, prescribing that decisions should be made by one who occupies a superior position in a dyadic interaction. The "Principle of favoring the intimate" can be

viewed as a rule of thumb for distributive justice, insisting that a resource allocator should adopt different rules for exchange to interact with people of various degrees of intimacy (Huang, 1988). Stated more explicitly, Confucianism advocates that one should be benevolent to others in a hierarchical order, depending on the intimacy of one's relationship with the other.

Furthermore, once a social position is prescribed to a Chinese person, he/she must show respect and unconditional obedience to his/her superior. Therefore, the Confucian "righteousness" for ordinary people is very different from the Western concepts of "democracy" and "justice." These ethics still prevail in contemporary Chinese organizations (Walder, 1983; Cheng, 1995).

For most Taiwanese institutions, the organizational culture is characterized by paternalistic and autocratic values, metaphoric to a Chinese family: there is a hierarchically organized rigid power structure, with the boss assuming the role of the head (usually father) of the family and employees assuming the role of sons; resources are centrally concentrated at the top of the corporate level and distributed according to the "Principle of favoring the intimate"; corporate decisions are made behind closed doors, with almost no consultation with employees; promotions are largely based on seniority and personal favoritism instead of job performance; group harmony and group productivity are emphasized instead of individual striving and personal achievement. Against this cultural backdrop and organizational reality, it is then clear that recognition by one's superior or boss actually determines one's prospect of the job and one's status in the organization. Being seen as *shin-fuh* (heart and belly) of the superior is a coveted status for trusted subordinates, which opens the door to the inner circle of the hierarchical benevolence, and which also implies various material, psychological and social rewards.

A related feature of such an autocratic work scene is the lack of professionalism and the total absence or only the nominal presence of rules and regulations in organizational life. Lacking clear and legitimate definition of job roles, one has to take on duties outside the official realm of a job in order to maintain interpersonal harmony or to win recognition of the superior. This often makes professional management complex and difficult. Work overload, role ambiguity, and daily hassles seem to be inherent features of a Taiwanese managerial role. As previous research has well-documented, role overload, ambiguity, conflict, and hassles are related to health outcomes (Broadbent, 1985; Karasek, 1979; Lu, 1991).

Another important finding of the present study concerns the role of control as a moderator. For the Chinese, internal locus of control acted as a *vulnerability factor* involving job satisfaction, mental and physical well-being, whereas for the British, the moderating effects of locus of control were at best inconsistent. Explanations may again be found adopting an *emic* approach with culture-sensitive concepts.

Despite the key role of beliefs of control in many organizational theories

developed in the West, cultures may differ markedly in terms of beliefs about control and, therefore, organizational theories concerning autonomy, discretion, and other control constructs may not apply elsewhere. In other words, the presumed role that locus of control plays in well-being may not be culturally uniformed (Lu, 1997). Weisz, Rothbaum, and Blackburn (1984) distinguished two general paths to a feeling of control. In *primary control*, individuals enhance their rewards by influencing existing realities, attempting direct control over situations through personal action. In *secondary control*, individuals enhance their rewards by accommodating to existing realities and maximizing satisfaction or goodness of fit with things as they are. In the West, primary control is heavily emphasized and highly valued, concordant with cultural emphasis on independent self-construal. In the East, secondary control has traditionally assumed a more central role in everyday life. Not surprisingly, most studies have found Confucian Asians (e.g., Chinese and Japanese) to be more external (in primary control) than Christian Westerners (Hamid, 1994; Hui, 1982). Results from the present study also corroborated previous studies, showing Taiwanese managers to be more external in control than their UK counterparts.

Our results suggest caution in generalizing findings from the West to the East. In the case of personal control, we may need to broaden our perspectives, and explore alternative cultural values concerning feelings of control, as well as alternative ways in which control can be achieved, such as through subtle and delicate processes that characterize secondary control. It would be a good start to develop measures to assess secondary control, from a different culture's vantage point (e.g., Chinese), and to compare results using such measures among the East and the West countries.

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