

Available online at www.sciencedirect.com



Personality and Individual Differences 41 (2006) 537-548

PERSONALITY AND INDIVIDUAL DIFFERENCES

www.elsevier.com/locate/paid

# A three-phase study to develop and validate a Chinese coping strategies scales in Greater China ☆

Oi-ling Siu<sup>a,\*</sup>, Paul E. Spector<sup>b</sup>, Cary L. Cooper<sup>c</sup>

<sup>a</sup> Department of Politics and Sociology, Lingnan University, Tuen Mun, N.T., Hong Kong <sup>b</sup> Department of Psychology, University of South Florida, United States <sup>c</sup> Lancaster University Management School, United Kingdom

> Received 21 March 2005; accepted 9 February 2006 Available online 17 April 2006

#### Abstract

A three-phase study was conducted among Chinese employees in Greater China to develop and validate the Chinese coping strategies that were most common and frequently used. By adopting a qualitative openended methodology and quantitative surveys (using both exploratory factor analysis and confirmatory factor analysis), the internal consistency and factor structure of the developed 12-item Chinese coping strategies has been demonstrated, and some evidence for construct validity has been provided. The structures of Chinese coping strategies include four factors: active positive coping, passive adaptive coping, social support and hobbies/relaxation. The results also show that active positive coping, social support, and hobbies/ relaxation have a beneficial role on work well-being (job satisfaction, physical and behavioral symptoms), whereas passive adaptive coping relatively has a maladaptive effect. © 2006 Elsevier Ltd. All rights reserved.

Keywords: Coping strategies; Validation; Chinese

0191-8869/\$ - see front matter @ 2006 Elsevier Ltd. All rights reserved. doi:10.1016/j.paid.2006.02.012

 $<sup>^{\</sup>diamond}$  A portion of this paper was presented at the Academy of Management Annual Meeting in New Orleans on August 11, 2004.

<sup>\*</sup> Corresponding author. Tel.: +852 26167170; fax: +852 28917940. *E-mail address:* siuol@ln.edu.hk (O.-l. Siu).

## 1. Introduction

Coping has been considered an important element in the stress process because coping strategies can help buffer the effects of stressors on strains (Lazarus & Folkman, 1984). According to the transactional theory, coping consists of "cognitive and behavioral efforts to master, reduce or tolerate the internal or external demands that are created by the stressful transaction" (Folkman, 1984, p. 843). Individuals use two kinds of appraisals to evaluate the environment: primary appraisal (gives meaning to the situation and evaluates whether the situation is relevant or poses a potential threat to well-being) and secondary appraisal (evaluates the perceived availability of resources for dealing with a stressful encounter). Lazarus and Folkman (1984) proposed two types of coping: *problem-focused coping* (taking constructive and direct approaches to solving problems, such as defining the problem) and *emotion-focused coping* (taking steps to mitigate the emotional response to problems, such as avoidance, seeking emotional support). However, these two types of strategies are not independent, and there are weaknesses inherent in such simple dichotomies (Rice, 1999).

In applying coping in the workplace, previous research on job stress and coping has been noted as disappointing (Bar-Tal & Spitzer, 1994). The major criticism concerns both conceptual and methodological issues (e.g., Cooper, Dewe, & O'Driscoll, 2001). One of the most fundamental issues includes the conceptualization of coping. Is coping a coping style that has trait-like properties or is coping a response that varies according to the particular situation? Some traditional approaches have been adopted to conceptualize coping as a relatively stable trait (e.g., Stone, Greenberg, Kennedy-Moore, & Newman, 1991). However, Lazarus (1991) argued that this approach of defining coping does not fit well with the dynamic nature of coping. Cooper et al. (2001) concluded that to understand coping requires researchers to focus at the individual level.

Another important concern for coping is the use of deductive or inductive methods to generate measures of coping. A deductive or quantitative approach to generate coping measures is to build on existing literature and research on coping, mainly using traditional Likert scales. An inductive or qualitative approach to construct coping measures involves examining, describing, and developing coping items based on strategies that individuals report using. The quantitative approach has its weakness in job stress studies. As summarized by Liu (2002) in terms of cross-cultural studies, using a common scale to collect data in each specific culture may blur the difference between cultures, and thus, may not adequately capture stress-related experiences related to the unique features of each culture. The use of qualitative approaches to study job stress has been advocated (e.g., Keenan & Newton, 1985; Narayanan, Menon, & Spector, 1999), because qualitative approaches emphasize description, understanding and interpretation of the stressful events. Recently, critical incidence analysis (CIA) has been highly recommended to study coping (e.g., Cooper et al., 2001).

Almost all coping measures were developed and empirically tested in Western industrialized countries. A basic problem with using Western-based scales is that we do not know if they are relevant and construct valid, even if the internal psychometric properties hold, that is reliability and factor structure (Xie, 1996). For instance, the 10-item coping strategies scales of the OSI-2 (Williams & Cooper, 1996) have been used in several studies in Western and Chinese societies (e.g., Siu, Cooper, & Donald, 1997; Williams & Cooper, 1997). Nevertheless, Williams and Cooper (1997) concluded that the OSI coping scales are weak and require further development. Worse

still, the reliability of these scales used in Chinese samples was also low (e.g., Siu, 2002), making its use in China problematic. Furthermore, the OSI-2 is a dichotomous measure. It seems that a recreation dimension is overlooked. This makes it important to develop scales within the Chinese context that would have sound internal psychometric properties and evidence for construct validity.

It seems that the Chinese are more likely to adopt some of the emotion-focused strategies by changing perceptions. For instance, Lee (1985) advocated two forms of supernatural beliefs and practices: *feng-shui* and *yuan-fen* (predestines the importance affinity) are common coping behaviors to tackle social stress in Hong Kong. The integration of such Taoism philosophy with psychotherapy in the workplace may have been overlooked in coping literatures. The traditional Chinese philosophy of Tao has the basic tenets of *dao* (way) and *wuwei* (non-intervention), which can help to change a chaotic to a harmonious situation in some circumstances. This philosophy advocates following the way of nature and not letting strong ambition lead to unrealistic effort to achieve rapid success. These are considered to be good strategies or coping resources before crises, and are particularly useful among older people or workers who are in relatively disadvantaged positions. Yet these Taoism behaviors are criticized as rather unrealistic, escapist or even passive.

There is a traditional view of regarding problem-focused coping as having positive healthrelated benefits but emotion-focused coping has a maladaptive and dysfunctional nature (e.g., Averill, 1990). Yet, the adaptive potential of coping through an emotional approach has been reaffirmed (Stanton, Parsa, & Austenfeld, 2002).

In Spector's (1998) control model of stress, it is stated that control helps filter perceptions of situations and affect their appraisal (Lazarus & Folkman, 1984). Rothbaum, Weisz, and Snyder (1982) proposed a theory that suggests control can be classified into two categories—primary and secondary. Primary control consists of direct actions taken by a person to change the world. Secondary control, on the other hand, involves changing the self to fit the external environment. Weisz, Rothbaum, and Blackburn (1984) suggested that Asians are more likely to use secondary control, which is similar to emotion-focused coping. Spector, Sanchez, Siu, Salgado, and Ma (2004) compared Americans with Chinese on control beliefs, specifically work locus of control that focuses on direct control, secondary control, and a new construct of socioinstrumental control beliefs (control via interpersonal relationships). They found secondary control is also adaptive but just less effective. Although the Chinese scored considerably lower on work locus of control, they scored as high or higher on the other two measures. This adds to the argument that Western approaches or scales for coping might not be applicable to the Chinese.

## 2. The present study

This paper attempts to handle some of the conceptual and measurement issues noted above by adopting a transactional approach using a qualitative, open-ended approach to inform the development of a coping scale for use in Greater China. The internal consistency reliability, factor structure, and evidence for predictive validity of the developed Chinese coping strategies will be provided. A three-phase strategy will be discussed with phase I adopting a qualitative open-ended approach, and phase II and III a quantitative approach.

# 3. Phase I

## 3.1. Method

An open-ended methodology was used, asking respondents to describe a stressful critical incident at work using an adaptation of the stress incident record (Keenan & Newton, 1985). A protocol was developed where a structured list of questions were constructed to explore the coping strategies that Chinese employees reported. Specific questions included: "think of a stressful event that occurred in the past month and describe it in detail, including what led up to it and what happened", "what did you do to cope with the event?". The qualitative data were content analyzed to produce mutually exclusive coping categories and the relative frequencies of each was reported.

## 3.2. Sample and procedure

A total of 91 employees from public and private sectors of equal proportions of gender and rank (from front-line supervisor, middle manager to top manager) in Hong Kong, Taipei and Beijing were invited to participate in the study. Due to limited resources, only Hong Kong participants were interviewed and responses were tape-recorded. The participants in Taipei and Beijing were invited to complete questionnaires containing the same open-ended questions. The mean age ranged from 31 to 36 years, and mean tenure ranged from 3 to 6 years across the three samples. Each interview lasted for 30–45 min. The responses generated from the interviews were content analyzed, and coded by two independent raters (the first author and her research assistant) to derive the most frequent coping strategies used by the Chinese.

#### 3.3. Results and discussion

The first rater listened to tapes and the incidents were listed with frequency counts and they were placed into as many categories as necessary. The second rater then independently created categories. There was over 95% of agreement between the two independent raters. The remaining 5% were either discussed to reach consensus or thrown away. In the end, fourteen items were written based on or informed by the incidents and put into four categories: active positive coping (5 items) (e.g., "try my best to do the task" (15%)), passive adaptive coping (e.g., "let fate have its way" (18%)), social support (e.g., "discuss with my supervisor" (24%)), and hobbies/relaxation (e.g., "do physical exercises" (10%)).

#### 4. Phase II

## 4.1. Method

The purpose of phase II was to develop new coping scales using a quantitative approach. The first author wrote items to assess coping strategies based on the results of phase I. These new Chinese coping scales were then tested among employed students by a self-administered questionnaire survey in Hong Kong, Taipei, and Beijing, together with the coping scales of OSI-2.

The underlying structure of the new scale was provided by exploratory factor analysis. The criterion validity of the coping scales was provided by their correlations with work well-being (including job satisfaction, physical and behavioral symptoms). It is hypothesized that:

H1: The new Chinese coping scales will be related to correspondent OSI coping scales.

H2: The new Chinese coping scales will be positively related to job satisfaction, and negatively related to physical and behavioral symptoms.

## 4.2. Sample and procedure

A purposive sampling method was adopted to select various types of finance/accounting, marketing, transport, catering, and human resources personnel from enterprises in the public and private service sectors in Hong Kong, Taipei and Beijing from March to July in 2003. A total of 280 questionnaires were distributed to Hong Kong employees with 105 (54 males, 50 females, 1 unidentified) returned, making a response rate of 37.5%. The mean age and tenure were 35.64 years (SD = 6.68) and 7.11 years (SD = 6.43) About 66% of the respondents were front-line supervisors, junior or middle managers.

For the sample recruited in Beijing, 180 questionnaires were distributed and 128 (46 males, 82 females) were returned, making a response rate of 71.1%. The mean age and tenure were 35.78 years (SD = 6.82 years) and 7.55 years (SD = 7.44) respectively. About 51% of the respondents were front-line supervisors, junior or middle managers.

A total of 150 questionnaires were distributed to Taiwan employees with 146 (102 males, 43 females, 1 unidentified) returned, making a response rate of 97.3%. The mean age and tenure were

Table 1

Factor analysis of Chinese coping strategies for the full sample in phase II (N = 380)

Number	Items	Factor 1	Factor 2	Factor 3	Factor 4	
12	Accept the reality without straining myself	0.90	-0.01	0.01	0.01	
11	Cannot manage it and accept the reality	0.88	-0.02	0.06	0.03	
13	Let it be	0.88	-0.01	0.02	0.01	
14	Let fate have its way	0.85	-0.01	0.01	-0.01	
10	Treat it as if nothing had happened and do nothing about it	0.65	-0.02	-0.06	0.15	
5	Try my best to fulfill the task	-0.04	0.86	0.02	0.01	
6	Evaluate and adjust myself	-0.01	0.86	0.02	0.19	
7	Spend extra time to finish the task	0.12	0.49	0.49	-0.11	
4	Evaluate what has gone wrong	-0.16	0.44	0.46	0.32	
3	Try to maintain an active positive attitude	-0.10	0.43	0.36	0.49	
9	Discuss with my colleagues	0.02	0.15	0.82	0.15	
8	Discuss with my superiors	0.01	0.13	0.81	0.01	
1	Do physical exercises	0.07	0.11	0.01	0.84	
2	Take time to relax	0.18	-0.01	0.01	0.82	
	Eigenvalues	3.69	3.62	1.32	1.01	
	Percentage of explained variance (%)	26.34	25.84	9.39	6.73	

*Note.* Factor 1—Passive adaptive behavior; Factor 2—Active positive coping; Factor 3—Social support, Factor 4—Hobbies/Relaxation.

	Ol. Siu et al. / Personalit
	l Personality
	and Individual
0 inese OSI	Differences 41
s.	fferences 41 (2006) 537–548

Table 2 Intercorrelations of Chinese coping scales, OSI coping scales, and work well-being for the full sample in phase II (N = 380)

Variables	1	2	3	4	5	6	7	8	9	10	11
1. CHI COPING	1										
2. CHOBBIES	$0.58^{***}$	1									
3. CSSPORT	0.53***	0.23***	1								
4. CREAP	0.62***	0.33***	0.54***	1							
5. CPASS	0.69***	$0.17^{**}$	0.02	-0.04	1						
6. OSI COPING	0.45***	$0.49^{***}$	0.33***	0.51***	0.02	1					
7. SP	$0.49^{***}$	0.51***	0.22***	0.35***	$0.20^{***}$	0.82***	1				
8. CP	0.34***	0.38***	0.33***	0.51***	$-0.10^{*}$	0.91***	0.52***	1			
9. JS	0.06	0.06	$0.20^{***}$	$0.22^{***}$	$-0.14^{**}$	0.07	-0.04	$0.14^{**}$	1		
10. PS	-0.02	$-0.18^{**}$	-0.07	$-0.17^{**}$	$0.17^{**}$	$-0.12^{*}$	-0.05	$-0.15^{**}$	$-0.17^{**}$	1	
11. BS	0.04	-0.08	$-0.11^{*}$	-0.10	0.19***	$-0.15^{**}$	-0.04	$-0.20^{***}$	$-0.23^{***}$	0.64***	1
Mean	53.41	7.76	8.60	22.87	14.18	42.94	15.85	27.10	12.31	24.04	26.10
SD	8.8	8.08	1.69	3.59	5.37	6.12	2.94	4.05	3.30	8.16	9.50
Cronbach's alpha	0.78	0.71	0.67	0.78	0.89	0.79	0.56	0.79	0.82	0.82	0.92

Note. CHI COPING = Chinese Coping Strategies; CHOBBIES = Hobbies/Relaxation (Chinese Coping); CSSPORT = Social Support (Chinese Coping); CSSPORT = Social Coping); CREAP = Active Positive Coping (Chinese Coping); CPASS = Passive Adaptive Behavior (Chinese Coping); OSI COPING = Coping Strategies; SP = Support Coping; CP = Control Coping; JS = Job Satisfaction; PS = Physical Symptoms; BS = Behavioral Symptoms \* *p* < 0.05.

 $^{**}_{***} p < 0.01.$ \* p < 0.001.

543

35.78 years (SD = 6.82 years) and 7.55 years (SD = 7.54). About 61% of the respondents were front-line supervisors, junior or middle managers.

## 4.3. Measures

#### 4.3.1. Coping strategies

Two sets of instruments were used. First, the new measure of Chinese coping strategies including active positive coping (5 items), passive adaptive coping (5 items), social support (2 items), and hobbies/relaxation (2 items) were used. Second, ten items of the OSI-2 measuring control coping (6 items) and support coping (4 items) were used. A 6-point scale was used with high scores indicating more frequently used coping behavior.

## 4.3.2. Work well-being

Three scales were used to measure employees' work well-being: *Job satisfaction scale* (3 items) (Cammann, Fichman, & Klesh, 1979) (e.g., "All in all, I am satisfied with my job"), and the *Psychological Well-being Scale* of ASSET (An Organizational Stress Screening Tool) (Cartwright & Cooper, 2002) to measure physical symptoms (10 items) and behavioral symptoms (10 items). The items are symptoms of stress-induced mental ill-health such as panic attack and constant tiredness. The construct validity of the *Psychological Well-being Scale* of ASSET has been demonstrated (Johnson & Cooper, 2003). A 6-point scale was used with respective high scores denoting higher job satisfaction, and worse well-being.

## 4.4. Results

By conducting a series of exploratory factor analyses on the combined sets of data (N = 380), taking eigenvalues greater than 1 and adopting varimax rotation, four potential factors emerged: Hobbies/Relaxation (2 items), Social Support (2 items), Active Positive Coping (5 items), and Passive Adaptive Behavior (5 items) with Cronbach's alphas ranging from 0.67 to 0.89 (Table 1). The developed new Chinese coping scales correlated significantly with both OSI-control and support coping scales (Table 2). Therefore hypothesis 1 can be fully supported. Furthermore, Chinese active positive coping correlated positively with job satisfaction (r = 0.22, p < 0.001) and negatively with physical symptoms (r = -0.17, p < 0.001), Chinese social support correlated positively with job satisfaction (r = 0.20, p < 0.001) and negatively with behavioral symptoms (r = -0.11, p < 0.05), and Chinese hobbies/relaxation correlated negatively with physical symptoms (r = -0.18, p < 0.001). However, Chinese passive adaptive coping correlated negatively with job satisfaction (r = 0.14, p < 0.001), and positively with physical (r = 0.17, p < 0.001) and behavioral symptoms (r = -0.14, p < 0.001). Therefore H2 can be partially supported.

# 5. Phase III

## 5.1. Method

The developed new Chinese coping scales together with OSI coping measures and measures of work well-being (job satisfaction, physical and psychological well-being) were administered to employees by face-to-face interviews in Hong Kong, and by self-administered questionnaire survey in Taipei and Beijing.

# 5.2. Sample and participants

For the Hong Kong sample, a multistage cluster random sampling method was used to recruit employees of various ranks from the selected service industries mentioned before. Firstly, a total of 34619 companies (20% of total companies in these industries) were randomly drawn by Census and Statistics Department of SAR government. About 25% of the number of employee was recruited from every 50th in the list to participate in the interviews from August to December 2003. A total of 324 employees were successfully interviewed. The sample consisted of 132 males and 192 females, with a mean age of 32.07 years (SD = 9.40 years). About 82% of the respondents were front-line supervisors, assistant managers or middle managers. Concerning marital status, 41.6% were married and 58.4% were single. The mean of tenure was 6.27 years (SD = 6.12).

A total of 540 questionnaires were distributed to employees in various service industry settings in Beijing, and 402 questionnaires were returned, making a response rate of 74.4%. The sample consists of 209 males and 182 females (11 unidentified), with a mean age of 31.85 years (SD = 7.41 years). About 40% of the respondents were front-line supervisor, assistant manager or middle manager. Concerning marital status, 65.9% were married and 34.1% were single. The mean of tenure was 4.34 years (SD = 5.15).

For the sample recruited in Taipei, a total of 520 questionnaires were distributed to employees in various service industry settings, and 312 questionnaires (including 6 invalid questionnaires) were returned, making a response rate of 60%. The sample consists of 134 males and 172 females, with a mean age of 32.85 years (SD = 6.65 years). About 16% of the respondents were front-line supervisors, assistant managers or middle managers. Concerning marital status, 56.6% were married and 43.4% were single. The mean of tenure was 6.31 years (SD = 6.31).

## 5.3. Measures

Measures for coping strategies and work well-being were the same as those used in Phase II. The two components of OSI-2 (control and support coping) were used as Western measures for construct validation, and the criterion validity of the coping scales was provided by their correlations with work well-being (including job satisfaction, physical and behavioral symptoms).

## 5.4. Results

We conducted a confirmatory factor analysis to verify the results obtained by exploratory factor analysis to assess the structure of coping in the combined sample. By deleting two items (items 3 and 10), the confirmatory factor model attains a better fit than the 14 items. As the chi square value was small (Chi-square/df = 332.19/48 = 6.92, p = 0.001), the mean square error of approximation was 0.08 and the goodness of fit values were above 0.90 (CFI = 0.95, NFI = 0.94, IFI = 0.95), we therefore accepted the four-factor model of Chinese coping strategies. The Cronbach's alpha ranged from 0.72 to 0.90.

Table 3 Intercorrelations of Chinese coping scales, OSI coping scales, and work well-being for the full sample in phase III (N = 1032)

	1. CHI COPING	2. CHOBBIES	3. CSSPORT	4. CREAP	5. CPASS	6. OSI COPING	7. SP	8. CP	9. JS	10. PS	11. BS
1	1										
2	0.66**	1									
3	$0.47^{**}$	0.19**	1								
4	0.55**	0.24**	0.46**	1							
5	0.69**	0.31**	-0.05	$-0.09^{**}$	1						
6	0.53**	$0.41^{**}$	$0.48^{**}$	0.61**	0.05	1					
7	0.53**	$0.52^{**}$	0.35**	0.32**	$-0.23^{**}$	$0.81^{**}$	1				
8	0.41**	0.23**	$0.46^{**}$	$0.68^{**}$	$-0.09^{**}$	$0.90^{**}$	$0.47^{**}$	1			
9	0.03	-0.02	0.26**	$0.20^{**}$	$-0.18^{**}$	0.14**	0.03	0.18**	1		
10	0.21**	$0.07^{*}$	-0.01	$-0.10^{**}$	0.35**	-0.02	$0.09^{**}$	$-0.10^{**}$	$-0.20^{**}$	1	
11	0.20**	0.02	-0.04	$-0.11^{**}$	0.38**	-0.05	0.06*	$-0.12^{**}$	$-0.33^{**}$	$0.77^{**}$	1
Mean	45.79	7.22	8.32	18.14	12.08	41.39	15.43	25.96	12.47	26.39	30.42
SD	7.18	2.22	1.85	2.98	4.67	6.50	3.20	4.35	2.90	9.20	9.90
Alpha	0.76	0.72	0.73	0.81	0.90	0.82	0.65	0.82	0.75	0.88	0.93

Note. CHI COPING = Chinese Coping Strategies; CHOBBIES = Hobbies/Relaxation (Chinese Coping); CSSPORT = Social Support (Chinese Coping); CREAP = Active Positive Coping (Chinese Coping); CPASS = Passive Adaptive Behavior (Chinese Coping); OSI COPING = OSI Coping Strategies; SP = Support Coping; CP = Control Coping; JS = Job Satisfaction; PS = Physical Symptoms; BS = Behavioral Symptoms. \* p < 0.05.

*p* < 0.01.  $^{***}p < 0.001.$ 

The developed Chinese Coping Strategies correlated significantly with the Western scales of coping strategies in the hypothesized directions, with Chinese active positive coping correlated significantly with OSI-control coping (r = 0.68, p < 0.001), Chinese social support correlated with OSI-support coping (r = 0.35, p < 0.001), and Chinese hobbies/relaxation with OSI-support coping (r = 0.51, p < 0.001).

To demonstrate the criterion validity of the Chinese coping scales, a series of correlational analyses revealed that active positive coping correlated positively with job satisfaction, whereas passive adaptive behavior correlated positively with physical and behavioral symptoms in the full sample (see Table 3).

## 6. Discussion

We adopted both qualitative and quantitative approaches using the actual reported experiences to inform item construction for a coping scale to be used in China. By adopting the transactional framework, a critical incidence analysis method was used to explore the coping behaviors reported by the Chinese. The results obtained by exploratory factor analysis and confirmatory factor analysis demonstrated the four factor structure of Chinese coping strategies, including hobbies/relaxation, social support, active positive coping, and passive adaptive behavior. The reliabilities of these four factors are acceptably high, and they correlated significantly with Western measures of coping. The criterion validity of the developed Chinese coping scales was also established, but results were slightly different from western research. In the present study, we demonstrate that these new scales work better than the OSI-2 or some other scales of coping on work well-being. For instance, we found active positive coping, social support and hobbies/recreation scales correlated positively with job satisfaction, and negatively with physical and behavioral symptoms; whereas passive adaptive coping correlated negatively with job satisfaction, and positively with physical and behavioral symptoms.

The Chinese active positive coping scale seems to be similar to the active positive attitude scale developed by Evers, Frese, and Cooper (2000) and the control coping scale in the OSI-2. The hobbies/relaxation scale, which is not included in the OSI-2, seems to correspond to the compensating behavior scale by Evers et al. (2000). The social support scale seems to have a counterpart in western scales, at least the OSI-2 support coping. However, the passive adaptive behavior scale seems to be unique among the Chinese. As expected, it has a maladaptive function, but it is different from the Denial scale developed by Evers et al. (2000).

By referencing cross-cultural international work on personal control (Spector et al., 2004), we conclude that the Chinese are more likely to adopt secondary control, namely emotion-focused coping in managing stressors, specifically the social support coping, hobbies/recreation, and passive adaptive coping as we find from this study. Therefore, the results of the current study corroborate previous cross-cultural studies that the Chinese are more likely to use emotion-focused coping (Weisz et al., 1984).

It seems that the Chinese passive adaptive coping is a specific Chinese method which cannot be found in Western samples. It is a kind of secondary control which involves changing the self to fit the external environment. This can be an active attempt to manage emotion, and is not necessarily just passively accepting the situation. It can be attributed to the fact that Chinese collectivist societies emphasize group harmony. To be successful in an organization setting, one must learn to fit in with others, and this involves adopting a passive posture of withdrawal. This can be interpreted that an employee with a detached attitude and acceptance of the *dao* will tolerate ups and downs in life, so a passive adaptive behavior can be a stress moderator. However, this passive coping behavior might be a negative buffer. We find employees adopting more passive adaptive coping tended to report lower job satisfaction and more physical and behavioral symptoms. Passive adaptive coping may be a coping method to deal with stressful conditions, but if overdone can exacerbate the problem. For instance, withdrawal from reality is not necessarily an adaptive means of coping with workload or interpersonal conflict, because the work or the conflict still exists. We must note the potential risk of overusing this type of coping behavior in preventive stress management. But given these are cross-sectional data, it is also possible that those who are dissatisfied and strained due to greater work stress are more likely to use this coping, which might actually be effective. Without it perhaps their strain would be higher.

To conclude, the internal consistency and factor structure of the developed Chinese coping strategies has been demonstrated, and some evidence for construct validity has been provided. They have potential to be used for Chinese employees in future studies. Nevertheless, the support coping scales are weaker as compared to other scales. They need further development. To a certain extent, we collected incidents to inform our measure that indicates how often employees use various approaches.

## Acknowledgements

The work described in this paper was fully supported by a grant from the Research Grants Council of the Hong Kong Special Administrative Region, China (Project No. LU3006/02H).

# References

- Averill, J. R. (1990). Inner feelings, words of the flesh, the beast within, diseases of the mind, driving force, and putting on a show: Six metaphors of emotion and their theoretical extensions. In D. E. Leary (Ed.), *Metaphors in the history* of psychology (pp. 104–132). New York: Cambridge University Press.
- Bar-Tal, Y., & Spitzer, A. (1994). Coping use versus effectiveness as moderating the stress-strain relationship. Journal of Community and Applied Social Psychology, 4, 91–100.
- Cammann, C., Fichman, M. Jenkins, D., & Klesh, J. (1979). The Michigan Organizational Assessment Questionnaire. Unpublished manuscript, University of Michigan, Ann Arbor.

Cartwright, S., & Cooper, C. L. (2002). ASSET: An organizational stress screening tool, the management guide. Manchester, UK: RCL Ltd.

Cooper, C. L., Dewe, P., & O'Driscoll, M. P. (2001). Organizational stress: A review and critique of theory, research, and application. CA: Sage.

Evers, A., Frese, M., & Cooper, C. L. (2000). Revisions and further developments of the occupational stress indicator: LISREL results from our four Dutch studies. *Journal of Occupational and Organizational Psychology*, 73, 221–240.

Folkman, S. (1984). Personal control and stress and coping processes: A theoretical analysis. *Journal of Personality and Social Psychology*, *46*, 839–852.

Johnson, S., & Cooper, C. L. (2003). The construct validity of the ASSET stress measure. Stress and Health, 19, 181-185.

- Keenan, A., & Newton, T. J. (1985). Stressful event, stressors and psychological strains in young professional engineers. *Journal of Occupational Behavior*, 6, 151–156.
- Lazarus, R. S. (1991). Psychological stress in the workplace. Journal of Social Behavior and Personality, 6, 1-13.
- Lazarus, R. S., & Folkman, S. (1984). Stress, appraisal, and coping. New York: Springer.
- Lee, R. P. L. (1985). Social stress and coping behavior in Hong Kong. In W. S. Tseng & D. Y. H. Wu (Eds.), *Chinese culture and mental health* (pp. 193–210). Orlando: Academic Press, Inc.
- Liu, C. (2002). A comparison of job stressors and job strains among employees holding comparable jobs in Western and Eastern societies. USA: Unpublished Ph.D. Dissertation, University of South Florida.
- Narayanan, L., Menon, S., & Spector, P. E. (1999). Stress in the workplace: A comparison of gender and occupations. Journal of Organizational Behavior, 20, 63–73.
- Rice, P. L. (1999). Stress and Health (third ed.). Pacific Grove: Brooks/Cole Publishing Company.
- Rothbaum, F., Weisz, J. R., & Snyder, S. S. (1982). Changing the world and changing the self: A two-process model of perceived control. *Journal of Personality and Social Psychology*, 42, 5–37.
- Siu, O. L. (2002). Occupational stressors and well-being among Chinese employees: The role of organizational commitment. Applied Psychology: An International Review, 51, 527–544.
- Siu, O. L., Cooper, C. L., & Donald, I. (1997). Occupational stress, job satisfaction and mental health among employees of an acquired TV company in Hong Kong. *Stress Medicine*, 13, 99–107.
- Spector, P. E. (1998). A control model of the job stress process. In C. L. Cooper (Ed.), *Theories of organizational stress* (pp. 153–169). London: Oxford University Press.
- Spector, P. E., Sanchez, J. I., Siu, O. L., Salgado, J., & Ma, J. H. (2004). Eastern versus Western control beliefs at work: An investigation of secondary control, socioinstrumental control, and work locus of control in China and the US. *Applied Psychology: An International Review*, 53, 38–60.
- Stanton, A. L., Parsa, A., & Austenfeld, J. L. (2002). In C. R. Snyder & S. J. Lopez (Eds.), Handbook of positive psychology (pp. 148–158). New York: Oxford University Press.
- Stone, A. A., Greenberg, M. A., Kennedy-Moore, E., & Newman, M. G. (1991). Self-report, situation specific coping questionnaires: What are they measuring? *Journal of Personality and Social Psychology*, 61, 648–658.
- Weisz, J. R., Rothbaum, F. M., & Blackburn, T. C. (1984). Standing out and standing in: the psychology of control in America and Japan. *American Psychologist*, 39, 955–969.
- Williams, S., & Cooper, C. L. (1996). Occupational stress indicator 2.0. Winsor, UK: NFER-Nelson.
- Williams, S., & Cooper, C. L. (1997). Occupational stress indicator. In C. P. Zalaquett & R. J. Wood (Eds.), *Evaluating stress: A book of resources* (pp. 251–276). FL: Scarecrow Press, Inc.
- Xie, J. L. (1996). Karasek's model in the People's Republic of China: Effects of job demands, control, and individual differences. Academy of Management Journal, 39, 1594–1618.