

Intervention Studies on Enhancing Work Well-Being, Reducing Burnout, and Improving Recovery Experiences Among Hong Kong Health Care Workers and Teachers

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This article reports two secondary intervention studies on stress management in Hong Kong adopting a positive psychology approach. The first intervention study was conducted among health care workers to reduce burnout and enhance work well-being (job satisfaction, physical/psychological symptoms) and positive emotions. A one-group pretest-posttest design was adopted. One thousand thirty-four health care employees were recruited from hospitals to participate in a 2-day training course held in 17 separate classes. The results obtained from paired t tests consistently demonstrated an improvement in work-related well-being and a reduction in burnout after the training. To investigate whether the improvements were specifically caused by the intervention, the second intervention study adopted a quasi-experimental method with a control group, also using a pretest-posttest design, and with an additional aim of improving the recovery experiences. Fifty teachers were recruited for the experimental group, and 48 for the control group. The

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results show that teachers in the experimental group scored significantly higher in recovery experiences (particularly mastery) compared to those in the control group. Implications of the findings are discussed.

Keywords: burnout, intervention studies, recovery experiences, stress management

Occupational stress is reaching an epidemic in the modern workplace, costing organizations billions of dollars in terms of employee health care, absenteeism, and lost productivity (Weinberg & Cooper, 2012). Thus, more attention has been paid to the direct and indirect role of burnout at work (a severe form of psychological response/consequence of stress; Maslach, Jackson, & Leiter, 1996; Maslach, Schaufeli, & Leiter, 2001), particularly in human service workers such as health care workers (Grau-Alberola, Gil-Monte, García-Juesas, & Figueiredo-Ferraz, 2010; Leiter & Maslach, 2009), and school-teachers (Chan, 2011; Chang, 2009; Pas, Bradshaw, & Hershfeldt, 2012). The costs associated with burnout are high, because burnout has been found to be related to negative affect, low self-esteem, depression, absenteeism, and decreased job performance (Maslach et al., 1996; Steinhardt, Smith Jaggars, Faulk, & Gloria, 2011; Taris, 2006). Interventions that decrease the rate of growth of burnout, therefore, are essential for employee well-being. Recently, Leiter and Maslach (2005, 2010) have pointed to the importance of management interventions to reduce burnout among employees. However, although there have been many studies on the link between stressors, burnout, and adverse health and organizational outcomes, little work has been focused on burnout interventions (Innstrand, Espnes, & Mykletun, 2004; Kompier & Cooper, 1999).

Personal care and teaching rank as two of the four most stressful occupations in Hong Kong (Occupational Safety & Health Council [OSHC], 2006). However, systematic intervention work on burnout is even rarer in the Chinese context than in Western societies. Cultural characteristics as well as the macro-environment in Chinese society may elicit differential opportunities for individuals to manage stress and burnout. It is therefore valuable to obtain data from Chinese employees to provide evidence to generalize Western findings to Chinese populations, and hence contribute to the cross-cultural development of theories and practices in managing stress and burnout. Our research aimed to investigate the impact of two respective intervention studies with health care workers and teachers in Hong Kong, to enhance their well-being, reduce burnout and improve recovery. To the best of our knowledge, our research is the first to examine whether the “recovery experiences” can be trained in a Chinese context.

BURNOUT AND ITS IMPACT

Burnout among general occupations was originally defined as “a syndrome of emotional exhaustion, depersonalization, and reduced personal

accomplishment that can occur among individuals who work with people in some capacity” (Maslach et al., 1996, p. 4). In later years, Maslach and coworkers reconceptualized burnout to include three dimensions that are applicable to all occupational sectors: emotional exhaustion, cynicism, and professional efficacy (Maslach et al., 2001). At an individual level, burnout has been associated with reduced well-being of staff, including mental and physical health problems, such as psychological distress, anxiety, depression, and reduced self-esteem (Maslach et al., 2001). At an organizational level, burnout, particularly emotional exhaustion, has been linked with reduced job satisfaction and organizational commitment, increased absence, impaired objective performance, and more counterproductive work behaviors (e.g., Bakker, Van Emmerik, & Van Riet, 2008; Banks, Whelpley, Oh, & Shin, 2012; Maslach et al., 2001).

THE ROLE OF INTERVENTION STUDIES AND THEIR IMPACT

Murphy (1984) proposed that stress prevention and intervention in the workplace can take the forms of primary, secondary, and tertiary level interventions. Cartwright and Cooper (2005) summarized that primary interventions focus on modifying or eliminating the environmental sources of stress within the workplace; secondary interventions focus on extending the personal resources of individuals to help them cope better; and tertiary interventions are concerned with the treatment and rehabilitation of employees who have already developed serious stress-related health problems. According to a review by LaMontagne, Louie, Ostry, and Landsbergis (2007), “stress management” generally refers to secondary and tertiary interventions. LaMontagne et al. (2007, p. 269) further noted that “primary prevention is generally more effective than secondary, and secondary is generally more effective than tertiary. . . these prevention approaches are optimally used in combination.” Recently, Biron, Karanika-Murray, and Cooper (2012) have advocated further intervention studies even though they are notoriously difficult to do and control.

INTERVENTIONS AMONG HEALTH CARE WORKERS AND TEACHERS

Jones and Johnson (2000) summarized evidence for effectiveness of interventions among trained nurses, and reported that interventions led to improvement in job satisfaction and reductions in job burnout. In Japan, communication skill training might have a positive effect on burnout among

hospital nurses (Shimizu, Mizoue, Kubota, Mishima, & Nagata, 2003). Furthermore, Shapiro, Astin, Bishop, and Cordova (2005) examined the effects of a short-term stress management program, mindfulness-based stress reduction (MBSR), on health care professionals. They reported that an 8-week MBSR program may be effective for reducing stress and increasing quality of life and self-compassion in health care professionals. Similarly, Mackenzie, Poulin, and Seidman-Carlson (2006) provided evidence from a brief mindfulness-based stress reduction intervention that helped 16 nurses in the experimental group to achieve improvements in burnout symptoms.

Some interventions have been found to be effective in reducing levels of teacher burnout and enhancing well-being and life satisfaction among teachers in the West (e.g., Kaspereen, 2012; Ross, Romer, & Horner, 2012), and are specifically more effective for special education teachers (Emery & Vandenberg, 2010). However, systematic interventions for school teachers are relatively rarer in the Chinese context. As far as we know, only one study using integrated interventions (involving primary and secondary interventions) was found effective in reducing teacher burnout in China (Wu, Li, Wang, Wang, & Li., 2006). Elsewhere, Chan (2011) investigated the effectiveness of a 'gratitude intervention' program in promoting life satisfaction and reducing burnout symptoms in 63 Hong Kong Chinese school teachers, and found significant increases in life satisfaction and decreases in emotional exhaustion and depersonalization among participants after training. However, this study did not include a control group.

Siu and coworkers adopted the one-group pretest/posttest design (Campbell & Stanley, 1963) among 332 employees from 10 organizations (including one secondary school) in Hong Kong for evaluating the effectiveness of their training program (Occupational Safety & Health Council [OSHC], 2006; Siu, Chow, Phillips, & Lin, 2006). They demonstrated that the participants reported higher levels of positive emotions after the training. However, their study did not include health care workers, and burnout was not measured.

MOVING PEOPLE FROM BURNOUT TO RECOVERY

A meta-analysis by Richardson and Rothstein (2008) concluded that previous research in occupational health psychology has devoted extensive attention to stress intervention programs, mostly using cognitive-behavioral programs and relaxation interventions. However, previous intervention programs focused on work stressors and participants' reaction to those stressors, but rarely incorporated recovery (Hahn, Binnewies, Sonnentag, & Moiza, 2011). The increased attention paid to recovery is in line with the development of positive psychology (Seligman & Csikszentmihalyi, 2000). Some

studies indicated that vacations, weekend experiences, and other periods of rest can result in a decrease of burnout, and maintain well-being at work (Eden, 2001; Fritz, Sonnentag, Spector, & McInroe, 2010; Sonnentag, 2003; Westman & Etzion, 2001).

Meijman and Mulder (1988) suggested that recovery is necessary to prevent an ongoing deterioration in mood and performance. Recovery refers to a process during which individual functional systems that have been called upon during a stressful experience return to their prestress levels (Meijman & Mulder, 1898). Employees need adequate rest after exerting efforts at work so as to recover and recharge physically and psychologically (Demerouti, Bakker, Geurts, & Taris, 2009; Sluiter, Van der Beek, & Frings-Dresen, 1999). Sonnentag and Fritz (2007), using a sample 271 employees from a variety of different jobs, developed and validated an instrument that comprised of four recovery experiences: psychological detachment from work, relaxation, mastery, and control. More recently, Hahn et al. (2011) report a quasi-experimental study that found a recovery training program, with two training sessions held one week apart, showed an increase in recovery experience of mastery, recovery-related self-efficacy and sleep quality, although no training effect for emotional exhaustion could be found.

This article reports two intervention studies on stress management conducted in Hong Kong. Study 1, commissioned by the Hong Kong Hospital Authority (HKHA), aimed to enhance health care workers' work well-being and positive emotions, and reduce job burnout. Study 2, commissioned by the Hong Kong Education Bureau (HKEDB), involved intervention work among school teachers who often face challenging behaviors in classrooms, aimed to reduce teachers' emotional exhaustion, and enhance their recovery. Given that stress is a highly individualistic process which depends on the individual's cognitive appraisal (Lazarus & Folkman, 1984), secondary interventions to modify and enhance employees' personal resources and coping strategies are essential, especially when the ways to change the work environment are not feasible or are costly. Results from a meta-analysis show that stress interventions that focus on individuals are effective in reducing employees' stress (van der Klink, Blonk, Schene, & van Dijk, 2001). Hence, these two studies adopted a secondary intervention approach. The hypotheses are:

H1: Participants' levels of burnout will be decreased while work well-being (fewer physical/psychological symptoms, and higher level of job satisfaction) and positive emotions will be improved after the training in both Studies 1 and 2.

H2: For Study 2, after receiving training on recovery, participants in the experimental group will show greater improvement in their recovery experiences than the control group.

STUDY 1: METHOD

Even though a one-group pretest-posttest design (Campbell & Stanley, 1963) is only a pre-experimental research design (Babbie, 2007), having an acceptable intervention evaluation is “a realistic starting point for improving intervention evaluation methodology” (Scharf et al., 2008, p. 2). Among the 90 intervention studies reviewed by LaMontagne et al. (2007), 31 studies did not include control groups but still achieved positive evaluations (three out of five stars for quality). LaMontagne, Noblet, and Landsbergis (2012) have also addressed barriers to organizational-level interventions. Due to budget and time constraints, it was not possible to recruit a control group for comparisons to examine the impact of training in Study 1. We therefore adopted a one-group pretest-posttest design and the training contents of Study 1 are shown in Table 1. Study 1 was conducted between October 2008 and February 2009. An intensive 2-day training program (7 hr a day) was delivered, organized in 17 repeated classes, with an average of 60 staff participating in each class. The period between the pretest and posttest ranged from 7 to 10 days.

Table 1. Contents of Training in Study 1 and Study 2

I.	Stress and coping
1.	Sources of workplace stress and burnout
2.	Effective coping strategies
II.	Managing stress
1.	Critical incident stress management
2.	Techniques in post-incident debriefing
3.	Introduction to cognitive behavioral therapy
III.	Stressor-emotion model
1.	Stress, violence and aggression
2.	Tips for prevention of challenging behaviors in hospitals/classroom ^a
IV.	Self-healing techniques
1.	Muscle relaxation, imagery, and mindfulness
V.	Emotion management to reduce burnout:
1.	Anger management
2.	ABCDE model of stress and avoid thinking errors
VI.	Applying positive psychology in the workplace
1.	Introduction to positive psychology
2.	Art of happiness in the workplace
4.	Human virtues and character strengths (e.g., forgiveness, gratitude) ^a
5.	The role of resilience, optimism ^a , self-efficacy ^a , and hope ^a to cope with stress
VII.	Effective communication
1.	Improving communication skills in hospitals/classroom ^a to deal with challenges
2.	Methods of managing conflict: Agreement frame, reframing
VIII.	Recovery ^a
1.	Four recovery experience: psychological detachment from work, relaxation, mastery, and control; and practical tips
2.	How to sleep well?

^a Offered in Study 2 only.

Participants and Procedures

One thousand and 34 health care workers from different job levels in various public hospitals run by the HKHA were recruited by a HR manager to attend the training workshops. The completion of questionnaires for the pretest and posttest surveys was done on a voluntary basis, but those completing both pretest and posttest would be given a free personal profile as an incentive. A total of 937 employees (212 men, 724 women, 1 unidentified) completed the pretest survey and 891 employees (194 men, 690 women, 7 unidentified) completed the posttest survey. The matched sample was 817, making a response rate of 79.0%. The reasons for dropouts were mainly related to shift duties and urgent administrative work. Because of work requirements, some staff members were unable to attend the whole day or the afternoon training session on Day 2. We reported participants' demographic characteristics as pertaining to the pretest survey. About 87% were aged over 35 years and 79% of the participants had worked in hospitals for more than 10 years. About 46% were registered general and psychiatric nurses. Other types of job included nurse assistants, ward managers, occupational therapists, physiotherapists, doctors, and human resources personnel.

Measures

Burnout

The 22-item Maslach Burnout Inventory-Human Service Survey (MBI-HSS; Maslach et al., 1996) was used to assess emotional exhaustion, depersonalization, and reduced personal accomplishment. Respondents were asked to indicate how often they had certain feelings at work (e.g., "I feel emotionally drained from my work") using a 0–6 Likert scale (0 = "never," 6 = "always"). A Chinese version of this scale showed good psychometric properties (e.g., Li, Shi, Luo, Li, & Yang, 2003). The coefficient alpha for this scale in the pretest was 0.88, 0.80, and 0.83 for emotional exhaustion, depersonalization, and reduced personal accomplishment, respectively; whereas the coefficient alpha for this scale in the posttest was 0.90, 0.84, and 0.86, respectively.

Work Well-Being

Two scales were used to measure employees' work well-being. Two items were used to measure *job satisfaction* (e.g., "All in all, I am satisfied

with my job"; Siu, Lu, & Spector, 2012). The correlation between these two items was 0.89 and 0.83, respectively. Six items were used to measure *physical and psychological symptoms*. Items were taken from the Psychological Well-being Scale of An Organizational Stress Screening Tool (ASSET; Cartwright & Cooper, 2002) to measure physical symptoms (3 items, e.g., insomnia) and psychological symptoms (3 items, e.g., depressed mood). The construct validity of the Psychological Well-being Scale of ASSET has been demonstrated (Johnson & Cooper, 2003). Each item was rated on a six-point scale with high value indicating poor well-being. In Study 1, the coefficient alpha for this scale in our study was 0.83 and 0.86 for the pretest and posttest, respectively.

Positive Emotions

The 5 items measuring positive feelings of the WHOQoL quality of life scale were used to measure positive emotions (Leung, Tay, Cheng, & Lin, 1997). Each item was scored from *very often* (5) to *never* (1). Scores on negative affect were recorded and a summation of scores of the five items measured overall positive emotions. The coefficient alpha was 0.88 and 0.91 for the pretest and posttest, respectively.

Results

The results depicted in Table 2 show that, after the training, participants scored statistically significantly lower on physical/psychological symptoms and burnout. Furthermore, participants scored significantly higher on job satisfaction and positive emotions. Thus, Hypothesis 1 was supported in Study 1.

Table 2. Comparisons of the Main Variables for Study 1 ($N = 817$)

	Pretest		Posttest		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Work well-being					
Physical/psychological symptoms	2.96	0.88	2.73	0.85	10.46***
Job satisfaction	4.30	0.93	4.49	0.88	-6.73***
Burnout	2.90	0.59	2.74	0.60	11.59***
Emotional exhaustion	3.21	0.79	2.98	0.82	11.23***
Depersonalization	2.71	0.84	2.56	0.84	6.91***
Reduced personal accomplishment	2.79	0.59	2.69	0.59	6.51***
Positive emotions	3.86	0.75	4.10	0.74	-11.92***

*** $p < .001$.

STUDY 2: METHOD

To remedy the potential weakness of not having a control group in Study 1 and to demonstrate the effectiveness of the intervention, Study 2 adopted a quasi-experimental design with a control group using pretesting and post-testing design (Babbie, 2007) to examine the impact of training. The components of the stress management training program were similar to those designed for Study 1, with an additional topic of recovery strategies (e.g., do meaningful activities after work) because Study 2 also aimed at enhancing participants' recovery experiences (Table 1). The training was extended from 2 to 2.5 days.

Samples and Procedures

A total of 50 primary and secondary teachers (20 men, 30 women) registered for the training course in May, 2012. The mean age was 39.06 ($SD = 8.19$), and their mean job tenure was 13.63 years ($SD = 6.91$). All participants completed both the pretest survey and the posttest survey, yielding a 100% response rate. Each participant was invited to recruit one colleague to complete the questionnaire to form the control group. A total of 48 teachers (16 men, 32 women) participated in both pretest and posttest survey constituting the control group, yielding a response rate of 96%. The mean age of the control group was 38.09 ($SD = 10.18$), and mean job tenure was 14.10 years ($SD = 9.68$). Therefore, the demographic characteristics of both groups were similar.

Measures

The measures for work well-being and positive emotions were the same as those used in Study 1. However, to reduce the length of the questionnaire, only the component of emotional exhaustion was used to measure burnout.

Recovery Experiences

For the same reason of reducing the length of the questionnaire, we only measured "psychological detachment" and "mastery experiences" because these two recovery experiences during the evening or the weekend have been found to be related to activation and affect (Fritz et al., 2010; Sonnentag, Binnewies, & Moiza, 2008). Eight items from the Recovery Experience

Questionnaire (Sonnentag & Fritz, 2007) were used. Sample items for psychological detachment and mastery respectively are “Generally, during time after work, I don’t think about work at all” and “Generally, during time after work, I do things that challenge me.” Each item was scored from *fully agree* (5) to *fully disagree* (1). The coefficient alpha for the eight items was .81 (pretest) and .83 (posttest).

Results

The results depicted in Table 3 show that there were no significant differences on all variables between the experimental and control groups in the pretest analysis. In the posttest analysis, participants in the experimental group scored higher on positive emotions, lower on emotional exhaustion, and they reported fewer physical/psychological symptoms than those in the control group, although differences were not statistically significant. However, the teachers in the experimental group reported statistically and significantly higher scores in overall recovery, in particular the mastery recovery

Table 3. Comparisons of the Main Variables Between Experimental and Control Groups for Study 2

Variable	Before training			After training		
	Control group (<i>n</i> = 50)	Training group (<i>n</i> = 50)	<i>t</i>	Control group (<i>n</i> = 48)	Training group (<i>n</i> = 50)	<i>t</i>
Recovery			−0.48			−2.35*
<i>M</i>	2.85	2.91		2.79	3.21	
<i>SD</i>	0.69	0.71		0.61	1.1	
Detachment			−0.17			−0.97
<i>M</i>	2.75	2.79		2.8	2.97	
<i>SD</i>	0.89	0.9		0.84	0.91	
Mastery			−0.59			−2.48*
<i>M</i>	2.94	3.04		2.77	3.45	
<i>SD</i>	0.89	0.85		0.71	1.76	
Positive emotions			−0.68			−0.58
<i>M</i>	3.74	3.85		3.74	3.84	
<i>SD</i>	0.79	0.79		0.84	0.86	
Physical/ psychological symptoms			0.80			1.02
<i>M</i>	3.44	3.28		3.39	3.19	
<i>SD</i>	1.02	1.06		0.96	1.01	
Emotional Exhaustion			0.49			0.27
<i>M</i>	3.92	3.82		3.94	3.88	
<i>SD</i>	0.98	1.12		1.03	1.2	
Job satisfaction			−0.37			0.48
<i>M</i>	4.45	4.52		4.51	4.42	
<i>SD</i>	0.83	0.99		0.84	1	

* $p < .05$.

experience, than their counterparts in the control group. Thus Hypothesis 2 is only partially supported.

Discussion

The two intervention studies presented in this paper adopted a positive psychology approach attempting to test the impact of training on reducing burnout among health care workers and school teachers in Hong Kong. We also aimed to provide training to improve teachers' recovery experiences. As hypothesized, participants reported lower levels of burnout after training in Study 1. Furthermore, in general, participants' levels of work well-being (fewer physical/psychological symptoms, and higher level of job satisfaction) and positive emotions improved after the training programs in both Studies 1 and 2. Yet the differences in Study 2 were not statistically significant.

The present findings are consistent with previous studies that suggest interventions focused on individuals in health care professions can be effective (Jones & Johnston, 2000; Shapiro et al., 2005). Yang et al. (2012) emphasized the role of cultural values (i.e., individualism-collectivism) in understanding occupational stress process. Our study found that Hong Kong health care employees and teachers in collectivistic culture, like employees in Western individualistic cultures, can also benefit from intervention on reducing burnout and enhancing work well-being. This can be explained by secondary appraisal of the transactional stress theory (Lazarus, 1991). When demand/threat is appraised, the employees would engage in secondary appraisal to determine the options taught in the training program to cope with the demand/threat, and thus report less burnout and better work well-being.

In addition, we found from Study 2 that recovery experiences can be "trained" by introducing recovery strategies. The results obtained corroborate a recent study conducted in the United States (Hahn et al., 2011) in the way that teachers in Hong Kong can also appraise the nonwork resource of recovery (particularly mastery experience in learning nonwork-related new skills) as a valuable personal resource and hence learn to adopt it. Thus, mastery recovery experience is as relevant for Chinese as for Westerners. The nonsignificant difference in psychological detachment may be attributed to the fact that Chinese employees, having work-related Confucian values such as hard work and endurance (Chao, 1990), are perhaps less likely to change their mindset to psychologically detach from their work.

Nevertheless, like Hahn et al.'s (2011) study, no training effect for emotional exhaustion could be detected in Study 2, so it is likely that the changes in burnout in Study 1 may not directly due to the intervention. The benefits found in Study 1 could partially stem from changed perceptions

about management practices, rather than the training program itself. By social exchange theory (Blau, 1964) or *bao* (reciprocity, a social belief in Chinese culture; Leung, 2010), it might be a possibility that the participants perceived more support and concern from senior management because a free training workshop was provided for them. They perceived that their organizations were helping them to reduce burnout, and they then perceived their organizations as more supportive and therefore felt more obligated to reciprocate with feeling more satisfied with their job (e.g., Tang, Siu, & Cheung, in press). Therefore, perhaps one could still suggest that training may have an indirect effect on reducing burnout via its positive influence on participants' perceptions of organization management practice.

THEORETICAL AND PRACTICAL IMPLICATIONS OF THIS RESEARCH

As mentioned earlier, stress is a highly individualistic process which depends on the individual's cognitive appraisal (Lazarus & Folkman, 1984), thus secondary interventions to enhance employees' coping strategies and personal resources are essential. Intervention research on health care workers and teachers, however, is rare in Chinese societies. Our current study has, therefore, contributed to fill this gap in knowledge. Given that this is the first intervention study on burnout in a Chinese work context, it is very interesting to note that, as in Western cultures, secondary intervention is also effective in reducing burnout and enhancing recovery in Chinese context (van der Klink et al., 2001). We find that Chinese health care employees, like samples in other countries, can also benefit from intervention which improves their coping resources to tackle burnout. Our findings also indicate that recovery experience can be trained among Chinese teachers, so they provide evidence to generalize Western findings of training recovery experiences to Chinese populations.

As LaMontagne et al. (2007) concluded, most intervention studies have been conducted in European contexts, including the United Kingdom, with smaller numbers from the United States and other countries. The current research is among the very few intervention studies conducted in China (of which Hong Kong is part) and in the Asia-Pacific, and hence contributes to the development of cross-cultural theories and practices in occupational stress intervention regarding burnout reduction.

In terms of practical implications, it is important for both the HKHA and the HKEDB to design and organize more similar training courses for their staff members for preventive purposes. The scales used in the current research can be used for assessing the effectiveness of similar training

programs. In general, the results obtained from Studies 1 and 2 corroborate a study on coping among Chinese employees which shows that active positive coping, social support, and hobbies/relaxation are common coping strategies and they have a beneficial role on work well-being (job satisfaction, physical and behavioral symptoms; Siu, Spector, & Cooper, 2006). Therefore, Chinese employees need to be trained or reminded of engaging in secondary appraisals to determine the available options to cope with demand/threat in order to tackle stress and burnout.

LIMITATIONS AND FUTURE DIRECTIONS

Because of resource restrictions, it was not possible to adopt a true experimental design with a control group for comparisons in both Studies 1 and 2; and only self-report measures were used. We recognize that the lack of a control group in our design for Study 1 is a weakness. Study 2 adopted a quasi-experimental with a control group which addressed this limitation to some extent. Furthermore, more objective personnel data, such as sickness absences, turnover, and physiological indicators could also be introduced as additional information sources for evaluation of effectiveness of training (see Arthur, Bennett, Edens, & Bell, 2003). As Biron et al. (2012) advocated, more stress management intervention studies particularly those incorporating recovery training should be conducted in Western and Chinese countries.

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