



Coping style as a mediator between personality and job burnout: a Cross-sectional research for the Chinese employees

Yueping Guo¹, Chengjia Yang¹, Xueyu Hu¹, Xianzhang Hu², Mingzhi Xu^{1*}

¹Guangdong Mental Health Center, Guangdong Provincial People's Hospital, Guangdong Academy of Medical Sciences, No.123 Huifuxi Road, Guangzhou, Guangdong, China Tele:81888553 Fax:81862664

²Xinxiang Medical University, Xinxiang City 453002, Henan, China

Abstract

Background: The previous studies have examined whether personality or coping style could be a predictor of job burnout. However, there are few studies revealed how personality or coping style influences on the developing of job burnout, especially in the sample of Chinese employees. The objective of this study is to investigate the role of coping style as a mediator between personality and job burnout in Chinese employees.

Methods: There were 217 out of 235 employees completed questionnaires of the Eysenck Personality Questionnaire (EPQ), Simplified Coping Style Questionnaire (SCSQ) and the Chinese version of Maslach Burnout Inventory-General Survey (MBI-GS). Path analysis was used to analyze the relationship among personality, coping style and job burnout.

Results: Path analysis revealed extroversion could affect reduced professional efficacy via optimistic coping, and the mediating effect of optimistic coping was 0.06; neuroticism could influence all dimensions of burnout through pessimistic coping, and the mediating effect of pessimistic coping on emotional exhaustion, cynicism and reduced professional efficacy was 0.06, 0.08 and 0.05, respectively. In addition, the result showed that emotional exhaustion and cynicism interact on each other. The direct effect of emotional exhaustion on cynicism was 0.31; conversely, the direct effect of cynicism on exhaustion was 0.29. The model fitted the data well ($\chi^2=26.25$, $P=0.01$, $GFI=0.97$, $AGFI=0.92$, $NFI=0.94$, $CFI=0.96$, $RMSEA=0.07$ (90% CI 0.035-0.113), P close fit =0.14).

Conclusions: Coping style might be one of mediators between personality and job burnout for Chinese employees.

Keywords: Job Burnout, Personality, Coping style, Mediator, Path analysis, Chinese employees

Background

Job burnout is defined as emotional exhaustion, cynicism and reduced professional efficacy. It is a prolonged response to chronic emotional and interpersonal stress on the job [1]. A large body of evidences showed that the job burnout is associated with the pressure of work, such as workload, job demands, role conflict, and working environment [2-4]. The theoretical models of working pressure, e.g. Job Demand-Resources model [5-7], Job

Demand-Control model [8-10], and Conservation of Resources Theory [11], have been established, when researchers try to explain how the job burnout happens. However, these models do not entirely explain why people, working in the same place, have different responses to the same stress. Some published findings indicated that both special individual and environmental characteristics predict burnout, suggesting that job burnout is resulted not only by individual characteristics, such as personality and coping styles [12,13].

Personality characteristics quantifying the marked variation in typical responding to the environment that distinguished one person from another [14]. Personality characteristics describe and predict an individual's behavior across situations and over time. Some evidences show that personality characteristics is accountable for some mental disorders, for example, neuroticism is considered as a potential general underlying vulnerability factor for psychopathology [15,16]. Besides, some researchers report that differently responding to job-stress in the same working surrounding is most likely correlated with personality characteristics [17,18]. Kokkinos recently reported that personality characteristics was related with job burnout dimensions and that neuroticism was a common predictor of all dimensions of job burnout although in personal accomplishment [19]. In addition, Bakker et al. reported that some personality characteristics might help to protect against the risks of developing job burnout, such as extraversion [20].

Coping was defined by Lazarus and Folkman as "ongoing cognitive and behavioral efforts to manage specific external and

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***Corresponding author(s):** Mingzhi Xu, Guangdong Mental Health Center, Guangdong General Hospital, Guangdong Academy of Medical Sciences, Associated Southern China Hospital of Shantou University Medical College-510120, Guangzhou Province, P.R. China, Email: mingzhixu@126.com

Yueping Guo, Guangdong Mental Health Center, Guangdong General Hospital, Guangdong Academy of Medical Sciences, Associated Southern China Hospital of Shantou University Medical College-510120, Guangzhou Province, P.R. China, Email: yueping_569@yeah.net

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/or internal demands that are appraised as taxing or exceeding the resources of the person” [21]. Several distinctions of coping style are made within the broad domain, including problem versus emotion focus, engagement versus disengagement, accommodative coping and meaning-focused coping, proactive coping [22]. The previous studies indicated that job burnout was associated with coping style [23,24]. Gibbons found that avoidance coping was the strongest predictor of job burnout and, even if be used only occasionally, it promoted the generation of job burnout [25]. On the other hand, the active coping could be an alleviator for job burnout [26].

It is important to understand the role of these variables in order to understand how to protect individuals from burnout. There are evidences suggesting that personality may influence job burnout through its impact on individual responses to a stressful situation; that is through ineffective coping when under stress [20,27,28]. Results by Narumoto and colleagues indicated that neuroticism affected the burnout scores through emotion-oriented coping [29]. Findings on the relationship of nurse burnout with personality characteristics and coping behaviors revealed that those with higher neuroticism and low extroversion are easier to suffer from client-related burnout resulted from conflict with patients. On the other hand, Shimizutani et al reported that appropriate coping behaviors might be useful for reducing client-related job burnout in relation to personality characteristics [30]. However, most of the studies on job burnout focus on the effects of personality or coping, respectively. No published paper on the interaction between personality and coping style to job burnout was found using the PubMed.

With the progress of the society and the accelerating pace of globalization, more and more Chinese people feel exhaustion of body and mind. The job burnout draws more and more attentions in China. However, to our knowledge, there is a lack of researches on job burnout in Chinese employees. Therefore, in present study, the relationships among personality, coping style and burnout in the Chinese employees will be investigated. We hypothesize that the coping style could be a mediator of the relationship between personality and job burnout.

Method

Participants

Two hundred and twenty-seven Chinese white-collar employees (47.5% female, 52.5% male) who were working at Guangzhou City and the other cities located in Pearl River Delta of China were enrolled in the research. The data were collected from August 2009 to January 2010 in eligible participants. The mean age of all participants was 28.25 years old (standard deviation = 5.46).

Ethics approvals to conduct the study were obtained from the Scientific Research Committees of the Guangdong General Hospital where the researcher worked and from the administrations of the mental health care settings. All participants invited in the study provide written informed consent form. The information about the study's purpose and confidentiality was provided. Participants' anonymity and confidentiality were assured.

All participants filled out the Simplified Coping Style Questionnaire, Chinese version of Eysenck Personality Questionnaire (CEPQ), and Maslach Burnout Inventory-General Survey (MBI-GS). The demographic information of the participants, including age, sex, education, occupation, and marital situation, was written in our questionnaire to guarantee all the subjects were homogeneous. There were two approaches to return completed questionnaires. If the participants were tested in group, they were asked to return the questionnaires when they finished. Otherwise, the participants who cannot take test in group would return the questionnaires in 3 days by mail.

Measures

Personality: Eysenck Personality Questionnaire (EPQ) was developed by Eysenck and his colleagues. During 1980s, EPQ was translated into Chinese and revised by Gong [31]. The CEPQ has high reliability and validity. CEPQ contains 88-items for four factors of extroversion, neuroticism, psychoticism, and lie. The correspondence rate between CEPQ and EPQ, was about 87.5%97.82%. The Cronbach' α value of the dimension of neuroticism of CEPQ was 0.77. CEPQ is the most widely used personality questionnaires because of its high validity and reliability [32].

Coping style: The Simplified Coping Style Questionnaire consisted of 12 optimistic coping (e.g., I confided my troubles to other people) and 8 pessimistic coping style. Participants answered the questions about how they usually dealt with stressful situations at the work, and responded on a four-point scale anchored at 0 = never, 1 = sometime, 2= usually, 4=always. The Cronbach's α value of the total 20 items was 0.90. The Cronbach's α value of the optimistic coping scale and the pessimistic coping scale was 0.89 and 0.78 respectively [33].

Job Burnout: Job burnout was evaluated by Maslach Burnout Inventory-General Survey(MBI-GS) by Schaufeli with 16-items which were usually used to measure emotional exhaustion, cynicism, and reduced professional efficacy. Responses to all items were scored on a seven-point scale ranging from 0 (never) to 6(every day). The Maslach Burnout Inventory-General Survey is a useful tool to evaluate the job burnout in China with high validity and reliability [34]. In present study, the Cronbach's α value of the total 16 items was 0.732. With regarding to the three dimensions, the Cronbach's α value was 0.87 for emotional exhaustion, 0.67 for depersonalization, and 0.71 for professional efficacy.

Statistical analyses

Descriptive analyses were performed to evaluate the characteristics of the employees, including the variables of job burnout, coping style, personality and demographic characters. And the statistical description of the present study contains percentages, range, frequency, means and standard deviations (SD). The software package SPSS 20.0 was used for descriptive analyses.

Path analysis with the maximum likelihood ML estimation was performed to test the theoretical model which coping style

on emotional exhaustion

could mediate the association between personality and job burnout (see Figure 1). In the present study, direct pathways between personality and job burnout, and indirect pathways through coping style, were tested in one model. The coefficient of c' represents the direct effect of personality on job burnout, and the coefficient of $a*b$ represents the indirect effect of personality on job burnout. Furthermore, the total effect of personality on job burnout, represented by coefficient c , is thus comprised of direct effect c' and all indirect effects $a*b$. All reported coefficients are standardized. The χ^2 has been used to test the hypothesis that theoretical model fits data. Degree of model fitting was also judged by the fit indices, including the goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), the normal fit index (NFI), the comparative fit index (CFI) and the root mean square error of approximation (RMSEA). The reasonable model was ensured with large GFI, AGFI, NFI and CFI (greater than 0.90) and small RMSEA (less than 0.08)[35].

Bootstrapping of ML estimates ($n=5000$ samples) was employed to evaluate potential bias. Bootstrapping methods was used to estimate the confidence intervals for the indirect effects to interest in mediation analysis. One of the assumptions necessary for multiple mediator models is that the sampling distributions of the total and specific indirect effects are normal[36]. All path analysis was conducted with AMOS 6.0 (SPSS) for Windows.

Results

Two hundred and thirty-five subjects were given the questionnaires. 217 subjects completed the survey and return the questionnaires and entered the analysis. Their age ranged from 20-55 years old ($M=28.3$, $SD=5.5$), and the distribution of gender was that 52.5% male and 47.5% female. The response rate was 93.6%. The characteristics of demographic, coping style, personality and job burnout were listed in table 1.

Preliminary fitted model showed that χ^2 was 91.05. ($df=4$, $n=217$, $P<0.001$), indicating that the theoretical model and the data did not fit. Subsequently, other indices, including GFI, AGFI, NFI, and CFI were analyzed. The values of GFI and AGFI were higher than 0.9. However, the value of NFI and CFI both were 0.78. In addition, the RMSEA of preliminary model was 0.32. These results suggested that the fitted model was unacceptable. And the modification indices showed that the dependent variables emotional exhaustion and cynicism reacted upon each other.

According to the modification indices, the mutual influence was performed in the modification model. Consequently, the overall model is non-recursive. The overall results showed that the χ^2 was 26.25 ($df=12$, $n=217$, $P<0.05$). The results indicated that the values of GFI, AGFI, NFI, and CFI were 0.97, 0.92, 0.94, and 0.96, respectively. All of these indices were greater than the general cutoff value of 0.90. Furthermore, the RMSEA was 0.07. And therefore, the results of the present study indicated that the fitted model was generally acceptable.

The results of path analysis showed that neuroticism was significantly correlated to emotional exhaustion ($\beta=0.31$, $P<0.05$), pessimistic coping ($\beta=0.42$, $P<0.001$), and optimistic coping ($\beta=-0.30$, $P<0.001$) (see Fig.2). Neuroticism influenced three di-

mension of burnout via pessimistic coping. Extroversion directly affects optimistic coping ($\beta=0.31$, $P<0.001$), cynicism ($\beta=-0.20$, $P<0.001$) and reduced professional efficacy ($\beta=0.28$, $P<0.001$). The mediating effect of extroversion on reduced professional efficacy was 0.06. Otherwise, the direct effect of emotional exhaustion on cynicism was 0.31. On the contrary, cynicism also affected emotional exhaustion, and the direct effect was 0.29.

Discussion

The present study examined whether coping style mediated the relationship between personality and job burnout in Chinese white-collar employees. Our findings revealed that pessimistic coping style mediated between neuroticism and all dimensions of job burnout. By contraries, optimistic coping played a role of mediator in the relationship of extroversion and the dimension of reduced professional efficacy. Furthermore, the findings also indicated that emotional exhaustion and cynicism have effect on each other. These findings will be discussed in detail next, as well as implications for future research and limitations of the present investigation.

The results showed that neuroticism could affect job burnout via pessimistic coping. Our findings are consistent with the previous study of Japanese professional caregivers [29]. There were studies revealed that neuroticism was associated with maladaptive coping, such as emotion-focused coping [37, 38]. Neuroticism is described as a vulnerability of personality traits that refers to individual differences in negative emotional response to threat, frustration, or loss [39]. Individuals with higher neuroticism score have higher risk of responding with negative emotions (i.e anxiety, depression) when they experience chronic stressful life events [40-43], have more negative views of themselves or others [44], and perceive their work environment as more threatening[45]. According to the appraisal model of Lazarus and Folkman, when stressful conditions are viewed by a person as refractory to change, maladaptive coping predominates will be used [21]. Therefore, they may tend to avoidance coping, emotion-focused coping and so on in stress situations. Subjectively, they experience less of success in what they set out to do, and stress is experienced more negatively, independent of type and time of the stress situation[46]. As mentioned above, high neuroticism may be a risk factor of developing job burnout. Moreover, neuroticism could effect on job burnout through pessimistic coping style.

Our results also indicated that extroversion indirectly related to reduced professional efficacy via optimistic coping, although Narumoto et al. [29] previously reported controversial data. Extroversion was viewed as the disposition towards positive emotions, sociability and high activity [47]. They were more likely to engage in more activities to overcome stressful conditions. And when stress situation is appraised as controllable by action, effective coping predominates, such as problem-focused coping, seeking support[21]. There is evidence that extroversion was associated with less perceived stress and positive coping behaviors [48]. Contrary to neuroticism, higher extroversion was reported to be associated with less reaction to stress [49, 50]. The previous studies revealed that extroversion

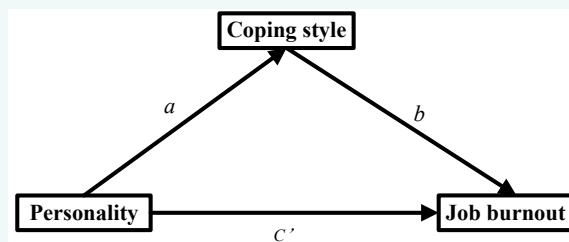


Figure 1 Graphic representation of the mediation model. Personality affects job burnout indirectly through coping style. The total effect (c) is composed of a direct effect (c') and indirect effect ($a*b$)

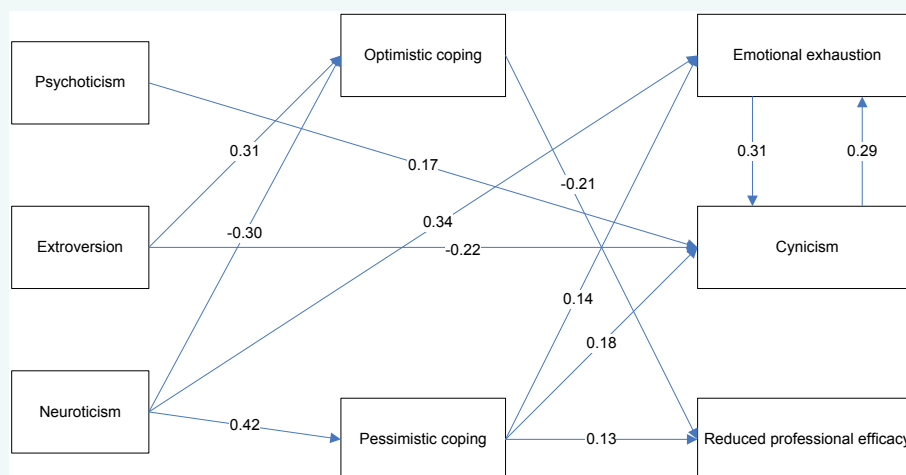


Figure 2 Structural equation model of personality-coping style-job burnout. Numbers are mean standardized regression weights from bootstrapped estimates. Only significant path coefficients ($P<0.05$) were reported.

Table 1: Sample Characteristics of ($N=217$).

		N (%)	Mean (SD)	Range
Age (years)	20~30	160 (73.7)	28.25 (5.46)	20~55
	31~40	50 (23.1)		
	41~55	7 (3.2)		
Gender	Male	114 (52.5)		
	Female	103 (47.5)		
Marital situation	Single	129 (59.4)		
	Married	87 (40.1)		
	Divorce	1 (0.5)		
Education	Middle school	14 (6.5)		
	University	192 (88.4)		
	Graduate	11 (5.1)		
Occupation	Administration	13 (6.0)		
	Technician	15 (6.9)		
	Selling services	189 (87.1)		
Coping style	Optimistic coping		2.06 (0.43)	0.92~3.00
	Pessimistic coping		1.21 (0.52)	0.00~2.63
Personality	Psychoticism		47.76(8.80)	32~78
	Extroversion		56.80 (9.48)	32~76
	Neuroticism		47.31(12.39)	26~78
Job burnout	Emotional exhaustion		2.35 (1.49)	0.00~6.00
	Cynicism		1.54 (1.40)	0.00~6.00
	Reduced professional efficacy		1.56 (1.33)	0.00~5.17

optimistic coping style might help to protect against risks of reducing professional efficacy [19, 20]. Furthermore, Zellars et al. suggested that individuals higher in extroversion perceived more professional efficacy, possibly because their inherent sociability provided them with more opportunity to work with others who reinforced their professional efficacy by feedback or support [28]. In a word, optimistic coping is a mediator for the buffer effect of extroversion on reducing professional efficacy,

Interestingly, the overall model showed that there was a strong relationship between exhaustion and cynicism. It appears that emotional exhaustion completely mediated the relationship between neuroticism and cynicism. This finding consists with the investigation of the causal relationship between the dimensions of the Maslach Burnout Inventory [51]. Furthermore, the present study supplemented previous work by finding that the dimensions of emotional exhaustion and cynicism may interact on each other. The previous studies indicated that the correlation coefficients of the emotional exhaustion and cynicism were strong and positive [52-54]. Furthermore, Maslach et al. suggested that cynicism was such a negative reaction to exhaustion [1]. When the individual experience exhaustion, they may return an indifference or cynical attitude to himself/herself, service recipients and the work by ignoring the qualities. The previous study indicated that emotional exhaustion had a direct positive effect on cynicism [55]. However, cynicism may adversely effect on exhaustion. There is evidence that higher levels of cynicism leads to higher levels of exhaustions [56]. Consequently, the relationship between exhaustion and cynicism sets up a vicious circle that they interact on each other.

In this paper, our findings suggested the hypothesis that the coping style could be a mediator and affected the effects of personality on job burnout. According to susceptibility of personality trait, the individuals with higher neuroticism and lower extroversion have higher risk of burnout than those with lower neuroticism and higher extroversion in the same working surrounding. Specially, neuroticism predisposes to develop job burnout, because higher neuroticism tends to more pessimistic coping in the stress setting. On the other hand, extroversion is considered as a protector from job burnout, because higher extroversion tends to more optimistic coping when the individuals suffer job stress. These findings suggest that appropriate and effective coping style may be useful to buffer the negative effect of personality on burnout. Therefore, coping training and stress management are necessary [57, 58]. For example, there was a study of stress management training among Japanese nurses revealed that cognitive coping skills and problem solving skills could contribute to a reduction of burnout [59].

There are several limitations in the present study. Firstly, the sample size is relatively small, so more subjects should be recruited in future research. Secondly, this study is limited by cross-sectional design. Prospective researches to examine the relations of personality, coping and burnout over time are needed to more completely address issues of causal relationship.

Conclusions

The present study is the first investigation on Chinese employees to provide reliable evidence that coping style is a mediator in the mechanism of the effect of personality on job burnout by path analysis. Our results suggested that the employees with lower neuroticism and higher extroversion suffer lower risk of burnout. Furthermore, both personality and coping style were the significant predictors of burnout. Coping style partially mediated the relationship between burnout and personality.

Authors' contributions

YG performed the statistical analysis, and interpreted the data and drafted the manuscript. CY and XH have contributed to acquisition the data. MX conceived of the study, and participated in its design and coordination. Both of MX and XH revised the manuscript for important intellectual content. All the authors read and approved the final manuscript.

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