

IMPACT OF PERSONALITY TRAIT AND PROFESSIONAL IDENTITY ON WORK-RELATED DEPRESSION, ANXIETY AND IRRITATION AMONG CHINESE NURSES

Yefei Wang^{1,2} and Bin Zhang¹

¹The Second Xiangya Hospital, Central South University; ²Department of Applied Psychology, Hunan University of Chinese Medicine, Changsha, Hunan, China

Abstract. This study aimed to explore the impact of personality trait and professional identity on work-related depression, anxiety, irritation among Chinese nurses. Hospital nurses are known to work in stressful environment, which may lead to depression, anxiety and irritation symptoms. Few studies have been done to address this problem from the perspective of personality trait and professional identity in Chinese nurses. This was a cross sectional study. Data were collected from twenty hospitals of Hunan Province, in central China. The instruments used in this study were Eysenck Personality Questionnaire Short Scale, Professional Identity Questionnaire, and Work-Related Depression, Anxiety and Irritation Scale. Extraversion and professional identity negatively correlated with and predicted work-related depression, anxiety and irritation; Neuroticism and Psychoticism positively correlated with and predicted work-related depression, anxiety and irritation. Strengthening the nurses' professional identity may be helpful toward reducing work-related depression, anxiety and irritation. Administrative and psychological interventions of these work-related emotion problems should take the difference in personality trait into account.

Keywords: anxiety and irritation, nurse, personality trait, professional identity, work-related depression

INTRODUCTION

Mental health in work place is a very important problem around the world and has been the concern of many researchers (Stansfeld and Candy, 2006). Depression, anxiety and irritation are the most common mental problems in work place, which not only cause reduced performance and increased absenteeism, if

let them untreated, even can cause physiological problems (Bender *et al*, 2008).

As an essential component of the healthcare system, nurses' work performance has a direct relationship with the quality of patient care. Numerous studies have demonstrated that nurses have to bear lots of job stress (Li and Lambert, 2008; Purcell *et al*, 2011; Happell *et al*, 2013). Job-related stress has negative impact on the quality of nursing clinical practice, and may lead to minor psychiatric morbidity (Golbasi *et al*, 2008). In China, nurses confront even more stress, which on the one hand attributes to the changes of health care model to a more holistic approach

Correspondence: Bin Zhang, Department of Applied Psychology, Hunan University of Chinese Medicine, Xiang Zui Road N^o 39, Changsha, Hunan 410007, PR China.
Tel: +86 731 88458163; Fax: +86 731 86361438
E-mail: zb303@163.com

that encompass biological, psychological and social aspects of the patients, which makes the nursing practice in China more demanding. On the other hand, Chinese medical environment becomes worse in recent years, the high patient-to-nurse ratios make the nursing staff have to worker overload and undertake too many practices. And violence against Chinese medical staff is rising, a study including 588 nurses demonstrated that 7.8% of the nurses experienced physically violence and 71.9% experienced non-physically violence (Jiao *et al*, 2015). All of the factors make nursing practice even more challenging for nurses. Nurses under such a stressful environment are more prone to develop emotions problems like depression, anxiety and irritation. Recent studies revealed high prevalence of depressive and anxiety symptoms among Chinese nurses, which suggests that much more attention should be paid to the Chinese nurse mental health (Gao *et al*, 2012a, b).

As the indicator of individual relative stable behavior tendency, personality has been hypothesized to be correlated with mental health for a long time. Meta analysis found that personality trait; especially, neuroticism and extraversion were correlated with anxiety and depressive disorder (Kotov *et al*, 2010). Moreover, personality factors have been demonstrated to attribute to anxiety and depression in different population (Sutherland and Cooper, 1993; de Moor *et al*, 2006). It has also been shown that neuroticism is a predisposing factor for anxiety in the junior doctors (Newbury-Birch and Kamali, 2001). Certain people are more likely to experience high levels of stress and experience negative emotions in their job than others (Fontana and Abouserie, 1993). So our present study hypothesizes that personality trait has an impact on

work-related depression, anxiety, and anger among Chinese nurse.

Nurses' professional identity is usually defined as 'the values and beliefs held by nurses that guide her/his thinking, actions, and interactions with the patient' (Fagermoen, 1997). Professional identity, or how a nurse thinks of himself or herself as a nurse, is considered to be as critical to nursing practice, which not only influences the way nurses treating with their patients and ultimately the quality of caring, it could predict the professionalism behaviors such as responsibility, acting with integrity and advocating for the needs of patients very well (Ohlen and Segesten, 1998).

Meanwhile, professional identity holds the identification of self value as a nurse, weak professional identity means a dissonance of values between nurses' inner and outside work that is stressful and exhausting (McNeese and Crook, 2003). Despite the widely acknowledged importance of professional identity, how it relates to work related mental problems (such as depression, anxiety and irritation) has not been fully investigated. Previous research suggest that altruistic professional values, which are also the core value of nurses' professional identity, has an inverse relationship with emotional exhaustion (Dyrbye *et al*, 2010), which has led to a conceptual framework that professional identity has impact on work related emotional problem.

A recent study reported that bad work conditions (such as lower job rank, worse nurse-patient relationship and lower hospital grade) and higher social support associated with anxiety symptoms of Chinese nurse (Gao *et al*, 2012b). Other studies demonstrated that psychological hardiness and coping strategies could predict the mental health of Chinese

nurse very well (Xianyu and Lambert, 2006; Lambert *et al*, 2007). Job burnout was also found to significantly affect the depression of nurses in China. But for better understanding of the mechanism of nurses' work related mental health, there is a need to take individual factors (especially personality trait and professional identity) into consideration. For this purpose, the aim of this study was to explore the impact of personality traits and professional identity on the work related depression, anxiety, and irritation among Chinese nurses.

MATERIALS AND METHODS

Study design

This was a cross sectional study. Data collection was done by structured questionnaires.

Participants

This survey was conducted in Hunan province, in central China. The sample included 594 nurses who came from twenty hospitals in different areas of the province: 381 from Grade One hospitals (>500 beds), 179 from Grade Two hospitals (101–500 beds), and 34 from Grade Three (<100 beds).

Data collection

The data was collected in a nursing vocational skills training class held in Changsha, Hunan Province during October–November 2014. All the nurses were informed the aim of this survey and invited. Nurses who consented to take part completed the questionnaires, and then the investigators collected the completed questionnaires immediately. Six hundred forty questionnaires were distributed, of which 594 were valid (92.8%).

Measures

The demographic data information

included age, years of working experience, levels of education, income, job category and professional title.

Personality trait was assessed by Revised Eysenck Personality Questionnaire Short Scale (EPQ-RS) (Eysenck *et al*, 1985). It included four scales: Extraversion, Neuroticism, Psychoticism, and Lie, each of which contained 12 items. The responders answered with 'Yes' or 'No'. Higher scores represented more tendency of correspondent trait. The EPQ-RS was translated into Chinese (Qian *et al*, 2000). Cronbach's α values were 0.61, 0.84, 0.80, and 0.73 for each of the four scales, respectively.

The Professional Identity Questionnaire was revised from the scale developed by Zhang *et al* (2013). We changed some words of the original scale to make it more compatible with a nursing domain. The revised version showed good reliability and validity in present study. The questionnaire consisted of 6 items on a single page and used a 7-point rating scale from strongly 'Disagree' (1) to 'Strongly Agree' (7). Confirmatory factor analysis result indicated one factor model fit the data well, $\chi^2/df=1.93$, GFI=0.90, CFI=0.90, and RMSEA=0.078. All of the Factor Loadings were above 0.45. Cronbach's α value was 0.80 in the present study. Higher scores represented stronger professional identity.

The Work-Related Depression, Anxiety and Irritation Scale was developed by Caplan *et al* (1975). The Chinese version of the scale was adopted in present study (Fields, 2005). It included 13 items to evaluate three dimensions of workers' tensions experience during working process: 'Depression', 'Anxiety' and 'Irritation.' The items used a 4-point Likert response scales ('Never' as 1, 'Sometimes' as 2, 'Usually' as 3, 'Always' as 4). Higher scores represented higher level of depression, anxiety and irritation. Cronbach's α value was 0.79–0.90.

Table 1
Participant demographics (N = 594).

Variables	No. (%)
Age (years)	
18-29	420 (70.7)
30-39	148 (24.9)
≥40	26 (4.3)
Education	
Secondary vocational school	47 (7.9)
3-year college	241 (40.6)
Bachelor degree or above	306 (51.5)
Years of nursing experience	
<1	98 (16.5)
1-3	155 (26.1)
3-5	125 (21.0)
5-10	113 (19.1)
≥10	103 (17.3)
Salary (/month)	
≤2000	77 (13.0)
2,000-2,999	199 (33.5)
3,000-3,999	196 (33.0)
≥4,000	122 (20.5)
Professional title	
Primary nurse	332 (55.9)
Junior nurse	199 (33.5)
Senior nurse	63 (10.6)

Statistical analysis

The data was analyzed by SPSS 18.0 software (IBM, Armonk, NY). Descriptive statistics was used to measure the demographic characteristics of the nurses. Pearson correlation analysis was applied to test the relationships between personality trait, professional identity and work-related depression, anxiety and irritation. Multiple linear stepwise regression analysis was used to test the impact of personality trait and professional identity on work-related depression, anxiety and irritation. With a two-tailed p -values < 0.05 considered to be statistically significant.

Ethical considerations

The ethics committee of Central South

Table 2
Personality trait, professional identity and work-related depression, anxiety, irritation scores.

Variable	Mean±SD
Extraversion	7.56±2.62
Neuroticism	6.19±3.02
Psychoticism	2.79±1.97
Lie	6.60±2.35
Professional identity	4.52±1.04
Depression	2.28±0.53
Anxiety	2.28±0.58
Irritation	2.02±0.61

University approved this study (Ref N^o S037; 2013 Dec 31). All the participants were volunteers with informed consent, and their anonymity was assured.

RESULTS

All participants were female, and the ages ranged from 18-to-52 years, with an average of 27.13±5.26 years. The specific characteristics of the nurses are shown in Table 1.

The mean scores and correlations between personality trait, professional identity, and work-related depression, anxiety, and irritation are shown in Table 2 and Table 3. Overall, nurses got the highest score in Extraversion and lowest in Psychoticism and Neuroticism; the Lie was moderate. The professional identity of nurses was moderate. The work-related depression and anxiety were obvious among nurses, but work-related irritation was not identified.

Pearson correlation analysis indicated that Extraversion and professional identity negatively correlated with work-related depression, anxiety, and irritation; Neuroticism and Psychoticism positively

Table 3
Correlation between personality trait, professional identity, and work-related depression, anxiety, and irritation.

	I	II	III	IV	V	VI	VII	VIII
I Professional identity	1.000							
II Depression	-0.415 ^a	1.000						
III Anxiety	-0.289 ^a	0.696 ^a	1.000					
IV Irritation	-0.224 ^a	0.632 ^a	0.666 ^a	1.000				
V Psychoticism	-0.048	0.139 ^a	0.130 ^a	0.169 ^a	1.000			
VI Extraversion	0.132 ^a	-0.213 ^a	-0.167 ^a	-0.128 ^a	-0.133 ^a	1.000		
VII Neuroticism	-0.198 ^a	0.409 ^a	0.368 ^a	0.316 ^a	0.074	-0.070	1.000	
VIII Lie	0.033	0.013	-0.026	-0.032	-0.090 ^b	-0.060	-0.281 ^a	1.000

^a*p*<0.01, ^b*p*<0.05.

Table 4
Multiple linear stepwise regression analysis.

Variable	Depression			Anxiety			Irritation		
	<i>B</i>	Beta	<i>t</i>	<i>B</i>	Beta	<i>t</i>	<i>B</i>	Beta	<i>t</i>
Constant	2.832		25.174 ^a	2.546		19.491 ^a	2.096		14.801 ^a
Professional identity	-0.169	-0.328	-9.340 ^a	-0.116	-0.209	-5.539 ^a	-0.090	-0.154	-3.950 ^a
Psychoticism	0.022	0.081	2.353 ^c	0.024	0.083	2.221 ^c	0.041	0.132	3.451 ^a
Extraversion	-0.028	-0.136	-3.893 ^a	-0.023	-0.106	-2.844 ^b	-0.016	-0.071	-1.835 ^c
Neuroticism	0.058	0.328	9.370 ^a	0.06	0.313	8.331 ^a	0.054	0.271	6.983 ^a

^a*p* <0.001, ^b*p* <0.01, ^c*p* <0.05.

correlated with work-related depression, anxiety, and irritation; professional identity had positive correlation with Extraversion and negative correlation with Neuroticism; whereas, professional identity had no correlation with Psychoticism.

The multiple linear Stepwise regression indicated that Extraversion and professional identity negatively predicted work-related Depression, Anxiety, and Irritation, while Neuroticism and Psychoticism positively predicted work-related depression, Anxiety, and Irritation (Table 4).

DISCUSSION

Our findings suggested that depression and anxiety in workplace were

relatively high among Chinese nurses, which was consistent with two recent studies (Gao *et al*, 2012a, b) that indicated a high prevalence of depressive symptoms 61.7% and anxiety symptoms 43.4% in Chinese hospital nurses. Although our measurement of depression and anxiety concentrated on work-related dimensions, which further suggested that working practice was very stressful for Chinese nurses. This may be caused by diverse factors from personal aspects to working environment and even social environment. Nevertheless, it implied that more attention and immediate actions should be taken to prevent it.

The results indicated that nurses scored highest in Extraversion. The per-

sonality difference exists in different medical specialty areas (Borges and Savickas, 2002), and the identification of personality in particular profession may help on recruitment and career choice (Bore *et al*, 2009). Our findings suggested that most of the nurses tend to be extroverts. This was in accordance with characteristics of their work that nurses must interact with their patients and cooperate with physicians every day.

The professional identity of Chinese nurses was at a moderate level and needs to be improved further. In traditional Chinese culture, caring for others is not considered to be a professional activity, which is usually be viewed to be feminine and only the people in lower status should care for a higher status. Chinese nurses have lower social status compared with doctors, and the public tends to see them as 'subordinate to doctors'. With the development of nursing education in China, more and more nurses have received bachelor and higher academic degrees in China. Nurses' self-concept of professional status has developed considerably, but public recognition that nursing is a profession is still low (Hwang *et al*, 2009). Nurses' self-concept is influenced by public opinion (Takase *et al*, 2002). Therefore, nurses, together with media, should adopt multiple means to promote the public image about the value of their profession.

The findings of this study suggested that Extraversion negatively correlated with work-related depression, anxiety and irritation, while Neuroticism and Psychoticism positively correlated with work-related depression, anxiety and irritation, which means the Extraverts in nurses will be less likely to feel stressful and experience negative emotions during work; the neurotic and psychotic individuals would

be the reverse.

Simultaneously, Extraversion negatively affected work-related depression, anxiety, and irritation, while Neuroticism positively predicted them. This may be contributed to the cognitive appraisal of stressful events, as Extraverts are sensitive to reward. They could view situations as opportunities for reward and be more likely to appraise stressful events as challenges. Those with Neuroticism are sensitive to punishment, which suggests that these individuals are more likely to appraise stressful events as threats (Gallagher, 1990). Moreover, Extraverts possess high self-efficacy of emotional regulation. When facing stressful situations, they tend to adopt positive emotional regulation and coping strategies, which is helpful for them to resolve their negative emotions. Neurotic individuals are more involved in engagement coping and feel more depression, anxiety under stress (Carver and Connor-Smith, 2010).

According to our results, professional identity was negatively correlated and predicted work-related depression, anxiety, and irritation, which means the stronger professional identity nurses have, the less they tend to experience work-related depression, anxiety, and irritation. Professional identity involves values, attitudes, belief, and skills being undertaken by individuals within a specific profession with a unique body of knowledge. Any efforts to enhance professional identity not only contribute to nurses' job satisfaction, but also are benefits for the nurses' mental health in work place. Formal education and sharing work experiences with others contribute to professional identity, which is beneficial for mental health. Therefore, hospital administrators need to provide nurses with various educational programs and encourage them to participate. In

addition, nurses are advised to be more active to manage their public image concerning professionalism and value of their work in the healthcare system.

This study was based on cross-sectional data. Therefore, causal relations between work-related depression, anxiety, and irritation and personality trait, and professional identity could not be made. Secondly, as the data was collected with a self-reported questionnaire, results may be affected by the respondents' response biases. Therefore, experimental and qualitative methodology is suggested for future studies.

Our study suggested that work-related depression and anxiety were apparent among Chinese nurses. Personality traits had an impact on work-related depression, anxiety, and irritation. Specifically, Extraverts (compared with introverts) were less likely to experience depression, anxiety, and irritation in work place; while, Neurotic individuals (compared with emotion stable ones) and those with psychoticism were more inclined to suffer from these work-related emotional problems, which suggests that nurse managers and nurses, themselves, should also pay attention to the shaping of personality trait in accompany with the development of clinical skills. Professional identity was negatively associated with work-related depression, anxiety, and irritation. Our results, together with the associated factors, have implications for the psychological interventions of nurses' work-related emotional problems.

ACKNOWLEDGEMENTS

This research was supported by Social Science Foundation of the Ministry of Education of China (14YJCZH197) the Hunan Provincial Social Science Founda-

tion of China (15YBA302, 12YBA244) and the Hunan Provincial Natural Science Foundation of China (14JJ3118).

REFERENCES

- Bender A, Farvolden P. Depression and the workplace: a progress report. *Curr Psychiatry Reports* 2008; 10: 73-9.
- Borges NJ, Savickas ML. Personality and medical specialty choice: a literature review and integration. *J Career Assess* 2002; 10: 362-80.
- Bore M, Munro D, Powis D. Model for the selection of medical students. *Med Teach* 2009; 31: 1066-72.
- Caplan, RD, Cobb S, French JRP Jr, Van R, Pinneau SR Jr. Job demands and worker health; main effects and occupational differences. Washington, DC: US Department of Health Education and Welfare, 1975.
- Carver CS, Connor-Smith J. Personality and coping. *Ann Rev Psychol* 2010; 61: 679-704.
- De Moor MH, Beem AL, Stubbe JH, Boomsma DI, De Geus EJ. Regular exercise, anxiety, depression and personality: a population-based study. *Prev Med* 2006; 42: 273-9.
- Dyrbye LN, Massie FS Jr, Eacker A, et al. Relationship between burnout and professional conduct and attitudes among US medical students. *JAMA* 2010; 304: 1173-80.
- Eysenck SBG, Eysenck HJ, Barrett P. A revised version of the psychoticism scale. *Personal Indiv Diff* 1985; 6: 21-9.
- Fagermoen MS. Professional identity: values embedded in meaningful nursing practice. *J Adv Nurs* 1997; 25: 434-41.
- Fields DL, Taking the measure of work: a guide to validated scales for organizational research and diagnosis. Thousand Oaks: Sage, 2005.
- Fontana D, Abouserie R. Stress levels, gender and personality factors in teachers. *Br J Educ Psychol* 1993; 63: 261-70.
- Gallagher DJ. Extraversion, neuroticism and appraisal of stressful academic events. *Personal Indiv Diff* 1990; 11: 1053-7.

- Gao YQ, Pan BC, Sun W, Wu H, Wang JN, Wang L. Anxiety symptoms among Chinese nurses and the associated factors: a cross sectional study. *BMC Psychiatry* 2012a; 12: 1.
- Gao YQ, Pan BC, Sun W, Wu H, Wang JN, Wang L. Depressive symptoms among Chinese nurses: prevalence and the associated factors. *J Adv Nurs* 2012b; 68: 1166-75.
- Golbasi Z, Kelleci M, Dogan S. Relationships between coping strategies, individual characteristics and job satisfaction in a sample of hospital nurses: cross-sectional questionnaire survey. *Int J Nursing Stud* 2008; 45: 1800-6.
- Happell B, Dwyer T, Reid-Searl K, Burke KJ, Caperchi CM, Gaskin CJ. Nurses and stress: recognizing causes and seeking solutions. *J Nurs Manag* 2013; 21: 638-47.
- Hwang JI, Lou F, Han SS, Cao F, Kim WO, Li P. Professionalism: the major factor influencing job satisfaction among Korean and Chinese nurses. *Int Nurs Rev* 2009; 56: 313-8.
- Jiao M, Ning N, Li Y, et al. Workplace violence against nurses in Chinese hospitals: a cross-sectional survey. *BMJ Open* 2015; 5: e006719.
- Kotov R, Gamez W, Schmidt F, Watson D. Linking "big" personality traits to anxiety, depressive, and substance use disorders: a meta-analysis. *Psychol Bull* 2010; 136: 768-821.
- Lambert VA, Lambert CE, Petrini M, Li XM, Zhang YJ. Predictors of physical and mental health in hospital nurses within the People's Republic of China. *Int Nurs Rev* 2007; 54: 85-91.
- Li J, Lambert VA. Job satisfaction among intensive care nurses from the People's Republic of China. *Int Nurs Rev* 2008; 55: 34-9.
- McNeese-Smith DK, Crook M. Nursing values and a changing nurse workforce: values, age, and job stages. *J Nurs Admin* 2003; 33: 260-70.
- Newbury-Birch D, Kamali F. Psychological stress, anxiety, depression, job satisfaction, and personality characteristics in preregistration house officers. *Postgrad Med J* 2001; 77: 109-11.
- Ohlen J, Segesten K. The professional identity of the nurse: concept analysis and development. *J Adv Nurs* 1998; 28: 720-7.
- Purcell SR, Kutash M, Cobb S. The relationship between nurses' stress and nurse staffing factors in a hospital setting. *J Nurs Manag* 2011; 19: 714-20.
- Qian MG, Wu GC, Zhu RC, Zhang S. [Development of the revised Eysenck Personality Questionnaire Short Scale for Chinese (EPQ-RSC)]. *J Chin Psychol Acta Psychol Sin* 2000; 3: 317-23.
- Stansfeld S, Candy B. Psychosocial work environment and mental health—a meta-analytic review. *Scand J Work Environ Health* 2006; 4: 443-62.
- Sutherland VJ, Cooper CL. Identifying distress among general practitioners: predictors of psychological ill-health and job dissatisfaction. *Soc Sci Med* 1993; 37: 575-81.
- Takase M, Kershaw E, Burt L. Does public image of nurses matter? *J Prof Nurs* 2002; 18: 196-205.
- Xianyu Y, Lambert VA. Investigation of the relationships among workplace stressors, ways of coping, and the mental health of Chinese head nurses. *Nurs Health Sci* 2006; 8: 147-155.
- Zhang NJ, Zhu FP, Zhang B. [The relationship between professional identity and organizational identification of college teachers and its influencing factors study]. Chengdu, CHN: Southwestern University of Finance and Economics, 2013.