

# Factors Contributing to the Stress Levels of Nurses in Chinese Hospitals

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**Abstract:** It is evident that stress factors are caused by organizational stressors and demographic stressors. However, this is not studied in detail in consideration of nurses in hospitals in China. As a result, this study aims to explore the impact of the demographic, employment and organizational factors related to stress of Chinese nurses. The quantitative study was conducted using participants from five general hospitals in Wuhan City of P.R. China. The study consists of information gathered from 1,233 nurses from various departments of the hospital. For this study, data was collected through a two-part questionnaire. The first portion included the collection of demographic information, such as age, sex, religion, living status, marital status, and annual household income, health care type, present health situation, smoking, alcohol consumption, and working hours. The second portion included the collection of organizational and occupational information, such as profession, years of experience in profession, and full or part time work. Other data is also collected through the perceived stress scale involving 14 items (PSS-14). The hypotheses were all accepted because the p value is significant in the ANOVA test and included: Demographic, Employment and Organizational factors have an impact on the stress level of Chinese nurses. Even when controlling for demographic factors, it is shown that employment and organizational factors contribute to the stress level of Chinese nurses within different departments and different hospitals in Wuhan city of P.R. China.

**Keywords:** stress. Chinese nurse. Stress factors.

## I INTRODUCTION

According to a study by [Konstantinos \(2008\)](#), stress is increased in nurses that work in mental health facilities. The study confirms that there is a strong negative relationship “between clinical leadership, inter-professional collaboration, stress and job satisfaction” ([Konstantinos, 2008](#)). Stress was largely identified to be caused by “organisational issues, lack of nursing staff and patient care” ([Konstantinos, 2008](#)). Prior to this study, a study conducted by [Numerof and Abrams \(1984\)](#) showed that stress was caused by “age, nursing role status, length of time since graduation, job tenure, area of nursing, and interpersonal needs.” Based on these two studies, it is evident that stress factors are caused by organizational stressors and demographic stressors. However, this is not studied in detail in consideration of nurses in hospitals in China. As a result, this study aims to explore the impact of the demographic, employment and organizational factors related to stress of Chinese nurses that work in different departments and different hospitals in Wuhan city of P.R. China.

## 2 MATERIALS AND INSTRUMENTS

The purpose of this section is to describe how the study was conducted. This is done through discussing the aim and hypotheses of the study, which leads to the study design. Following this discussion, the population is identified, as well as ethical considerations for the sample selection. Next, the data collection method is discussed, followed by anticipated outcomes and data analysis procedure.

**2.1 Study Aim and Hypotheses:** The purpose of this study is to explore the impact of the demographic, employment and organizational factors related to stress of Chinese nurses that work in different departments and different hospitals in Wuhan city of P.R. China. Therefore, the hypotheses ( $H_1$ ) and null hypotheses ( $H_{0x}$ ) are identified below:

$H_1$ : Demographic factors have an impact on the stress level of Chinese nurses that work in different departments and hospitals in Wuhan City of P.R. China.

$H_{01}$ : Demographic factors have no impact on the stress level of Chinese nurses that work in different departments and hospitals in Wuhan City of P.R. China.

$H_2$ : Employment factors have an impact on the stress level of Chinese nurses that work in different departments and hospitals in Wuhan City of P.R. China.

H<sub>02</sub>: Employment factors have no impact on the stress level of Chinese nurses that work in different departments and hospitals in Wuhan City of P.R. China.

H<sub>3</sub>: Organizational factors have an impact on the stress level of Chinese nurses that work in different departments and hospitals in Wuhan City of P.R. China.

H<sub>03</sub>: Organizational factors have no impact on the stress level of Chinese nurses that work in different departments and hospitals in Wuhan City of P.R. China.

**2.2 Study Design and Population:** The quantitative study was conducted using participants from five general hospitals in Wuhan City of P.R. China. The study consists of information gathered from 1,246 nurses from various departments of the hospital. For inclusion in the study, the participants were required to be: currently employed by the facility; over 18 years old; and directly related to patient care (including nursing assistants, but excluding maintenance, housekeeping, dietary, or other similar positions). Since the study is being conducted as a quantitative study, the sampling method was stratified sampling ([Sandelowski, 2000](#)). In stratified sampling, the population is divided into subgroups, also known as strata. For this study, the strata are the different departments of the facility. Following this division of the population into strata, participants are randomly selected.

**2.3 Ethical Considerations:** When participating in nursing research, there are three ethical systems that must be considered – society, nursing, and science. The society ethics system considers human rights. The nursing ethics system considers ethics of caring. The science ethics system considers the researcher's ethical position ([Fouka&Mantzorou, 2011](#)). Therefore, there can be conflicts within the ethics systems. According to a study conducted by [Fouka and Mantzorou \(2011\)](#), the most common ethical considerations in nursing research include: 1) informed consent; 2) beneficence; 3) respect for anonymity and confidentiality; and 4) respect for privacy.

Informed consent is defined as those instances when “a person knowingly, voluntarily and intelligently, and in a clear and manifest way, gives his [or her] consent” ([Armiger, 1977](#); [Fouka&Mantzorou, 2011](#)). Through ensuring that informed consent is obtained, the researcher is able to protect the participant's autonomy, which is “the ability for self-determination in action according to a personal plan” ([Beauchamp & Childress, 2001](#); [Fouka&Mantzorou, 2011](#)). Therefore, informed consent is beneficial because it protects the integrity of the participant. For this specific study, informed consent is provided through providing the participant information regarding the study, providing ample time to ask questions, and to understand how participation would be beneficial in the study.

Beneficence is from the Hippocratic Oath and refers to the context of being beneficial for care, but not causing harm. According to [Beauchamp & Childress \(2001\)](#), “the principle of beneficence includes the professional mandate to do effective and significant research so as to better serve and promote the welfare of our constituents.” Therefore, in nursing research, the results need to be beneficial to the practice. It has been further noted that beneficence considers the benefits of the results of the study, whereas non-maleficence considers participation risks. Most often, non-maleficence considers risks to participants, such as physical, emotional, social, and economic harm ([Carr, 1994](#); [Ford & Reutter, 1990](#); [Fouka&Mantzorou, 2011](#); [Grove & Burns, 2005](#)). Therefore, it is necessary for the researcher to “consider all possible consequences of the research and balance the risks with proportionate benefit” ([Fouka&Mantzorou, 2011](#)). This specific study has no major risks for participation.

Respect for anonymity and confidentiality is similar to beneficence. Research shows that when the identity of the participant cannot be associated with responses, anonymity is met ([Fouka&Mantzorou, 2011](#)). Confidentiality, on the other hand, addresses protecting information provided by the participant. At the same time, confidentiality is believed to be protected when participants can provide or withhold information as desired ([Fouka&Mantzorou, 2011](#)). Thus, confidentiality goes past loyalty. Therefore, it is necessary for the researcher to consider the effect that anonymity and confidentiality breaches would have on participants ([American Nurses Association, 2001](#); [Beeble& Smith, 2008](#); [Clarke, 1991](#); [Fouka&Mantzorou, 2011](#); [Levine, 1976](#)). In this specific study, although some personal information is being obtained, the participants should be assured of anonymity. This is because, for instance, the study collects birthdays of the participants. However, only the year is being used in the results. This reduces opportunities for anonymity to be broken and allows confidentiality to be protected.

Respect for privacy is defined as having respect for “the freedom an individual has to determine the time, extent, and general circumstances under which private information will be shared with or withheld from others” ([Levine, 1976](#)). At the same time, according to [Kelman \(1977\)](#), “invasion of privacy happens when private information such as beliefs, attitudes, opinions and records, is shared with others, without the patient's knowledge or consent.” On the other hand, the [American](#)

[Nurses Association \(2001\)](#) believes that privacy is different for everyone and requires that “all aims, instruments and methodology must be discussed with the prospective subject and the research workers prior to the investigation.” It is important to note that, according to [Treece and Treece \(1977\)](#), when personal information is not provided by a participant due to privacy concerns, researchers need to respect this opinion. Furthermore, [Treece and Treece \(1977\)](#) suggest that “privacy can be invaded when researchers study certain groups without their knowledge and without identifying themselves.” Finally, without respect for privacy, participants may experience “loss of dignity, friendship or employment, or create feelings of anxiety, guilt, embarrassment or shame” ([Grove & Burns, 2005](#)). For this particular study, privacy is protected by following all ethical considerations and keeping the well-being of participants first. This was done by providing informed consent opportunities, which allows opportunities for questions to be answered, as well as assuring participants that results will be treated confidentially and privacy would be upheld.

**2.4 Data Collection:** For this study, data was collected through a two-part questionnaire. The first portion included the collection of demographic information, such as age, sex, religion, living status, marital status, number and age of children, annual household income, health care type, present health situation, smoking, alcohol consumption, and working hours. The second portion included the collection of organizational and occupational information, such as profession, years of experience in profession, current position, and full or part time work. Other data is also collected through the perceived stress scale involving 14 items (PSS-14). This scale consists of 14 questions used to assess the degree to which situations in the subject's life are perceived to be stressful in the past year. Responses are noted on a five-point scale from 'never' to 'very often' ([Mitchell, et al., 2003](#)).

**2.5 Outcomes:** The study is expected to determine the impact of the demographic, employment and organizational factors related to stress of Chinese nurses that work in different departments and different hospitals in Wuhan city of P.R. China.

**2.6 Data Analysis:** The characteristics of the study population are analyzed based on descriptive statistics. The PSS10 score was considered to be the primary outcome and is divided into three parts, one of which is the total score. Multivariate tests were conducted in consideration of different variables (stress level, demographic factors, employment factors, and organizational factors). The purpose of conducting multivariate regression analyses was to evaluate how all demographic, employment, and organizational factors impacted stress levels. This is conducted as a hierarchical linear regression model with three variable types (demographic, employment factors, and organizational factors). Significance tests are conducted as two-sided with alpha = 0.05.

### 3RESULTS

**3.1 Descriptive Results:** There were 1,233 participants included in the study from 1,300 asked. Of these, 7 refused to participate. These participants ranged in age from 18 to 61. There were 115 (9.32%) aged 41 to 61, 396 (32.11%) aged 31 to 40, 688 (55.80%) aged 18 to 30, and 47 (3.81%) declined to answer. The participating units included: (1) 30 (2.41%) Rheumatology/Infectious Disease, (2) 252 (20.21%) Surgical Department; (3) 85 (6.82%) Cardiology; (4) 22 (1.77%) Dentistry/Dermatology; (5) 80 (6.42%) Emergency/ICU; (6) 218 (17.50%) Internal Medicine; (7) 13 (1.78%) General; (8) 28 (2.25%) Traditional Chinese Medicine; (9) 14 (1.12%) Mental Health; (10) 186 (14.93%) Integrated; (11) 183 (14.68%) OB/GYN/Pediatrics; and 116 (9.31%) declined to answer. **Table 1** shows demographic information.

Table 1		
	N (%)	
Mean Age (SD)	1,233 (100.0%)	29.3 (SD 7.4)
Gender, n (%)	1,233 (100.0%)	
Male		25 (2.0%)
Female		1,208 (98.0%)
Ethnicity, n (%)	1,233 (100.0%)	
Han		1,165 (94.5%)
Tujia		68 (5.5%)
Religion Affiliation, n (%)	1,233 (100.0%)	
Yes		59 (4.8%)
No		1,174 (95.2%)
Education, n (%)	1,233 (100.0%)	

High school/Technical		9 (0.01%)
College/University		1,189 (96.4%)
Graduate school		35 (3.6%)
Marital Status, <i>n</i> (%)	1,227 (99.5%)	
Single		492 (40.1%)
Married		718 (58.5%)
Separated		3 (0.2%)
Divorced		14 (0.11%)
Living Status, <i>n</i> (%)	1,222 (99.1%)	
Live with Spouse		228 (18.7%)
Live with Spouse and Children		202 (16.5%)
Live with Parents		123 (10.1%)
Live with Parents, Spouse, and Children		267 (21.8%)
Live Alone		256 (20.9%)
Other		146 (11.9%)
Activity, <i>n</i> (%)	1,1130 (91.6%)	
Medical		607 (53.7%)
Surgical		260 (23.0%)
Emergency/ICU		80 (7.1%)
Gynecology/OB		91 (8.1%)
Pediatrics		92 (8.1%)
Average Experience (years), <i>n</i> (%)	23.6 (100%)	
Medical		5.3 (22.4%)
Surgical		6.0 (25.3%)
Emergency/ICU		7.0 (29.7%)
OB/Pediatrics		5.3 (22.6%)
Current Shift, <i>n</i> (%)	1,233 (100%)	
Day shift		298 (23.8%)
Night shift		935 (76.8%)

**3.2 Annual Household Income.** The options for annual household income within this study were under 50,000 RMB; 50,000 – 100,000 RMB; 100,000 – 200,000 RMB; 200,000 – 400,000 RMB; or more than 400,000 RMB. For this study, 199 participants reported an annual income of under 50,000 RMB; 562 participants reported an annual income of 50,000 – 100,000 RMB; 356 participants reported an annual income of 100,000 – 200,000 RMB; 68 participants reported an annual income of 200,000 – 400,000 RMB; 9 participants reported an annual income of more than 400,000 RMB; and 52 participants declined to answer the question. This means that 15.97% of the participants reported an annual income of under 50,000 RMB; 45.10% of the participants reported an annual income of 50,000 – 100,000 RMB; 28.57% of the participants reported an annual income of 100,000 – 200,000 RMB; 5.46% of the participants reported an annual income of 200,000 – 400,000 RMB; 0.72% of the participants reported an annual income of more than 400,000 RMB; and 4.17% of the participants declined to answer the question.

**3.3 Health Care Type:** For this study, the available health care types are: urban health insurance; commercial health insurance; new rural co-operative medical system; or self-paying. For this particular study, 1,057 participants report having urban health insurance; 34 participants report having commercial health insurance; 24 participants report having coverage through new rural co-operative medical system; 39 participants report self-paying; and 92 participants declined to answer the question. This means that 84.83% of the participants report having urban health insurance; 2.73% of the participants report having commercial health insurance; 1.93% of the participants report having coverage through new rural co-operative medical system; 3.13% of the participants report self-paying; and 7.38% of the participants declined to answer the question.

**3.4 Disease Diagnoses and Medication Use:** Within this study, 23 participants reported becoming diagnosed with hypertension, accounting for 1.85% of the respondents; 81 participants reported becoming diagnosed with hyperlipidemia, accounting for 6.50% of the respondents; 9 participants reported becoming diagnosed with diabetes, accounting for 0.72% of the respondents; 2 participants reported becoming diagnosed with coronary heart disease, accounting for 0.16% of the respondents; 2 participants

reported becoming diagnosed with myocardial infarction, accounting for 0.16% of the respondents; 2 participants reported becoming diagnosed with stroke, accounting for 0.16% of the respondents; and 19 participants reported becoming diagnosed with tumor, accounting for 1.52% of the respondents.

At the same time, participants reported medication use within the past two weeks to manage different diseases. According to the results, 280 participants reported using antileptic agents within the past two weeks, accounting for 22.47% of the total; 11 participants reported using hypotensive drugs within the past two weeks, accounting for 0.88% of the total; 9 participants reported using oral hypoglycemic drugs within the past two weeks, accounting for 0.72% of the total; 8 participants reported using insulin within the past two weeks, accounting for 0.64% of the total; 3 participants reported using acesodynes within the past two weeks, accounting for 0.24% of the total; 40 participants reported using anticoagulant drugs within the past two weeks, accounting for 3.21% of the total; 5 participants reported using hypnotics within the past two weeks, accounting for 0.4% of the total; 38 participants reported using amcinonides within the past two weeks, accounting for 3.05% of the total; 9 participants reported using thrombolytics within the past two weeks, accounting for 0.72% of the total; 131 participants reported using aspirin-like medicines within the past two weeks, accounting for 10.51% of the total; 26 participants reported using diuretics within the past two weeks, accounting for 2.09% of the total; and 148 participants reported using vitamins within the past two weeks, accounting for 11.88% of the total.

**3.5 PSS Test Results:** The following table shows the average PSS test results, divided by each individual part. **Table 2** is shown below:

Table 2	
Part 1 (n, SD)	12.9 (4.7)
Part 2 (n, SD)	12.5 (5.2)
Total (n, SD)	24.9 (7.4)
Grades (n, %)	1,219 (100.0%)
Normal (0 – 28)	819 (67.2%)
Medium High (29 – 42)	375 (30.8%)
High (43 – 56)	25 (2.1%)

**3.6 Multivariate Results:** The multivariate results were developed from the results from 1,065 responses. In order to be included, the categories had to be fully completed. Therefore, those participants omitting information in demographics were not included in this portion of the analysis. At the same time, information was required to make sense in terms of outliers. This is shown in **Table 3**.

Table 3		
	R-Squared	P
Block 1: Demographic		
Age	0.0003	0.5887
Gender (ref=female)	0.0062	0.0000
Religion (ref=no %)	1.5976	0.0000
Education		
High school/Technical (%)	0.1028	0.0023
College/University (%)	7/5280	0.0000
Graduate school (%)	0.0315	6.4966
Block 2: Social		
Marital Status,		
Single	2.2562	1.4729
Married	3.0683	0.0000
Separated	0.9999	0.0000
Divorced	0.0472	8.9559
Living Status		
Live with Spouse	0.0001	4.4903

Live with Spouse and Children	0.0050	3.5257
Live with Parents	0.0700	3.4426
Live with Parents, Spouse, and Children	4.3213	3.2411
Other	0.0003	4.7377
Live Alone	0.0004	1.1566
Block 3: Work		
Activity		
Surgical	0.0044	8.5876
Medical	0.0105	0.0000
Emergency/ICU	0.0008	3.6218
Gynecology/OB	0.0025	4.7161
Pediatrics	0.1592	2.8074
Average Experience (years), <i>n</i> (%)	0.0029	0.5797
Current Shift		
Day shift	2.0965	3.6001
Night shift	5.6868	0.0000

The r-square for age was significant, showing that it had almost no bearing on results of the test. The same is true for gender, except with the p-value, suggesting that gender had no impact on the test results. Religion was also significant in relation to p-value, suggesting that religion, or lack of religion, had no impact on the test results. Education (high school/technical and college/university) were significant in their p-values in comparison to the test results. Higher education (graduate level) suggests no impact on the test results. Moreover, marital status, specifically married or separated, had significant p-values. The r-squared for separated was also significant. Living status was significant. The r-squared for living with spouse was significant, as was other living arrangements and living alone. The unit worked on was significant. This was primarily true with the p-value for medical. Working the night shift was significant. An overall p-value and coefficient comparisons for the information is shown in **table 4** for the variables against the total PSS score.

	Coefficient	P-value
Gender	2.7790	0.0734
Religion	0.2131	0.8704
Education	-1.5699	0.2524
Marital Status	0.6596	0.1535
Living Status	0.0073	0.9625
Work Activity	-0.2817	0.1816
Shift	0.2322	0.7081
Age	0.0076	0.9586
Experience	-0.0188	0.8772

The most significant factors, in terms of p-value, were gender, religion, marital status, living status, work activity, age, and experience. In terms of coefficient, the most significant factors were gender, living status, and age.

#### 4 DISCUSSIONS

According to a study conducted by [Shader, Broome, Broome, West, and Nash \(2001\)](#), younger nurses commonly experience more stressors within the workplace. The study suggests that the majority of nurses in China are female, confirming the study by [Wang, Li, Hu, Chen, Gao, Zhao, and Huang \(2011\)](#), which states that gender inequality exists within the nursing profession in China. According to this study, most experiences by male nurses have been "mainly negative, revealing issues stemming from the method of student recruitment for the baccalaureate nursing program, gender bias in nursing teaching, and social views on nursing work" ([Wang, Li, Hu, Chen, Gao, Zhao, and Huang \(2011\)](#)).

Within the sample, 1,174 participants had no religion affiliations whatsoever. These results are surprising considering the study conducted by [Chen \(2001\)](#) stating that “Chinese philosophies and religions strongly influence the Chinese way of living and thinking about health and health care. Nurses must combine information about culture with clinical assessment of the patient to provide cultural sensitive care.”

The high level of education reported in the study is unsurprising considering the study conducted by [Xu, Xu, and Zhang \(2000\)](#), confirming the high level of education required within the nursing industry in China. In fact, according to the study by [Xu, Xu, and Zhang \(2000\)](#), “China has been heavily influenced by medical education in terms of structure, curriculum and faculty training, and that challenges are enormous for Chinese nursing education to meet international standards of nursing education.” According to a study conducted by [Lu, While, and Barriball \(2007\)](#), there is an “interrelationships between age, working years, marital status and job satisfaction.” Significantly, another study conducted by [Yin and Yang \(2002\)](#), “married nurses were more satisfied with their job than those who were unmarried.”

According to a study conducted by [Michael, Berkman, Colditz, and Kawachi \(2001\)](#), living with others is shown to be beneficial to long-term health benefits, including job satisfaction. However, contact with friends was shown to be a deciding factor in the influence. For instance, according to the study, “contact with friends and relatives and level of social engagement were significantly protective against a decline in mental health among women living alone but not among women living with a spouse” ([Michael, Berkman, Colditz, &Kawachi, 2001](#)). Therefore, the study suggests that “women living independently are neither socially isolated nor at increased risk for decline in functional health status” ([Michael, Berkman, Colditz, &Kawachi, 2001](#)). It could be tentatively concluded that those participants living with others do not have a significant advantage over those that live alone, provided those that live alone interact with friends. This study suggests that income can influence job satisfaction, confirming the study by [Demir, Ulusoy, and Ulusoy \(2003\)](#), which states that economic factors can have a negative influence on stress levels and increase the likelihood of burnout among nurses.

According to one study by [Ganster and Schaubroeck \(1991\)](#), “there is not convincing evidence that job stressors cause health effects, the indirect evidence is strongly suggestive of a work stress effect. This evidence comes from occupational studies that show differences in health and mortality that are not easily explained by other factors and within-subject studies that demonstrate a causal effect of work experiences on physiological and emotional responses.”

One study, conducted by [Chang, Hancock, Johnson, Daly, and Jackson \(2005\)](#) states that experience levels contribute to the stress level of nurses. However, the shift undertaken can contribute to stress, particularly night shift, as suggested by the study conducted by [McVicar \(2003\)](#). Recent studies, such as the ones by [Callaghan, Tak-Ying, and Wyatt, 2000](#); [Chang, Hancock, Johnson, Daly, and Jackson, 2005](#); [Demir, Ulusoy, and Ulusoy, 2003](#); [Ganster and Schaubroeck, 1991](#); [Konstantinos, 2008](#); [Lambert, Lambert, Petrini, Li, and Zhang, 2007](#); and [Lu, While, and Barriball, 2007](#), suggest that stress can lead to disease development.

The PSS results suggest that stress is an increasing problem. This confirms studies, such as [Callaghan, Tak-Ying, & Wyatt, 2000](#); [Chang, Hancock, Johnson, Daly, & Jackson, 2005](#); [Demir, Ulusoy, &Ulusoy, 2003](#); [Ganster&Schaubroeck, 1991](#); [Konstantinos, 2008](#); [Lambert, Lambert, Petrini, Li, & Zhang, 2007](#); and [Lu, While, &Barriball, 2007](#), which show that demographics and health factors influence stress. This is further confirmed through the study by [Li and Lambert \(2008\)](#), which states that “the most frequently cited workplace stressor was workload, while the most commonly used coping strategy was planning. Two hundred and twelve significant positive and negative correlations were found among the various workplace stressors, coping strategies, demographic characteristics and the different factors comprising job satisfaction.” Importantly, a study by [Garrosa, Moreno-Jimenez, Liang, and González \(2008\)](#) states that “significant predictors of burnout included age, job status, job stressors (workload, experience with pain and death, conflictive interaction, and role ambiguity), and hardy personality (commitment, control, and challenge) ... Specifically, the present study suggests that intervention aimed at reducing the risk for burnout may achieve better results if it includes enhancement of workers’ hardy personality rather than just decreasing environmental stressors.”

The hypotheses were all accepted because the p value for the ANOVA test was significant and included: Demographic factors have an impact on the stress level of Chinese nurses that work in different departments and hospitals in Wuhan City of P.R. China; Employment factors have an impact on the stress level of Chinese nurses that work in different departments and hospitals in Wuhan City of P.R. China and Organizational factors have an impact on the stress level of Chinese nurses that work in different departments and hospitals in Wuhan City of P.R. China. This confirms a study aimed towards mental health nurses, claiming that “more than one-third of the nurses could be considered as having poor mental health. While supervisory

role produced the highest level of stress, organizational environment also created a substantial amount of stress for nurses” (Wong, Leung, So, & Lam, 2001). However, it is believed by another study that stress can be alleviated through assertion training, stating that, based on the results, there is “clear support for the effectiveness of assertiveness training for treating sub assertive behaviors and stress in a population of professional nurses in Taiwan” (Lee & Crockett, 1994).

## 5 STUDY STRENGTHS AND LIMITATIONS

The study is strong in that it has a significant number of respondents, which provided a wide variety of results. However, it was impossible to conduct a qualitative portion to the study, which would have provided greater insight as to specific stressors. On the other hand, the quantitative analysis provided a well-rounded section of data, showing numerous influences to the stress levels of nurses in China.

## 6 CONCLUSIONS

The purpose of this study is to explore the impact of the demographic, employment and organizational factors related to stress of Chinese nurses that work in different departments and different hospitals in Wuhan city of P.R. China. The largest age range was between 1987 to 1991, making these workers to be between ages 29 and 25 years old. Out of the sample, 1,208 of the total are female; 25 of the total are male, and 13 declined to respond. Therefore, it can be concluded that this study will be especially relevant for female nurses in China, as they compose 96.95% of the sample. Furthermore, males only compose 2.00% of the sample and non-respondents to the question compose only 1.04% of the sample. Within the sample, 1,174 participants had no religion affiliations whatsoever. At the same time, 37 noted that they had religious affiliations. Of the respondents that provided their affiliations, the primary religions followed were Buddhism and Christianity.

The largest start year range was between 2011 to 2015, making these workers relatively in- or moderately-experienced in their positions. This range of experience was through a vast range of departments within the facilities. The total experience of the respondents is 6,197 years. Therefore, on average, as there are 1,246 respondents, there is an average of 4.97 years of experience per participant. However, the shift undertaken can contribute to stress, particularly night shift, as suggested by the study conducted by McVicar (2003). The data results show that 935 respondents currently work night shift. On average, night shift workers have worked this shift for 6.8 years, approximately 5.52 times per month (on average). However, 200 respondents reported working the night shift previously until an average of 6.84 years ago, for an average of 10.80 years, approximately 4.63 times per month (on average).

The perceived stress scale can be divided into two parts. The only responses considered were the ones that had values for both portions in order to obtain the total. The average score for the first portion of the perceived stress scale was 12.9. The average score for the second portion of the perceived stress scale was 12.5. The overall average for the perceived stress scale was 24.9.

The hypotheses were all accepted because the p value or r-squared was significant for all the tests and included: age, education level, marital status, work department, experience, and working the night shift. The accepted hypotheses were: (1) Demographic factors have an impact on the stress level of Chinese nurses that work in different departments and hospitals in Wuhan City of P.R. China; (2) Employment factors have an impact on the stress level of Chinese nurses that work in different departments and hospitals in Wuhan City of P.R. China; and (3) Organizational factors have an impact on the stress level of Chinese nurses that work in different departments and hospitals in Wuhan City of P.R. China.

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