

ASSOCIATION BETWEEN EMOTIONAL LABOR,  
EMOTIONAL EXHAUSTION AND TURNOVER  
INTENTION-A STUDY OF NURSES IN CHINA

Wenfei Xie

谢文菲

Project submitted as partial requirement for the conferral of  
Master in Business Administration

Supervisor:  
Prof. Shaozhuang Ma, Invited Associate Professor, ISCTE Business School

September 2017



# Acknowledgements

First of all, I would like to extend my sincere gratitude to my supervisor, Shaozhuang Ma, for his constant encouragement and guidance. I do appreciate his patience and professional instructions during my thesis writing.

在此我要对我的导师马绍壮教授致以最诚挚的感谢，感谢他一直以来对我不断地鼓励和指导，感谢他对我论文写作耐心又专业的指导。

Thank you for all my professors and colleagues in ISCTE-University, my studying here are so enjoyable because of you.

感谢所有 ISCTE 的教授和同学们，因为有你们，我在这里的学习充满愉快。

Last but not the least, my gratitude also extends to my beloved family who have been assisting, supporting and caring for me all of my life. I also owe my sincere gratitude to my friends who never fail to encourage and support me.

最后我要感谢我亲爱的家人们，感谢他们长久以来对我的支持和关心爱护。以及，感谢我的朋友们，感谢他们对我得鼓励和帮助。

## **Abstract**

The research aims to explore the emotional labor demand difference between nurse's interaction with patients and colleagues, and the association among emotional labor, emotional exhaustion and turnover intention. A quantitative analysis was employed with a survey of 209 nurses in public hospitals in Guangdong province, China.

The results suggest that there is a significant difference in the level of emotional labor with colleagues and that with patients. Findings also indicate that: (1) emotional labor is a valid predictor of emotional exhaustion; (2) emotional exhaustion is significantly correlated with turnover intention; (3) emotional labor is positively related with turnover intention; (4) emotional exhaustion partially mediates the relationship between emotional labor with colleagues and turnover intention and fully mediates the relationship between emotional labor with patients and turnover intention.

*Keywords:* emotional labor, emotional exhaustion, turnover intention, China.

**JEL Classification:** J53; M100

## Resumo

A pesquisa explora as diferenças nas necessidades de exaustão emocional entre enfermeiros e pacientes e colegas, e a relação entre o esforço emocional, a exaustão emocional e a intenção de *turnover* de enfermeiros em seu ambiente de trabalho. Uma análise quantitativa foi realizada com 209 enfermeiros em hospitais públicos na província de Guangdong, China.

Os resultados sugerem uma diferença significativa no nível de esforço emocional entre a relação com colegas de trabalho e a com pacientes. Ademais, os resultados indicam também que: (1) o esforço emocional é um indicativo da exaustão emocional; (2) a exaustão emocional é correlacionada com a intenção de *turnover* de forma significativa; (3) o esforço emocional é positivamente relacionado à intenção de *turnover*; (4) a exaustão emocional mediará parcialmente a relação entre o esforço emocional com colegas e a intenção de *turnover*, e mediará totalmente a relação entre o esforço emocional com pacientes e a intenção de *turnover*.

*Palavras-chave:* esforço emocional, exaustão emocional, intenção de *turnover*, China

**JEL Classification:** J53; M100

# Table of Contents

Acknowledgements.....	III
Abstract.....	IV
Resumo.....	V
Table of Contents.....	VI
List of Tables.....	VII
List of figures.....	VII
List of Abbreviations.....	IX
1. Introduction.....	1
1.1. Background.....	1
1.2. Research Questions.....	3
1.3. Structure.....	3
2. Literature Review.....	5
2.1. Emotional Labor.....	5
2.1.1. Surface Acting.....	6
2.1.2. Deep Acting.....	7
2.2. Job Burnout and Emotional Exhaustion.....	9
2.3. The relationship between EL, EE and TI.....	11
3. Methodology.....	14
3.1. Sampling and Procedure.....	14
3.2. Measures.....	14
3.3. Statistical Analysis.....	15
4. Result.....	17
4.1. Participants.....	17
4.2. Factor Analysis and Internal Consistency.....	18
4.2.1 Emotional Labor.....	18
4.2.2 Emotional exhaustion.....	20
4.2.3 Turnover Intention.....	21
4.3. Correlation analysis.....	22
4.4. Analysis of Independent samples T-Test.....	25
4.5. Hypothesis Testing.....	26
4.5.1 Hypothesis 1.....	26
4.5.2. Hypothesis 2.....	27
4.5.3. Hypothesis 3.....	28
4.5.4. Hypothesis 4.....	29
4.5.5. Hypothesis 5.....	30
5. Discussion.....	33
5.1. Implications.....	36
6. Conclusions.....	37
6.1. Limitation and Further Studies.....	37
Reference.....	38
Appendix: Questionnaire.....	49

## List of Tables

Table 1. Demographic characteristics of participants .....	18
Table 2. Model Fit Criteria.....	19
Table 3. Surface acting with colleagues-Total Variance Explained.....	19
Table 4. Surface acting with patients-Total Variance Explained .....	20
Table 5. Emotional exhaustion-Total Variance Explained .....	21
Table 6. Summary of the Factor Analysis of Three Scales.....	22
Table 7. Correlations .....	24
Table 8. T-Test Results of Key Variables .....	25
Table 9. Paired t-test results - Hypothesis 1 .....	27
Table 10. Regression Analysis (SA, DA and EE)- Hypothesis 2 .....	28
Table 11. Regression Analysis (EE and TI) - Hypothesis 3 .....	29
Table 12. Regression Analysis (SA, DA and TI) - Hypothesis 4 .....	29
Table 13. Regression Analysis (SA, DA, EE and TI) - Hypothesis 5 .....	31
Table 14. Indirect effects of SA, DA on TI .....	31

## List of Figures

Figure 1. Proposed model .....	13
Figure 2. EE as a mediator between SA and TI .....	32
Figure 3. EE as a mediator between DA and TI.....	32



## List of Abbreviations

SA	Surface Acting
DA	Deep Acting
EE	Emotional Exhaustion
TI	Turnover Intention
RNs	Registered Nurses
COR	Conservation of Resource Theory

# 1. Introduction

## 1.1. Background

As the growth and aging of world population, the shortage of nurses and high turnover rate have been becoming serious global issues (Aiken *et al.*, 2001; Simon, 2014). A report estimated that there would be a 36% shortfall of registered nurses (RNs) in the United States by 2020 (US Department of Health and Human Services, 2006). In addition, a study of 105 nursing institutions in 69 countries suggests that 90 institutions (86%) are facing nursing shortage (Spratley *et al.*, 2002).

The shortage of nurses in China is even more severe. The world average nurse-to-population ratio is about 5 nurses per 1000 people (World Health Report, 2013). However, in China, by the end of 2016, the nurse-to-population ratio is only 2.54 nurses per 1000 people, 50% of world standard, according to the 2016 year book of Ministry of Health of China (Ministry of Health Information and Statistics Center, 2016).

Nursing shortage may result in fatigue, frustration and excessive compulsory overtime work among nurses, thus result in turnover (Dehghan *et al.*, 2006; Farsi *et al.*, 2010). The turnover issue of nurse has already become the focus of the hospital management. Study by Kovner *et al.* (2007) suggested that 37% of registered nurses (RNs) chose to leave their profession, and 13% newly registered nurse quit their jobs after one year of work in the UK. Additionally, a report on the US stated that one in five intended to leave the profession within five years (Federation of Nurses and Health Professionals, 2001). Due to the poor work condition and low wage, turnover rate of nurses in China has been high (Yang *et al.*, 2014). Research in eastern regions of China found an 18.69% actual turnover rate of nurses (Tang, 2012). The high turnover rate of nurses not only resulted in nursing shortage, but also caused the crisis of nursing human

resource. For example, increasing the nurses' workload, working pressure, job burnout and therefore result in the decrease in nursing quality and adverse patient outcomes (Jin *et al.*, 2009). As such, how to retain nurses become a challenge to government, hospitals and academia as well as the focus of the health care reform in China.

Research shows that turnover intention is a strong predictor of actual turnover (Hayes *et al.*, 2012). Job burnout and working environment are associated with turnover intention (e.g., Larrabee, 2003; Stephen, 2003; Van *et al.*, 2013). Indeed, nursing is one of the most widely studied professions in the burnout field (Maslach *et al.*, 2001). Emotional exhaustion in nursing has been linked to adverse outcomes of patient and career dissatisfaction (Laschinger, 2012). In addition, prior research on nurses also found a consistent positive association with emotional exhaustion to turnover intention, suggesting that emotional exhaustion can be considered as a predictor of nurses' turnover intention (e.g. Knudsen *et al.*, 2009; Bria *et al.* 2013). Considering the negative outcomes of emotional exhaustion on nurses and organization, efforts should be taken to understand how emotional exhaustion was developed and how to manage it.

There are many factors affecting nurse's emotional exhaustion, such as poor work environment, work overload, insufficient resources and emotional labor (Laschinger *et al.*, 2013; Leineweber *et al.*, 2014). Recently, researchers show that emotional labor may lead to emotional exhaustion. Emotional labor is defined as the management of emotion to create a memorable facial and bodily display and usually involved in jobs with frequent interaction with customers especially in nursing profession (Hochschild, 1983; Grandey *et al.*, 2013). Nurses often engage in emotional labor to perform emotions align with social rules and cultural norms (Morris and Feldman, 1996). For example, it is necessary to hide their negative emotions when they need to give a smile to patients (Grandey *et al.*, 2005).

Studies reveal the relationship between emotional labor and poor physical, mental well-being, such as emotional exhaustion (Brotheridge *et al.*, 2002) and turnover intention (Chau, 2007; Chau *et al.*, 2009). Additionally, a recent research suggests that emotional labor not only take place between nurses and patients but also between nurses and peers, leaders to a similar or a greater extent (Becker *et al.*, 2015). Besides, the level of emotional labor with colleagues also has important implications for turnover intentions and team supports (Becker *et al.*, 2017). Thus, in order to retain nurses and to achieve good results for the patients' caring, hospitals should better understand the importance of emotional labor, and the difference in emotional labor with colleagues and patients.

## **1.2. Research Questions**

As mentioned above, in this study, we intend to get a deep understanding of the difference in nurses' emotional labor performed to patients and that performed to colleagues and emotional exhaustion's role in the relationship between emotional labor and turnover intention. By doing so, we expect that we may have insight how to manage emotional exhaustion and retain nurses that are facing increasing emotional demands for their work to provide high quality service. Therefore, the current study aims to answer the following question: 1) Do nurses perform different level of emotional labor (surface acting and deep acting) between patients and colleagues? 2) To what extent do nurses' surface acting and deep acting (with colleagues and with patients) contributes to emotional exhaustion? 3) Lastly, what is the role emotional exhaustion plays in the relationship between surface acting and deep acting and turnover intention.

## **1.3. Structure**

Following this chapter, we start by presenting the existent literature regarding emotional labor, emotional exhaustion, turnover intention and the relationship among them to develop the theoretical framework and the hypotheses of the present study.

Chapter three describes the methodology used in the present study. Chapter four presents the results of our research and chapter five discuss the management implications, limitations of the study and suggestions for future research.

## 2. Literature Review

### 2.1. Emotional Labor

The concept of emotional labor was first proposed by Hochschild (1983). She defined emotional labor as emotional management in order to produce the facial or body expression that public can see. Similarly, Ashforth and Humphrey (1993) argued that emotional labor was displaying the appropriate emotion to meet the display role.

Morriors and Feldman (1996) focus their definition of emotional labor on the interpersonal transactions in which efforts, plans and controls are needed to express appropriate emotion organization desired. Emotional labor is part of individual's work, it requires individuals hide and control their real emotions in interpersonal transactions. Even when they are exhausted or depressed, they have to show a smiling face to others. Furthermore, Grandey (2000) integrates those definitions and argues that emotional labor is a psychological processing individuals have to meet the job expectations for emotion management. The theory emphasizes individual's inner activity, such as target confirmation, plan, monitor, information feedback. Zapf *et al.* (2002) suggest that the essence of emotional labor is an emotional adjustment which used to meet organization's "display rules" (Ashforth and Humphrey, 1993; Grandey, 2013). Emotional labor may occur in various industries and occupations, thus, three categories has been proposed according to the associated display rules: (1) Customer service jobs (various sales, waiters/waitresses, hair stylists); (2) Caring profession (nurses, doctors and other healthcare workers); (3) Social control jobs (guards, polices, bouncers) (Humphrey *et al.*, 2008). In this study, we focus on nurses.

Smith (1992) first used the concept of emotional labor in nursing. She studied the specific qualitative research of some cases and practical experience of interns, and argued that nurses' willingness to engage in emotional labor is also based on the

opportunity and encouragement of a specific working environment in order to develop strategies to deal with different emotional state. Bolton (2005) describes nurses as “emotional magicians”, who can express emotions without feelings according to situation. Nurses may sometimes feel negative emotions, such as disgust and anger, which are not helpful for patients. If they want to let patients feel to be taken care of, these emotions must be controlled, managed or depressed (McQueen, 2004). Therefore, the goal of emotional management is also to promote best outcomes of the patient. Additionally, in a conceptual study, emotional labor was described as a process in which nurses “adopt a ‘work persona’ to express their autonomous, surface or deep emotions during patient encounters” (Huynh, 2008: 201). Further studies by Choi *et al.* (2014) also show that nurses’ EL strategies vary from interactions with patients.

Emotional labor may have positive and negative influence on both physical and mental. Nurses’ positive emotion can relieve the patient's tension and improve service quality. Thus, it is of vital importance to know how to regulate emotion so that it can have a positive impact on individuals. Considering this, many researchers have proposed various emotional labor strategies. Hochschild (1983) first proposed that there are two main ways for employees to manage emotions: surfacing acting and deep acting (Grandey, 2003), which will be discussed next.

### **2.1.1. Surface Acting**

Surface acting (SA) was interpreted as an adjustment of emotional expression to meet the requirements without corresponding with inner emotion (Hochschild, 1983). Research argues that SA means during the interactions, emotional dissonance persists between internal feelings and external expression (Zapf, 2002). For example, nurses are required to display sympathy and concern to patients. When engage in SA, nurses may put on a caring mask, while they may actually have inconsistent inner feelings.

Studies suggest that surface acting can be described as emotional conflict, because of the inconsistency between internal feelings and external expression, and employees who display surface acting may go through a high level of emotional conflict (Zapf and Holz, 2006). Moreover, according to many studies, surface acting may result in job dissatisfaction, depression, stress and turnover intention (e.g., Grandey *et al.*, 2005, Nixon *et al.*, 2010, Grandey, 2003, Bartram *et al.*, 2012b, Hasselhorn, 2008).

### **2.1.2. Deep Acting**

Deep acting (DA) was described as changing the emotional expression to meet the expectation of organization, meanwhile trying to feel the emotion displayed (Hochschild, 1983). Thus, Rafaeli and Sutton (1987) propose that DA should be called “faking in good faith”. That means, not only the outward expression but also the inner feelings are modified. For example, in a hospital, nurses may imagine themselves are patients and try to feel empathy and look concerned. In this case, nurses regulate their emotional expression as well as internal feelings so as to meet organization’s rules (Brotheridge and Grandey, 2002).

Both surface acting and deep acting require emotional effort. In addition, if it is valid for individuals to do emotion work, it may result in a feeling of accomplishment and decrease from the state of emotional dissonance (Hochschild, 1983; Totterdell and Holman, 2003). Besides, Ashforth and Humphrey (1993) suggest both surface acting and deep acting may help to predict the social interactions, and to prevent the encounters with clients from an awkward situation which may interrupt the communication. Furthermore, according to studies of Grandey (2000) and Judge *et al.* (2009), surface acting has detrimental effects than deep acting on employee’s performance. In line with this, a meta-analysis suggests that surface acting is particularly harmful to job performance, worker well-being and positively predicts emotional exhaustion, while deep acting appears no harm to well-being and may improve performance (Hulsheger and Schewe, 2011).



In summary, both theoretical arguments and empirical studies state that deep acting may have positive outcomes, such as greater personal accomplishment, better job satisfaction and performance for employees (e.g., Brotheridge and Lee, 2002; Scott and Barnes, 2011; Côté and Morgan, 2002). In addition, deep acting is positively related to emotional performance and customer satisfaction and a slight negative relationship with emotional exhaustion (Hülshager and Schewe, 2011). Conversely, surface acting is associated with negative outcomes, such as turnover intentions, lower job performance and depersonalization (e.g., Brotheridge *et al.*, 2002; Grandey, 2003). Subsequent research findings indicate that the regulation of emotions through surface acting may lead to negative well-being outcomes, such as depressive symptoms and burnout (Lee *et al.*, 2015; Rogers *et al.*, 2015).

Emotional labor is across all walks of life not just happens to the services industry and its objects include not only external customers but also internal staff (such as supervisors, coworkers, subordinates), even themselves (e.g., Hochschild, 1993; Ashforth and Humphrey, 1993; Brotheridge and Lee, 2002; Ozcelik, 2013). Further, emerging research exclusively focus on the relationship between managers or coworkers' emotional labor and emotional exhaustion (Halbesleben, 2006; Cole *et al.*, 2012).

Generally, there is a written or official rule that regulate nurse's emotional expression towards external customers but not with internal customers (Ashfort and Humphrey, 1993). Besides, a study by Lively *et al.* (2006) suggests that when workers encounter some negative cases, they may more willing to seek help from colleagues in the workplace. For example, in terms of nurses, they may suffer more negative emotions when they interact with patients than with colleagues, because there are rules regulating their emotion displayed to patients. Additionally, Wharton and Erickson (1993) argued that frequency of emotional display may valid predict emotional labor. In accordance, recent research suggests that nurse's frequent interaction with patients is related to high surface acting (Su, 2013). Thus, we propose that:

*H1: The level of emotional labor with patients is higher than emotional labor with colleagues.*

*H1a: The level of surface acting with patients is higher than surface acting with colleagues.*

*H1b: The level of deep acting with patients is higher than deep acting with colleagues.*

## **2.2. Job Burnout and Emotional Exhaustion**

Job burnout refers to individuals who cannot get effective mitigation under long-term work stress, resulting in mental and physical exhaustion. The concept was first proposed by Freudenbergert (1974). Selye (1980) introduced burnout as a long-term high pressure in the body to produce non-specific adaptation of the physiological industry. Pines and Kafry (1978) considered job burnout as an exhausted state individuals experienced both in physical and mental. Although there had been many definitions of job burnout, most researchers agreed that job burnout was a career-related syndrome, mainly manifested as emotional exhaustion, fatigue, loss of confidence and responsibility for work, reducing work efficiency, anxiety, tension and physiological indicators of abnormal (Dollard *et al.*, 2007).

Emotional exhaustion is the core of burnout, referring to over-consumed individual's physical and emotional resources (Lee, 1996; Gorgievski and Hobfoll, 2008). It is likely to occur in public services, such as teachers, doctors, judicial staff and other careers, among which nursing is a high-risk group of burnout (Aiken *et al.*, 2012; Maslach and Leiter, 1997). In addition, it will not only affect the performance of nurses, but also will cause nurses psychological problems, such as depression, anxiety, coercion and tension (Idvall. E *et al.*, 1997). Moreover, it is worth taking note of that emotional exhaustion is the main reason for the job turnover and absenteeism (Maslach *et al.*, 1996).

In accordance, researchers (e.g., Brotheridge and Lee, 2002; Grandey, 2003) argue that emotional exhaustion is the most frequent cited outcome of emotional labor (Hochschild, 1983). The Conservation of Resource Theory (COR) (Hobfoll and Freedy, 1993) stated that all individuals have limited resources (such as time, energy, emotion status), individuals will do their best to obtain, save and maintain their limited resources (including personal and social resources). Only when individuals feel their resources are threatened, will they appear stress and burnout. These threats may come from job demands, loss of job resources (such as unemployment), and unbalanced between pay out and acquisition in work. The initial threat to these resources can be seen as a source of stress, but the continuously loss of resources or threats will eventually lead to the occurrence of burnout (Halbesleben and Buckley, 2004). In addition, job demand is also likely to cause emotional exhaustion (Lee and Ashforth, 1996).

Consistent with the COR theory, surface acting consumes resources as it suppress individual's inner emotion and displaying the desired emotion, and this constant consumption of limited resources affects employee well-being (Brotheridge and Lee, 2002; Grandey, 2003; Hülshager and Schewe, 2011). For example, when nurses engage in surface acting, they are more likely to fall into emotional exhaustion (Halbesleben and Buckley, 2004). Similarly, Brotheridge and Lee (2002) and Zammuner (2005) suggest that surface acting is positively related to emotional exhaustion. On the contrary, deep acting tends to solve initial emotional discordance and resulting in the same inner feeling and external display (Brotheridge and Grandey, 2002; Grandey, 2003) and it usually requires employees to show positive emotions and may also increase positive emotional experiences that may spill and provide energy sources to eliminate exhaustion (Schaubroeck and Jones, 2000). In accordance, deep acting is considered to be associated with better felt emotions, better job performance and higher job satisfaction (Grandey, 2000). According to the research mentioned above, we proposed that:

*H2a: Surface acting is positively related with emotional exhaustion.*

*H2b: Deep acting is negatively related with emotional exhaustion.*

### **2.3. The relationship between EL, EE and TI**

Turnover intention refers to the employees work in a certain organization of a period of time, having the idea and the willingness to leave the organization (Mobley, 1977; Porter *et al.*, 1973; Brewer *et al.*, 2009). Turnover intention is consistent with attitudes, desires, behaviors, and is often considered as a "forecaster" of actual turnover (Fishbein, 1967). From then on, it is generally considered as an accurate prediction of actual turnover, scholar even suggest that directly use turnover intention instead of actual turnover (Shore and Martin, 1989).

The factors that influence turnover intention have been widely studied. Arnold and Feldman (1982) divided the factors into five categories: macroeconomic factors; business factors; individual work attitudes; individual demographic variables and factors of personal characteristics; and personal factors not related to work. In terms of nurse, most of the Chinese scholars argue that the factors influence turnover intention can be summarized as individual factor, work environment factor and social environment factor (Zhu, 2012; Yu, 2011; Cui, 2015). Furthermore, studies show that emotional exhaustion will result in lower rates of organizational attachment (Jackson *et al.*, 1986) and higher rates of turnover intention (Firth and Britton 1989; Jackson *et al.*, 1986). A variety of studies also indicate there are significantly positive relationship between emotional exhaustion and turnover intention (Leiter and Robichaud, 1997; Schaufeli and Enzmann, 1998; Grandey and Fisk, 2005). Based on these, we propose that:

*H3: Emotional exhaustion is positively related with turnover intention.*

Abrahama (1999) finds emotional conflict is related to turnover intention, since

Grandey (2003) proposes that emotional conflict and surface acting are conceptually similar in structure, it can be conducted that surface acting is positively related to turnover intention. Further studies confirm that surface acting has a positively relationship with turnover intention (Cropanzano *et al.*, 2003). Regarding deep acting, as stated early, it may lead to positive outcomes, such as increasing job performance, reducing turnover intention (Grandey, 2005; Humphrey *et al.*, 2015). Thus, we expect surface acting and deep acting may have a different relationship with turnover intention. Thus, we propose that:

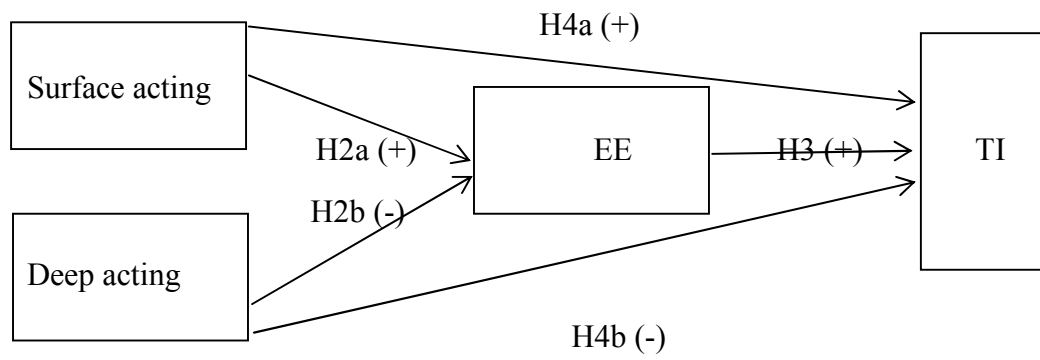
*H4a: Surface acting is positively related with turnover intention*

*H4b: Deep acting is negatively related with turnover intention*

Based on COR theory, the Job Demands-Resources Model (JD-R) is proposed by Demerouti *et al.* (2001), indicating that there are two factors causing job burnout, job demands and job resources. In addition, they suggest that job demands may predict emotional exhaustion. According to this theory, a revision presents that emotional exhaustion is a mediator between job demands, job resources and turnover intention (Schaufeli and Bakker, 2004). Since surface acting can be seen as job demands, it may threaten employees' resources (such as emotion). In addition, if exposure to this demand for a long time it will lead to strain, such as emotional exhaustion (e.g., Xanthopoulou, 2009; Grandey *et al.*, 2013). As noted previously, emotional exhaustion may have a positive relationship with turnover intention (e.g., Lee and Ashforth, 1996), we can expect that emotional exhaustion is a mediator between surface acting and turnover intention. In line with this, a study by Chau *et al.* (2009) contends that emotional exhaustion can be considered as a mediator between surface acting and turnover intention. With regard to deep acting, as it may has a negative relationship with emotional exhaustion, and emotional exhaustion may has a positive relationship with turnover intention, we do not expect emotional exhaustion can mediate the relationship between deep acting and turnover intention. Therefore, we can propose that:

*H5: Emotional exhaustion mediates the relationship between surface acting and turnover intention, but not the relationship between deep acting and turnover intention.*

**Figure 1. Proposed model**



## 3. Methodology

### 3.1. Sampling and Procedure

The research targets of this study are nurses in Guangdong province public hospital. We distributed the questionnaire to the respondents through the Internet (by e-mail, wechat, social media, and other types of Internet communication). The data were collected between July-October 2016 and received 302 responses. After removing invalid questionnaire, there were 209 valid complete responses.

### 3.2. Measures

The research questionnaire consists of four parts: Emotional Labor, Burnout and Turnover Intention, Demographic Information.

**Emotion Labor:** Emotional labor was measured from an 8-item scale from Grandey (2003) which originally proposed by Brotheridge and Lee (2002). The EL-8 consists of 5 for surface acting (e.g., “*Fake a good mood*” or “*Just pretend to have the emotions I need to display to my job*”), 3 items for deep acting (e.g., “*Try to actually experience the emotions I need to display for my job*” or “*Make an effort to actually feel the emotions that I need to display toward others*”). The scale contains both the emotional interactions with internal and external customers (colleagues and patients). Respondents are requested to use a 6-point Likert scale ranging from “*Never*” (1) to “*Always*” (6). The higher the score is, the higher level of emotional labor is.

According to the confirmatory factor analysis, the original 5 items for surface acting not acceptable. Thus, we removed the third item to modify the model with a valid fit index. The reliabilities were .875 and .904 for surface acting and deep acting with colleagues, respectively. For surface acting and deep acting with patients reliabilities were .871 and .802, respectively.

**Emotional exhaustion:** We used Chinese version of MBI-GS, which was translated and revised in China with high reliability and validity (Maslach *et al.*, 2001, Tang, 2007). There are 5 questions on emotional exhaustion (e.g. “*I feel emotionally drained from my work*” or “*I feel used up at the end of the workday*”), The questionnaire is a 6-point Likert scale ranging from “*Never*” (1) to “*Almost Every day*” (6). A higher score indicates that the subjects’ emotional exhaustion is higher. Reliabilities were .711.

**Turnover Intention:** A three-item scale was adopted from a part of the Organizational Commitment Questionnaire (OCQ) developed by Mowday *et al.* (1979). The three items including “*I often think of quitting my present job*”; “*I may leave this company and work for another company in the next year*”; “*I plan to stay in this company to develop my career for a long time*”, on a response scale of 1 (“*Strongly disagree*”) to 6 (“*Strongly agree*”) (Mowday *et al.*, 1979; Ma *et al.*, 2012). A higher score means a greater turnover intention. Reliabilities were .833.

**Socio-demographics:** Variables include gender (Male=1, Female=2), age, marital status, position, education background, department, professional tenure, organization tenure and hospital size for hospital scale.

### **3.3. Statistical Analysis**

The questionnaire data was processed using factor analysis, descriptive statistics, T-Test analysis, regression analysis techniques and Sobel-test. First, we conducted confirmatory factor analysis (CFA) with AMOS22.0 to confirm the factor structures of the scales of this study. When CFA fit indices were not satisfactory, we then ran an exploratory factor analysis (EFA) and then we used CFA to test scales again. Next, correlations and coefficients alpha internal consistency reliability were computed. Then, T-Test analysis was performed to examine the differences in key variables between different audiences of this study. Next, regression analysis was used to test



the explanatory and moderate effects on the model. This procedure including: (1) There must be a significant relationship between independent variable and dependent variable; (2) Mediator variable must show a significant relationship to independent variable; (3) In the case of controlling the independent variable effects, mediator variable still has an effect on the dependent variable; (4) Considering about mediator variable, if there is a reduction of significance between independent variable and dependent variable when controlling it. Additionally, if the relationship between independent variable and dependent is still significant, the mediation is considered to be partial. Lastly, we referred to Sobel-test to examine whether the mediation effect is significant.

## **4. Result**

### **4.1. Participants**

Participants were nurses in public hospitals in Guangdong province. The majority of respondents were female (93.8%). The sample consists of predominantly 18-29 year-old nurses (79.4%). The tenure of participants, as shown in the Table 1, were predominantly consisted of nurses had been working for 1-3 years (64.6%) whereas 18.2% of them have been working for 3-10 years and 17.2% of them more than 10 years.

In addition, 58.4% of our participants have been working in current hospital for 1-3 years, following by 3-5 years (19.1%). Regarding the hospital size, 60.3% of our participants were working in the hospital with more than 2000 beds and 34.9% of them were working in the hospital owned 1501-2000 beds.

Table 1. Demographic characteristics of participants

<b>Measure</b>	<b>N=209</b>	<b>%</b>
<b>Gender</b>		
Female	196	93.8
Male	13	6.2
<b>Age</b>		
18-29	166	79.4
30-39	43	20.6
<b>Professional Tenure</b>		
1-3 years	135	64.6
3-10 years	38	18.2
> 10 years	36	17.2
<b>Organization Tenure</b>		
1-3 years	122	58.4
3-5 years	40	19.1
>5 years	47	22.5
<b>Hospital Size</b>		
1001-2000 beds	83	39.7
> 2000 beds	126	60.3

## 4.2. Factor Analysis and Internal Consistency

### 4.2.1 Emotional Labor

We run confirmatory factor analysis (CFA) using IBM, SPSS, and AMOS to confirm the factor structures of the scales of this study. To determine the goodness of fit of the scales, we use threshold levels proposed by Hu and Bentler (1999), complemented by Hair *et al.* (2010) as illustrated in the Table 2.

Table 2. Model Fit Criteria

Indices	Criteria
CFI	>.90
RMSEA	< .08
SRMR	< .08

Source: Hu and Bentler (1998)

With regard to the variable “*surface acting with colleagues*”, a confirmatory factor analysis with the original five factor structure showed unacceptable fit indices (CFI = .955; SRMR = .0354; RMSEA = .163) and therefore an exploratory factor analysis (EFA) of all five items was conducted. After removing the third item, the revised scale showed that the solution is valid (KMO = .823; Bartlett’s  $X^2(10) = 428.132$ ;  $p < .001$ ), parsimonious and meaningful. A further CFA showed improved indices (CFI = .997; RMSEA = .051; SRMR = .0141). Therefore, we excluded the third item in the further analysis. The Cronbach’s alpha was 0.875.

Table 3- Surface acting with colleagues-Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.938	73.453	73.453	2.938	73.453	73.453
2	.515	12.863	86.317			
3	.333	8.330	94.647			
4	.214	5.353	100.000			

Extraction Method: Principal Component Analysis

With regard to the variable “*deep acting with colleagues*”, the confirmatory factor analysis with the original three factor structure showed good indices. Therefore we use all three items in the further analysis. The Cronbach’s alpha was 0.904.

With regard to the variable “*surface acting with patients*”, a confirmatory factor

analysis with the original five factor structure showed unacceptable fit indices (CFI = .951; RMSEA = .172; SRMR = .0403) and therefore an exploratory factor analysis of five items was conducted. After removing the third item, the revised scale showed that the solution is valid (KMO = .819, Bartlett's  $X^2(10) = 423.739$ ;  $P < .001$ ), parsimonious and meaningful. A further CFA showed improved indices (CFI = 1.000; RMSEA = .014; SRMR = .0110). Therefore, we excluded the third item in the further analysis. The Cronbach's alpha was 0.871.

Table 4-Surface acting with patients-Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.054	76.354	76.354	3.054	76.354	76.354
2	.431	10.779	87.133			
3	.277	6.932	94.065			
4	.237	5.935	100.000			

Extraction Method: Principal Component Analysis

With regard to the variable “*deep acting with patients*”, the confirmatory factor analysis with the original three factor structure showed good indices. Therefore we use all three items in the further analysis. The Cronbach's alpha was 0.802.

#### 4.2.2 Emotional exhaustion

A confirmatory analysis of original 6 factor structure showed unacceptable fit indices (CFI = .953; RMSEA = .0336; SRMR = .183) and therefore an exploratory factor analysis of six items was conducted. After removing the second item, the revised scale showed that the solution is valid (KMO = .900; Bartlett's  $X^2 = 1085.898$ ;  $P < .001$ ), and meaningful. A further CFA showed good indices (CFI = .999; RMSEA = .032; SRMR = .0126). Therefore, we excluded the second item in the further analysis. The

Cronbach's alpha was 0.945.

Table 5-Emotional exhaustion-Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative	Total	% of Variance	Cumulative
			%			%
1	3.982	79.650	79.650	3.982	79.650	79.650
2	.348	6.966	86.616			
3	.282	5.633	92.248			
4	.269	5.380	97.628			
5	.119	2.372	100.000			

Extraction Method: Principal Component Analysis

### 4.2.3 Turnover Intention

A confirmatory analysis of original three factor structure showed acceptable fit indices. Therefore, we use all three items in the further analysis. The Cronbach's alpha was 0.833.

Table 6. Summary of the Factor Analysis of Three Scales

Scale	Items	Cronbach's alphas
Emotional Labor	Surface acting	.915
	1. I put on an act in order to deal with patients/colleagues in an appropriate way.	
	2. I fake a good mood.	
	3. I just pretend to have the emotions I need to display for my job.	
Emotional Exhaustion	4. I put on a "mask" in order to display the emotions I needed to for my job.	.731
	Deep acting	
	1. I try to experience the emotions that I must know.	
	2. Make an effort to actually feel the emotions that I need to display towards others.	
Turnover Intention	3.I Work hard to feel the emotions that I need to show to others	.945
	1. I feel emotionally drained from my work.	
	2. I feel fatigued when I get up in the morning and have to face another day on the job.	
	3. Working with people all day is really a strain for me.	
	4. I feel like I'm at the end of my rope.	
Turnover Intention	5. I've become more callous toward people since I took this job.	.833
	1. I may leave this company and work for another company in the next year.	
	2. I often think of quitting my present job.	
	3. I plan to stay in this company to develop my career for a long time.	

### 4.3. Correlation analysis

Pearson correlation coefficients were shown in the Table 7. The results indicated that surface acting, deep acting with colleagues and surface acting with patients were significantly correlated with turnover intention and emotional exhaustion. However,

there is non-significant relationship between deep acting with patients and turnover intention and emotional exhaustion. Additionally, among the demographic factors, age, tenure, and organization tenure showed significant correlations with emotional labor, emotional exhaustion and turnover intention.



Table 7. Correlations

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1 Gender	1.94	0.242												
2 Age	1.21	0.405	.131											
3 Education	2.74	0.441	-.154*	-.422**										
4 Tenure	2.53	0.772	.176*	.850**	-.381**									
5Org Tenure	2.98	1.467	.145*	.912**	-.357**	.891**								
6 Bed Size	4.56	0.587	-.094	.144*	-.064	.021	.057							
7 SAcol	3.75	0.705	.330**	-.449**	.061	-.367**	-.380**	-.022						
8 DAcol	2.70	0.754	.117	-.300**	.224**	-.261**	-.323**	-.154*	.215**					
9 SApt	3.17	0.752	.224**	-.480**	-.008	-.335**	-.402**	-.041	.733**	-.082				
10DApt	1.80	0.517	.132	-.296**	.117	-.186**	-.254**	-.215**	.440**	.077	.508**			
11EE	4.34	1.165	-.143*	-.605**	.338**	-.632**	-.629**	-.078	.242**	.524**	.146*	.135		
12 TI	4.16	1.075	-.110	-.699**	.418**	-.678**	-.705**	-.095	.292**	.524**	.147*	.135	.740**	

N=209 \*\*. Correlation is significant at the 0.01 level (2-tailed).

\*. Correlation is significant at the 0.05 level (2-tailed)

For gender, 1 = male, 2 = female.

For age, 1 = 18-29 years, 2 = 30-39 years, 3 = 40-49 years, 4 ≥ 50 years.

For organization tenure, 1 < 1 year, 2 = 1-3 years, 3 = 3-5 years, 4 = 5-7 years, 5 = 7-9 years, 6 = > 9 years

#### 4.4. Analysis of Independent samples T-Test

Table 8 showed the summary of the difference of the key variables on job positions by using Independent samples T-Test analysis.

Table 8. T-Test Results of Key Variables

Variables	SAcol Mean (SD)	SApt Mean (SD)	DAcol Mean (SD)	DApt Mean (SD)	EE Mean (SD)	TI Mean (SD)
<b>Age</b>						
18-29 year-old (n=166)	3.91 (0.61)	3.36 (0.64)	2.82 (0.78)	1.88 (0.52)	4.70 (0.93)	4.53 (0.79)
30-39 year-old (n=43)	3.13 (0.72)	2.47 (0.73)	2.26 (0.40)	1.50 (0.39)	2.96 (0.92)	2.68 (0.67)
F	1.461	.019	38.032	.630	3.890	4.021
Sig.	.000	.000	.000	.000	.000	.000
<b>Professional Tenure</b>						
1-3 years (n=135)	3.88 (0.59)	3.28 (0.62)	2.82 (0.84)	1.84 (0.50)	4.83 (0.88)	4.60 (0.82)
>3 years (n=74)	3.52 (0.83)	2.98 (0.92)	2.48 (0.52)	1.73 (0.55)	3.45 (1.09)	3.34 (1.01)
F	28.090	29.865	34.615	2.887	3.814	13.904
Sig.	.001	.000	.016	.150	.000	.000
<b>Organization tenure</b>						
1-3 years (n=122)	3.89 (0.58)	3.30 (0.59)	2.87 (0.83)	1.83 (0.49)	4.84 (0.88)	4.66 (0.81)
>3 years (n=87)	3.55 (0.82)	3.00 (0.91)	2.46 (0.56)	1.76 (0.55)	3.64 (1.16)	3.45 (1.01)
F	33.606	35.759	28.551	3.995	9.187	14.113
Sig.	.000	.008	.000	.340	.000	.000

Note: SAcol = surface acting with colleagues; SApt = surface acting with patients

DAcol = deep acting with colleagues; DApt = deep acting with patients

As can be seen from Table 8, there is a significant difference in the level of surface acting regarding nurses' age between young nurses (18-29) and senior nurses (30-39).

Younger nurses in the sample reported a higher surface acting (SAcol: Mean = 3.61, SD = 0.61; SApt: Mean = 3.36, SD = 0.64) than older nurses (SAcol: Mean = 3.13; SD = 0.72; SApt: Mean = 2.47, SD = 0.73). Likewise, the younger nurses in the sample reported a higher deep acting (DAcol: Mean = 2.82; SD= 0.78; DApt: Mean = 1.88, SD = 0.52) than older nurses (DAcol: Mean = 2.48; SD = 0.52; DApt: Mean = 1.50, SD = 0.39). Besides, finding also shows that younger nurse has a higher emotional exhaustion and a higher turnover intention.

Additionally, there is a significance of the level of surface acting regarding professional tenure between shorter nursing tenure (1-3 years) and longer nursing tenure (>3 years). Nurse with shorter professional tenure in the sample shows a higher surface acting than nurses with longer professional tenure. Similarly, nurses with shorter professional tenure in the sample also reports a higher deep acting with colleagues than nurse with longer nursing tenure, while deep acting with patients is not. The report also shows nurse with shorter professional tenure has a higher emotional exhaustion and a higher turnover intention.

Lastly, regarding organizational tenure between shorter tenure (1-3 years) and longer tenure (>3 years). Finding shows nurse with shorter organizational tenure has a higher level of surface acting, and a higher level of deep acting with colleagues than nurse with longer organizational tenure, while deep acting with patients is not. Finding also shows that nurse with shorter organizational tenure has a higher emotional exhaustion and a higher turnover intention than nurse with longer organizational tenure.

## **4.5. Hypothesis Testing**

### **4.5.1 Hypothesis 1**

To test hypothesis “*The level of Emotional labor with patients is higher than emotional labor with colleagues*”, “*The level of surface acting with patients is higher*

than surface acting with colleagues” and “The level of deep acting with patients is higher than deep acting with colleagues”, a pair t-test was conducted to compare surface acting with colleagues and surface acting with patients, deep acting with colleagues and deep acting with patients.

Table 9. Paired t-test results (N=209) - Hypothesis 1

Surface acting				Deep acting			
With Colleague	With Patients	Mean Difference	F	With Colleague	With Patients	Mean Difference	F
M=3.75, SD=.705	M=3.17, SD=.751	.577	t(208)= 15.60 p< .001	M=2.70, SD=.755	M=1.8, SD=.517	.896	t(208) = 14.70 p< .001

As shown in Table 9, the level of surface acting with colleagues (M = 3.75, SD = .705) is significantly higher than the level of surface acting with patients (M = 3.17, SD = .751);  $t(208) = 15.60, p < .001$ . Thus, H1a was not supported in this study. Similarly, there is a significant difference in the level of deep acting with colleagues (M = 2.70, SD = .755) and deep acting with patients (M = 1.80, SD = .5170),  $t(208) = 14.70, p < .001$ , and the level of deep acting with colleagues is higher than with public. Therefore, H1b and H1 were not supported.

#### 4.5.2. Hypothesis 2

In order to test hypothesis “Surface acting is positively related to emotional exhaustion” and “Deep acting is negatively related with emotional exhaustion”, we conducted a regression analysis to see if there is a significant relationship between surface acting with emotional exhaustion. We performed this in two different groups (with colleagues and with patients).

Table 10. Regression Analysis ( SA, DA and Emotional Exhaustion) - Hypothesis 2

Independent variable	Emotional Exhaustion(dependent variables)				
	R	R <sup>2</sup>	t	$\beta$	Sig
<b>Group 1</b>					
Surface acting with colleagues	.242	.059	3.589	.242	.000
Deep acting with colleagues	.135	.018	1.963	.524	.000
<b>Group 2</b>					
Surface acting with patients	.146	.021	2.129	.146	.034
Deep acting with patients	.524	.275	8.851	.135	.051

It is shown in Table 10, surface acting with colleagues is significantly related to emotional exhaustion ( $\beta = .242$ ,  $p < .001$ ), as well as surface acting with patients and emotional exhaustion ( $\beta = .146$ ,  $p < .05$ ). Thus, surface acting is positively related to emotional exhaustion. Therefore our hypothesis 2a is supported.

We found a positive association for deep acting with patients and emotional exhaustion ( $\beta = .524$ ,  $p < .001$ ), and deep acting with patients is weakly related to emotional exhaustion ( $\beta = .524$ ,  $p = .051$ ). Thus, deep acting is positively related with emotional exhaustion and our hypothesis 2b is not supported in this study.

### 4.5.3. Hypothesis 3

To test hypothesis “*Emotional exhaustion is positively related to turnover intention*”, a simple linear regression analysis was conducted to see the relationship between EE (emotional exhaustion) and TI (turnover intention).

Table 11. Regression Analysis (EE and TI) - Hypothesis 3

Independent variable	Turnover intention (Dependent variables)				
	R	R <sup>2</sup>	t	β	Sig.
Emotional exhaustion	.740	.548	15.835	.740	.000

Table 11 presents the regression analysis between emotional exhaustion and turnover intention. A significantly positive correlation was found, and thus our hypothesis 3 was fully supported.

#### 4.5.4. Hypothesis 4

In order to test hypothesis “*Surface acting is positively related to turnover intention*” and “*Deep acting is negatively related to turnover intention*”, we conducted simple regression analysis to see the relationship between EL (surface acting and deep acting) and TI, we tested these in two groups (with patients and with colleagues).

Table 12. Regression Analysis (SA, DA and TI) - Hypothesis 4

Independent variables	Turnover intention (Dependent variable)				
	R	R <sup>2</sup>	t	β	Sig
Group1					
Surface acting with colleagues	.292	.086	4.400	.292	.000
Deep acting with colleagues	.524	.275	8.851	.524	.000
Group2					
Surface acting with patients	.147	.022	2.138	.147	.034
Deep acting with patients	.135	.018	1.963	.135	.051

As Table 12 shows, surface acting with colleagues is positively related to turnover

intention ( $\beta = .292$ ,  $p < .001$ ), and surface acting with patients is positively related to turnover intention ( $\beta = .147$ ,  $p < .05$ ) Therefore, surface acting has a significantly positive relationship with turnover intention and our hypothesis 4a is supported.

Deep acting with colleagues can significantly predict turnover intention ( $\beta = .524$ ,  $p < .001$ ), while deep acting with patients has a positively weak relationship with turnover intention ( $\beta = .135$ ,  $p = .051$ ). As such, deep acting can positively predict turnover intention, and our hypothesis 4b is not supported in this study.

#### **4.5.5. Hypothesis 5**

To test hypothesis “*emotional exhaustion mediates the relationship between surface acting and turnover intention, but not the relationship between deep acting and turnover intention*”, we conducted the four-step method mentioned early. First, which has been demonstrated for hypothesis 4 “*surface acting can positively predict turnover intention*” and “*deep acting can positively predict turnover intention*”. In the second step, as Baron and Kenny (1986) argued that there should be a significant relationship between independent variables and mediator in a mediation model at first. As illustrated in our hypothesis 2, surface acting and deep acting (independent variables) can positively predict emotional exhaustion (possible mediator).

In the third step, we conducted a regression analysis to test the relationship between emotional exhaustion (possible mediator) and turnover intention (dependent variable) in hypothesis 3, which demonstrated that emotional exhaustion had a significantly positive relationship with TI.

Table 13. Regression Analysis (SA, DA, EE and TI) - Hypothesis 5

Independent variables and Mediation variable	Turnover intention (Dependent variable)				
	R	R <sup>2</sup>	t	$\beta$	Sig
Group1					
Surface acting with colleagues	.749	.561	2.531	.120	.012
Deep acting with colleagues	.757	.573	3.515	.188	.001
Emotional exhaustion	.764	.583	11.632	.623	.001
Group2					
Surface acting with patients	.741	.549	.834	.039	.405
Deep acting with patients	.741	.549	.755	.036	.451
Emotional exhaustion	.758	.575	11.840	.637	.000

Notes: \*p < 0.05; \*\* p < .001

In the fourth step, as we can see from Table 13, Figure 2 and Figure 3, the direct impact on surface acting and deep acting decreased respectively when we put emotional exhaustion as a mediator in the model. Besides, as shown in Table 14, we conducted Sobel-test to calculate the significance of indirect effects (Sobel, 1982). As such, emotional exhaustion partially mediates the relationship between surface acting, deep acting with colleagues and turnover intention, while it fully mediates the relationship between surface acting, deep acting with patients and turnover intention. Therefore our H5 is partially supported.

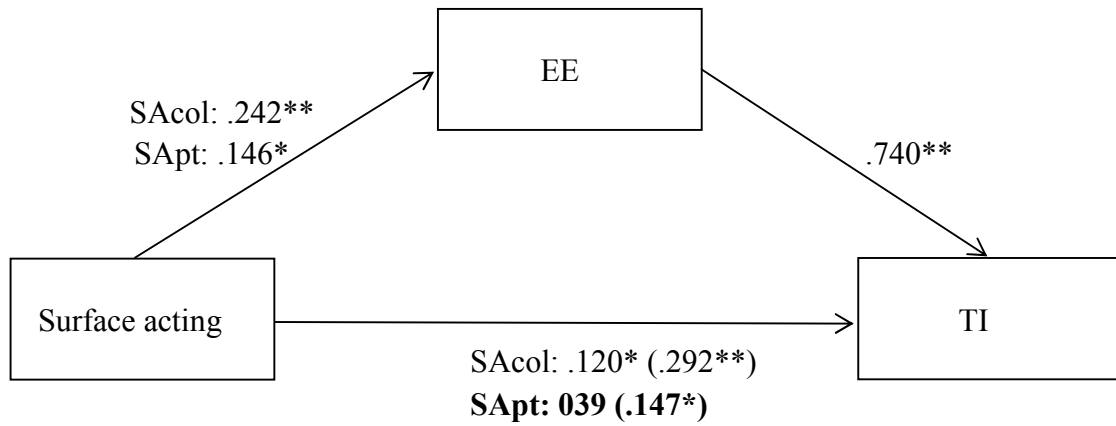
Table 14. Indirect effects of SA, DA on TI

Sample	Sobel-test	Explained variance R <sup>2</sup>	
		Simultaneous model without indirect path	Simultaneous model including indirect path
Surface acting with colleague	4.25**	.81**	.557*
Deep acting with colleagues	7.75**	.271**	.569**
Surface acting with patients	2.12*	.017*	.545
Deep acting with patients	1.95*	.014*	.545

Notes: \*p < 0.05; \*\* p < .001

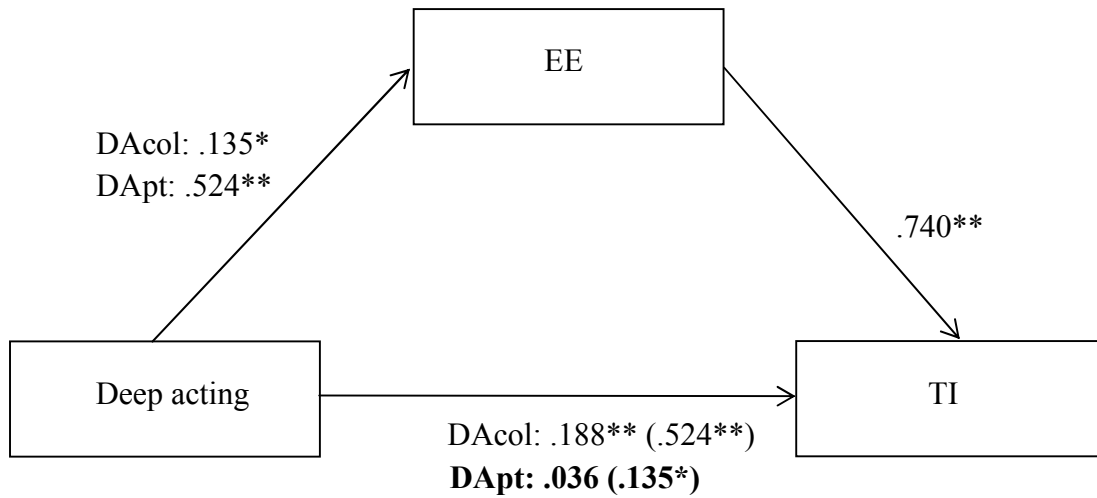


Figure 2. EE as a mediator between SA and TI



Notes: All numbers standardized beta coefficients (numbers in brackets are direct effects without including mediator); \* $p < 0.05$ ; \*\* $p < 0.001$ ; SAcol: surface acting with colleagues; SApt: surface acting with patients

Figure 3. EE as a mediator between DA and TI



Notes: All numbers standardized beta coefficients (numbers in brackets are direct effects without including mediator); \* $p < 0.05$ ; \*\* $p < 0.001$ ; DAcol: deep acting with colleagues; DApt: deep acting with patients.

## 5. Discussion

The present study investigates the relationship between emotional labor (surface acting and deep acting), emotional exhaustion and turnover intention, especially the difference in emotional labor performed to colleagues and that performed to patients. First, we compared the level of emotional labor performed to colleagues and that performed to patients; second, we test the relationship between emotional labor and emotional exhaustion; emotional exhaustion and turnover intention; emotional labor and turnover intention. Third, we examined the mediation effect of emotional exhaustion in the relationship between emotional labor and turnover intention. Results are discussed below.

According to the first hypothesis 1, our sample reports a significant difference between surface acting performed to patients and colleagues, and the level of surface acting performed to colleagues is higher than that performed to patients. Likewise, the level of deep acting performed to colleagues is significantly higher than that performed to patients. Therefore, H1, H1a and H1b are not supported in this study. Findings in current study do not corroborate prior study which suggests that there is usually a written or official rule regulating employees' emotional expression towards external customers but not towards internal customers, thus people are more likely to perform higher surface acting and deep acting when interact with external customers (Ashfort and Humphrey, 1993). Considering this, one possible reason for this is that a large number of our samples (79.4%) are made up with young nurses (new graduates aged 18-29). As the T-Test analysis reported early, the younger nurses have higher emotional labor with colleagues than older nurses. Younger nurses presumably feel stress from performing to get supports from superiors (Hochschild, 1983), and they need time to develop relationship with superiors. Likewise, as they are new to hospital, when they come across difficulties they are more likely to find support from colleagues (Van and Kunda, 1989; Lively *et al.*, 2006). As such, it is important for

them to perform proper emotions to create a harmonious atmosphere.

In our hypothesis 2, we divided the sample into two groups (surface acting with colleagues and with patients). Results showed a significantly positive relationship between surface acting, deep acting and emotional exhaustion. As stated in literature review, many past studies argued that surface acting was positively associated with emotional exhaustion, while deep acting was not (e.g., Brotheridge and Grandey, 2002; Lee and Tan, 2009). With regard to surface acting, there is a discrepancy between inner feelings and external performance, when nurses cannot express their true feelings and have to fake expression of emotion, they may totally get tired and thus result in emotional exhaustion (Noraini and Masyitah, 2011). Considering deep acting, our finding does not support prior studies that deep acting has a negative effect on emotional exhaustion. The most possible reason is that nurses may engage in both surface acting and deep acting at the same time to display the desired emotions. Additionally, when combined with high surface acting, deep acting may have detrimental effect on well-being (Gabriel *et al.*, 2015).

Our findings in this study fully supported the hypothesis 3 and most empirical studies, suggesting that emotional exhaustion is positively related with turnover intention (e.g., Knudsen, Ducharme, and Roman, 2009; Boamah and Layschinger, 2015). Specially, due to the reforming of the hospital system in China, some nurses are not eligible for registered nurses even if they are qualified for the title. These also intensify emotional exhaustion and therefore result in turnover intention (Cui, 2015).

The fourth hypothesis of our study tested the relationship between surface acting, deep acting and turnover intention. We perform this in two groups: surface acting, deep acting with patients; surface acting, deep acting with colleagues, and find a significantly positive relationship between surface acting and turnover intention, which consistent with prior studies, suggesting that surface acting significantly predicts turnover intention (Chau, 2009). Besides, we also find deep acting has a

positive association with turnover intention, which does not support prior research that deep acting has a negative association with turnover intention. The most possible reason, as stated early, is that nurses perform deep acting and surface acting simultaneously, and when combined with high surface acting, deep acting may result in harmful well-being outcomes (Gabriel *et al.*, 2015).

Based on COR theory, surface acting is regarded as job demands which can consume the employee's resources, thus cause emotional exhaustion (Demerouti *et al.*, 2001). Considering deep acting, it may increase positive emotional experiences that may spill and provide energy sources to eliminate exhaustion (Schaubroeck and Jones, 2000). Besides, we found that emotional exhaustion has a positive correlation with turnover intention, which consistent with many past researches (e.g., Leiter *et al.*, 2009; Boamah *et al.*, 2015). Therefore, surface acting may has a positively indirect correlation with turnover intention through emotional exhaustion while deep acting may not, which we proposed as our fifth hypothesis. We test the mediating role of emotional exhaustion between surface acting and turnover intention, and perform in two groups (with colleagues and with patients). The finding reveals that emotional exhaustion partially mediates the relationship between surface acting with colleagues and turnover intention, while it fully mediates the relationship between surface acting with patients and turnover intention. Consistent with a study by Chau (2009), indicating that emotional exhaustion is a mediator between surface acting and turnover intention. One possible reason for why emotional exhaustion has different mediation on emotional labor with colleagues and patients may be due to the facts that surface acting and deep acting with colleagues is more complex than that with patients. For example, nurses' are more likely to engage with wider range of emotions with more frequency with colleagues than with patients. The extreme emotional conflict with colleagues may lead to turnover intention and even turnover without going through emotional exhaustion. Thus, surface acting with colleagues has both direct and indirect (through emotional exhaustion), positive effect on turnover intention, while surface acting and deep acting with patients only has an indirect,

positive effect on turnover intention.

## **5.1. Implications**

It can be concluded from the overall findings that nurses perform higher surface acting and deep acting with colleagues than those with patients. Surface acting and deep acting were found to be important predictors of emotional exhaustion and turnover intention. As mentioned above, these may be due to newly licensed nurses who are very anxious when beginning their careers about their ability to provide the care that is expected of them, yet many of them must also deal with communicating with very experienced, and sometimes unfriendly, coworkers who are unwilling to help (Goodwin, 2016). Considering these, managers should pay more attention to nurses' emotional labor with internal colleagues, giving more supports to new nurses and coordinate the relationship between colleagues to facilitate their work. For example, activities like regular organization of team building can strengthen the cohesion between colleagues and regular education can improve the communication skills with the patients. Besides, it is important for nursing leaders to guide new nurses to realize that they need to go through a challenging time before they play professional role of registered nurse.

Additionally, nurses' emotional exhaustion negatively affects the quality of care for patients and turnover intention (Van *et al.*, 2014). In order to better manage emotional exhaustion, managers should consider improving the quality and self-esteem of nurses, since it is important to identify their specific learning needs so that new nurses can be properly prepared for their jobs.

## **6. Conclusions**

The aim of this study is to investigate the different level performed by surface acting with colleagues and patients and deep acting with colleagues and patients. We also test the relationship of emotional labor (surface acting and deep acting), emotional exhaustion and turnover intention. The results reveal that the level of surface acting with colleagues is higher than with patients. Likewise, the level of deep acting with colleagues is higher than with patients. Besides, surface acting and deep acting positively related with emotional exhaustion. The findings also support the previous studies that emotional exhaustion has positive relationship with turnover intention. Additionally, findings suggest that emotional exhaustion partially mediates the relationship between surface acting, deep acting with colleagues and turnover intention, while fully mediates the relationship between surface acting, deep acting with patients and turnover intention.

### **6.1. Limitation and Further Studies**

There are several limitations in the study. First of all, we collected the data from nurses in Guangdong province in China. So the representativeness of the study sample is limited. Also, the sample is dominant with young and junior nurses. Therefore, further study should consider a wide range of age group. Secondly, because of the cross-sectional data, this study is affected by the likely influence of response bias and it is impossible to draw conclusions about the direction of causality. Future studies need to focus on the longitudinal study to test the casual direction.

Despite the limitations, the present study is one of the few studies about nurse's emotional labor that has been done in public hospitals in China. Additionally, this study suggests that the level of emotional labor nurses' performed to colleagues is higher than that performed to patients, and emotional labor with colleagues is more likely to cause turnover intention than that with patients.

## Reference

- Abraham, R. (1999). The impact of emotional dissonance on organizational commitment and intention to turnover. *Journal of Psychology*, 133,441-455.
- Aiken, L. H., Clarke, S. P, Sloane, D. M., Sochalski, J. A., Busse, R., Clarke, H., Shamian, J. (2001). Nurses' reports on hospital care in five countries. *Health Affairs*, 20,43–53.
- Aiken, L. *et al.* (2011). Importance of work environments on hospital outcomes in nine countries. *International Journal for Quality in Health Care*, 23 (4), 357–364.
- Aiken, L. H., Sermeus, W., Van, D. H. K., Sloane, D. M., Busse, R., McKee, M., Bruyneel L., Rafferty A.M., Griffiths P., MorenoCasbas M.T., Tishelman C., Scott A., Brzostek T., Kinnunen J., Schwendimann R., Heinen M., Zikos D., Sjetne I.S., Smith H.L. & Kutney-Lee A. (2012). Patient safety, satisfaction and quality of hospital care: cross sectional surveys of nurses and patients in 12 countries in Europe and the United States. *British Medical Journal*, 344, 1717.
- Arnold, H. J., & Feldman, D. C. (1982). A multivariate analysis of the determinants of job turnover. *Journal of Applied Psychology*, 67(3), 350–360.
- Ashforth, B. E., Humphrey, R. H. (1993). Emotional Labor in service roles: the influence of identity. *Academy of Management Review*, 118 (2), 88-115.
- Abraham, R. (1999). Emotional dissonance in organizations: antecedents, consequences and moderators. *Genetic, Social, and General Psychology Monographs*, 124, 229–246.
- Baron, R. M. (1986). The moderator mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173–1182.
- Bartram, T., Casimir G, Djurkovic, N., Leggat S.G, & Stanton, P. (2012b) Do perceived high performance work systems influence the relationship between emotional labour, burnout and intention to leave? A study of Australian nurses. *Journal of Advanced Nursing*, 68, 1567–1578.
- Becker, W. J., & Cropanzano, R. (2015). Good acting requires a good cast: A mesolevel model of deep acting in work teams. *Journal of Organizational*

*Behavior*, 36, 232-249.

- Becker, W. J., Cropanzano, R., Wagoner, P. V., & Keplinger, K. (2017). Emotional Labor Within Teams: Outcomes of Individual and Peer Emotional Labor on Perceived Team Support, Extra-Role Behaviors, and Turnover Intentions. *Group & Organization Management*, 00(0), 1-34.
- Boamah, S. A., & Laschinger, H. (2015). The influence of areas of worklife fit and work-life interference on burnout and turnover intentions among new graduate nurses. *Journal of Nursing Management*, 24(2), 164–174.
- Boamah, S. A., & Laschinger, H. (2015). The influence of areas of worklife fit and work-life interference on burnout and turnover intentions among new graduate nurses. *Journal of Nursing Management*, 24(2), 164–174.
- Bolton, S. C. (2005). Women’s work, dirty work: the gynaecology nurse as “other”. *GendWork Organ*, 19(4), 685–703.
- Brewer, M. B. (2009). Motivations underlying ingroup identification: Optimal distinctiveness and beyond. In S. Otten, K. Sassenberg, & T. Kessler (Eds.), *Intergroup relations: The role of motivation and emotion*: 3–22. New York, NY: Psychology Press.
- Bria, M., Baban, A., Andreica, S., & Dumitrascu, D. L. (2013). Burnout and turnover intentions among Romanian ambulance personnel. *Social and Behavioral Sciences*, 84, 801–805.
- Brotheridge, C. M., & Grandey, A. A. (2002). Emotional labor and burnout: Comparing two perspectives of “people work”. *Journal of Vocational Behavior*, 60, 17-39.
- Chau, S. L. (2007). Examining the Emotional Labor Process: A Moderated Model of Emotional Labor and Its Effects on Job Performance. *Phd thesis, Akron University*.
- Chau, S. L., Dahling, J. J., Levy, P. E., & Diefendorff, J. M. (2009). A predictive study of emotional labor and turnover. *Journal of Organizational Behavior*, 30, 1151-1163.
- Chen, H. C., Chu, C. I., Wang, Y. H., & Lin, L. C. (2008) Turnover factors revisited: a longitudinal study of Taiwan-based staff nurses. *International Journal of Nursing Studies*, 45 (2), 277–285.
- Choi, E., Chong, S., Cho, M. H., Jeon, H. J., & Oh, E. G. (2014). Factors influencing



emotional labor of clinical nurses in a university hospital.  
*International Journal of Evidence-Based Healthcare*, 12(3), 200–201.  
doi:10.1097/01.XEB.0000455203.78034.46

Cole, M. S., Walter, F., Bedeian, A. G., & O’Boyle, E. H. (2012). Job burnout and employee engagement: A meta-analytic examination of construct proliferation. *Journal of Management*, 38, 1550–1581.

Côté, S., & Morgan, L. M. (2002). A longitudinal analysis of the association between emotion regulation, job satisfaction, and intentions to quit. *Journal of Organizational Behavior*, 23, 947-962.

Cui, X. H. (2015). A Study on the Correlation between Job Burnout and Work Stress in First - line Nursing Staff. *International Journal of Nursing Studies*, 34 (1), 121-123. (in Chinese)

Dehghan, N. N., Nazari, A. A., Salsali, M., Ahmadi, F., Adib, H. M. (2006). Iranian staff nurses’ views of their productivity and management factors improving and impeding it: a qualitative study. *Nursing & Health sciences*, 8(1), 51-56.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86, 499–512.

Dollard, M. F., LaMontagne, A. D., Caulfield, N., Blewett, V., & Shaw, A. (2007). Job stress in the Australian and international health and community services sector: A review of literature. *International Journal of Stress Management*, 144, 417– 445.

Farsi, Z., Dehghan-Nayeri, N., Negarandeh , R., Broomand, S. (2010). Nursing profession in Iran: an overview of opportunities and challenges. *Japan Journal of Nursing Science*, 7(1), 9-18.

Firth, H., & Britton, P. (1989). “Burnout,” absence, and turnover amongst British nursing staff. *Journal of Occupational Psychology*, 62, 55–59.

Fishbein, M. (1967). Attitude and prediction of behavior.  
*Reading in attitude theory and measurement*. New York: Wiley.

Freudenberger, H. J. (1974). Staff burn-out. *Journal of Social Issues*, 30, 159–165.

Gabriel, A. S., Daniels, M. A., Diefendorff, J. M., & Greguras, G. J. (2015).

- Emotional labor actors: A latent profile analysis of emotional labor strategies. *Journal of Applied Psychology*, 100, 863-879.
- Gorgievski, M. J., & Hobfoll, S. E. (2008). Work can burn us out and fire us up: Conservation of resources in burnout and engagement. In J. R. B. Halbesleben (Ed.), *Handbook of stress and burnout in health care* (pp. 7–22). Hauppauge, NY: Nova
- Grandey, A. A. (2000). Emotion Regulation in the Workplace: A New Way to Conceptualize Emotional Labor. *Journal of Occupational Health Psycho*, 15 (1), 95-110.
- Grandey, A. A. (2003). When “the show must go on”: Surface acting and deep acting as determinants of emotional exhaustion and peer-rated service delivery. *Academic Management*, J 48, 86-96.
- Grandey, A. A., Fisk G. M., & Steiner D. D. (2005) Must “service with a smile” be stressful? The moderating role of personal control for American and French employees. *Journal of Applied Psychology*, 90(5), 893-904.
- Grandey, A. A., Diefendorff J. M., & Rupp D. E. (2013). Emotional labor in the 21st century. Diverse perspective on Emotion Regulation at Work. Routledge.
- Grandey, A. A., & Gabriel, A.S. (2015) “Emotional work at a crossroads: where do we go from here?”. *Annual Review of Organizational Psychology and Organizational Behavior*, 2: 323-349.
- Goodwin, P. A. (2016). ‘The Learning Needs of Newly Licensed Registered Nurses’. *Honors Teses*. Paper 98.
- Idvall, E. R., Rooke, R. L. (1997). Quality indicators in clinical nursing: a review of the literature. *Journal of advanced nursing*, 25(1), 6-17.  
DOI: 10.1046/j.1365-2648.1997.1997025006.x
- Jackson, S. E., Schwab, R. L., & Schuler, R. S. (1986). Toward an understanding of the burnout phenomenon. *Journal of Applied Psychology*, 71, 630-640.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E., (2010). *Multivariate Data Analysis*. Seventh Edition. Prentice Hall, Upper Saddle River, New Jersey.
- Halbesleben, J. R. B., & Buckley, M. R. (2004). Burnout in organizational life. *Journal of Management*, 30, 859-879.
- Halbesleben, J. (2006). Sources of social support and burnout: A meta-analytic test

of the conservation of resources model. *Journal of Applied Psychology*, 91, 1134-1145.

Halbesleben, J. R. B., Neveu, J.-P., Paustian-Underdahl, S. C., & Westman, M. (2014). Getting to the “COR”: Understanding the role of resources in conservation of resources theory. *Journal of Management*, 40, 1334–1364.

Hayes, L. J., *et al.* (2012). Nurse turnover: a literature review-an update. *International Journal of Nursing Studies*, 49 (7), 887–905.

Hasselhorn, H. M., Conway, P. M., Widerszal-Bazyl, M. et al. (2008). Contribution of job strain to nurses’ consideration of leaving the profession—results from the longitudinal European nurses’ early exit study. *Scandinavian Journal of Work, Environment & Health*, 6, 75–82.

Hobföll, S. E., & Freedy, J. (1993). Conservation of resources: A general stress theory applied to burnout. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and practice* (pp. 115-133). Washington, DC: Taylor & Francis.

Hochschild, A. R. (1983). *The managed heart: The commercialization of human feeling*. Berkeley: University of California Press

Hu, L.T., & Bentler, P. M. (1999) Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55.

Hülshager, R., & Schewe A .F. (2011). On the costs and benefits of emotional labor: A met-analysis of three decades of research. *Journal of Occupational Health Psycho*, 16(3), 361-389.

Humphrey, R., Pollack, J., & Hawver, T. (2008). Leading with emotional labor. *Journal of Managerial Psychology*, 33 (2), 151-168

Humphrey, R. H., Ashforth, B. E., & Diefendorff, J. M. (2015). The bright sight of emotional labor. *Journal of Organizational Behavior*, 36, 749-769

Huynh, T., Alderson, M., Thompson, M. (2008). Emotional labor underlying caring: an evolutionary concept analysis. *Journal of Advanced Nursing*, 64, 195-208.

Jin, M. (2009). Emotional labor in public service work. Unpublished doctoral dissertation, *The Florida State University, Tallahassee, FL*

- Judge, T. A., Woolf, E. F., Hurst, C. (2009). Is emotional labor more difficult for some than for others? A multilevel, experience-sampling study. *Personnel Psychology*, 62, 57-88.
- Kammeyer –Mueller J. D., Rubenstein, A. L., Long D. M., Odio, M. A., Buckman, B. R., Zhang, Y., & Halvorsen-Ganepola, M. K. (2013). A meta-analytic structural model of dispositional affectivity and emotional labor. *Personnal Psychol*, 66, 47-90.
- Knudsen, H. K., Ducharme, L. J., & Roman, P. M. (2009). Turnover intention and emotional exhaustion “at the top:” Adapting the job demands–resources model to leaders of addiction treatment organizations. *Journal of Occupational Health Psychology*, 14(1), 84–95.
- Koopman, J., Lanaj, K., & Scott, B. A. (2016). Integrating the bright and dark sides of OCB: A daily investigation of the benefits and costs of helping others. *Academy of Management Journal*, 59(2), 414–435.
- Kovner, C. T., Fairchild, S., Poornima S, Kim, H., Djukic, M. (2007). Newly licensed RNs' characteristics, work attitudes, and intentions to work. *The American Journal of Nursing*, 107(9), 58-70.
- Larrabee, J. H., Janney, M. A., Ostrow, C. L., Withrow, M. L., Hobbs, G. R., Jr, & Burant, C. (2003) Predicting registered nurse job satisfaction and intent to leave. *Journal of Nursing Administration*, 33 (5), 271–283.
- Laschinger, H. K. S., Wong C. A. & Grau A. L. (2012) The influence of authentic leadership on newly graduated nurses’ experiences of workplace bullying, burnout and retention outcomes: a crosssectional study. *International Journal of Nursing Studies*, 49(10), 1266–1276.
- Laschinger, H. K. S., Wong, C. A. & Grau, A. L. (2013). Authentic leadership, empowerment and burnout: a comparison in new graduates and experienced nurses. *Journal of Nursing Management*, 21(3), 541–552.
- Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology*, 81, 123–133.
- Lee, Y. X., & Tan, Y. M. (2009) The relationships among emotional labor, job burnout, and job satisfaction in medical staff. *Chinese Journal of Nursing*, 44(6), 506-509. (in Chinese)

- Lee, Y. H., Chelladurai, P. (2015). Affectivity, emotional labor, emotional exhaustion, and emotional intelligence in coaching.  
*Journal of Applied Sport Psychology*, 32, 1–16.
- Leineweber, C., Westerlund, H., Chungkham, H. S., Lindqvist, R., Runesdotte, S. & Tishelman, C. (2014) Nurses’ practice environment and work-family conflict in relation to burn out: a multilevel modelling approach.  
*PLOS ONE* 9(5), 1–9.
- Leiter, M. P., & Harvie, P. (1997). The correspondence of supervisor and subordinate perspectives on major organizational change.  
*Journal of Occupational Health Psychology*, 2, 343–352.
- Leiter, M. P. & Maslach C. (2009) Nurse turnover: the mediating role of burnout.  
*Journal of Nursing Management*, 17(3), 331–339.
- Lively, K. J. and Brian, P. (2006). “Emotional Expression at Work and at Home: Domain, Status, or Individual Characteristics?”  
*Social Psychology Quarterly*, 69,17–38.
- Ma, S. Z., & Trigo, V. (2012). The ‘country-of-origin effect’ in employee turnover intention: evidence from China,  
*The International Journal of Human Resource Management*, 23, 7, 1394-1413.
- Mann, S. (2005). A Health Care Model of Emotional Labour: an evaluation of the literature and development of a model.  
*Journal of Health Organizational Management*,19 (4), 317-323.
- Mann, S., & Cowburn, J. (2005). Emotional labour and stress within mental health nursing. *Journal of Psychiatric and Mental Health Nursing*, 12, 154-162.
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout.  
*Journal of Occupational Behavior*, 2, 99–113.
- Maslach, C., & Jackson, S. E. (1986). *Maslach burnout inventory manual* (2nd ed.). Palo Alto, CA: Consulting Psychologists Press.
- Maslach, C., Jackson, S. E., & Leiter, M. P. (1996).  
*Maslach Burnout Inventory manual* (3rd ed.). Palo Alto, CA: Consulting Psychologists Press.
- Maslach, C. & Leiter, M. P. (1997). *The Truth about Burnout*. San Francisco, CA: Jossey-Bass.

- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review Psychology*, 52, 397–422.
- McQueen, A. C. (2004). Emotional intelligence in nursing work. *Journal of Advanced Nursing*, 47(1), 101–108.
- Ministry of Health of China. *China health statistics yearbook*. [updated 2016; cited August 2017]. Available from: <http://www.nhfpc.gov.cn/htmlfiles/zwgkzt/ptjnj/year2016/index2016.html>. Chinese
- Mobley, W. H., Griffeth, R. W., Hand, H. H., & Meglino, B. M. (1979). Review and conceptual analysis of the turnover process. *Psychological Bulletin*, 86, 493–522.
- Morris, J. A., & Feldman D. C. (1996). The dimensions, antecedents and consequences of emotional labor. *Academic of Management Review*, 21(4), 986-1010.
- Morris, J. A., & Feldman D. C. (1997). Managing emotions in the workplace. *Journal of Management Issues*, 9(3), 257-274.
- Mowday, R., Steers, R., and Porter, L. (1979). ‘The Measurement of Organizational Commitment’, *Journal of Vocational Behavior*, 14, 224–227.
- Nixon, E. A., Yang, L., Spector, P. E. & Zhang, X. (2010). Emotional labor in China: Do perceived organization support and gender moderate the process. *Stress and Health*, 27, 289-305.
- Noraini, M. N., & Masyitah, Z. (2011). Emotional labor and burnout among female teachers: Work-family conflict as mediator. *Asian Journal of Social Psychology*, 14(4), 283–293.
- Ozcelik, H. (2013). An empirical analysis of surface acting in intra-organizational relationships. *Journal of Organizational Behavior*, 34, 291-309.
- Pines, A., & Kafry, D. (1978). Occupational tedium in the social services. *Social Work*, November, 499–507.
- Porter, L. W., Steers R. M. (1973). Organizational, work, and personal factors in employee turnover and absenteeism. *Psychological Bulletin*, 80, 151-176.
- Rafaeli, A., & Sutton, R. I. (1987). Expression of emotion as part of the work role.

*Academy of Management Review*, 12(1), 23-37.

- Rogers, M. E., Creed P. A., Searle, J. (2014). Emotional labor, training stress, burnout, and depressive symptoms in junior doctors.  
*Journal of Vocational Education & Training*, 66, 232–248.
- Scott, B. A., & Barnes, C. M. (2011). A multilevel field investigation of emotional labor, affect, work withdrawal, and gender.  
*Journal of Academic Management*, 54, 116-136.
- Schaubroeck, J., and Jones, J. R. (2000). Antecedents of workplace emotional labor dimensions and moderators of their effects on physical symptoms.  
*Journal of Organizational Behavior*, 21, 163–183.
- Schaufeli, W. B., & Enzmann, D. (1998). *The burnout companion for research and practice: A critical analysis of theory, assessment, research, and interventions*. London, UK: Taylor & Francis.
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: a multisample study.  
*Journal of Organizational Behavior*, 25(3), 293–315.
- Shore, L. M., & Martin, H. J. (1989). Job satisfaction and organizational commitment in relation to work performance and turnover intentions. *Human Relations*, 42, 625–638.
- Selye, H. (1980). *Selye's Guide to Stress Research*. Van Nostrand Reinhold Company.
- Smith, P. (1992). *The emotional Labor of Nursing*. Macmillan, London.
- Simon, M. (2014). Nine per cent of nurses across Europe report intent to leave their profession, with burnout among the assoc personal and professional factors.  
*Evidence-Based Nursing*, 17(2), 54-55.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13, 290-312.
- Stephan, P. R. (2003). *Organizational Behavior*. Beijing: Tsinghua University Press.76-80.
- Spratley, E., Johnson, A., Sochalski, J *et al.* (2002). The registered nurse population: Finding from the national sample survey of registered nurse. Washington, DC; *Health Resources & Services Administration*.

- Su, H. F. (2013). *The Relationship Between Emotional Labor and Mental Health Among Nurses at Catholic Hospitals in Taiwan*. In Sigma Theta Tau International's 24th International Nursing Research Congress. STTI. (in Chinese).
- Tang, Y. (2007). *Nursing Job Burnout Scale* (NBS) . Chinese Occupational Medicine. 34(2), 151-153. (in Chinese).
- Tang, H. M. (2012). *Strategy research on nursing education*. Zhejiang University. (in Chinese).
- Totterdell, P., & Holman, D. (2003). Emotion regulation in customer service roles: Testing a model of emotional labor. *Journal of Occupational Health Psychology*, 8(1): 55-73.
- US Department of Health and Human Services. (2006). *What is behind HRSA's projected supply, demand, and shortage of registered nurses?* Retrieved from: <http://http.hrsa.gov/bhpr/workforce/behindshortage.pdf>
- Van, B. P., Clarke, S., Willems, R., & Mondelaers, M. (2013). Nurse practice environment, workload, burnout, job outcomes and quality of care in psychiatric hospitals: a structural equation model approach. *Journal of Advanced Nursing*, 69(7), 1515–1524.
- Van, B. P., Timmermans, O., Weeks, S. M., Van, Heusden. D., Wouters, K., & Franck, E. (2014). Nursing unit teams matter: impact of unit-level nurse practice environment, nurse work characteristics and burnout on nurse reported job outcomes and quality of care and patient adverse events – a cross-sectional survey. *International Journal of Nursing Studies*, 51(8), 1123–1134.
- Van, M. J., Kunda, G. (1989). “Real feelings”: emotional expression and organizational culture. In Cummings, L. L., & Staw, B eds. *Research in Organizational Behavior*, 11. JAI Press, Greenwich, CT: 43-102.
- Wharton, A. S., & Erickson, R. J. (1993). Managing emotions on the job and at home: Understanding the consequences of multiple emotional roles. *Academy of Management Review*, 18, 457–486.
- WHO-World Health Organization (2013). *World Health Statistics*. Geneva: WHO.
- Xanthopoulou, D., Bakker, A. B., Dollard, M. F., Demerouti, E., Schaufeli, W. B., Taris, T. W. *et al.* (2007). When do job demands particularly predict burnout?



The moderating role of job resources. *Journal of Managerial Psychology*, 22, 766–785.

Yang, J., Liu, Y., Chen, Y., Pan, X. (2014). The effect of structural empowerment and organizational commitment on Chinese nurses' job satisfaction.

*Applied Nursing Research*, 27(3), 186-91.

Yu, H. (2011). Effects of work environment factors on nurses' job stress and job satisfaction and turnover intention. *Chinese Journal of Nursing*, 38(2): 143. (in Chinese).

Zammuner, V. L., & Galli, C. (2005). The relationship with patients: emotional labor and its correlates in hospital employee In Hartel, C. E. J., Zerbe W. J. & Ashkanasy, N. M. (2005). *Emotions in Organizational Behavior*. Routledge, Mawah, New Jersey, 251-285.

Zapf, D. (2002). Emotion work and psychological well-being. A review of the literature and some conceptual considerations.

*Human Resource Management Review*, 12, 237-268.

Zapf, D., & Holz, M. (2006). On the positive and negative effects of emotion work in organizations. *European Journal of Work and Organizational Psychology*, 15, 1-28.

Zhu, X. W., *et al.* (2012). Nurse staffing levels make a difference on patient outcomes: a multisite study in Chinese hospitals. *Journal of Nursing Scholarship*, 44 (3), 266–273.

## **Appendix: Questionnaire**

This questionnaire is an academic research on nursing work. There is no right or wrong answers and all data will be kept strictly confidential. On the following pages you will find several different kinds of questions. Specific instructions will be given at the start of each section. It should take no more than 15 minutes to complete the entire questionnaire. Thank you for your support and kind help!

### **I . Instruction for completing this survey**

This survey consists of four sections. At the beginning of each section there will be an instruction. Choose the answer as directed.

<b>A. EMOTIONAL LABOR WITH COLLEAGUES</b>							
Instructions: When interacting with your colleagues (supervisors, colleagues), how often do you actually do the following behavior during a typical work day.		Never/ Not at all	Nearly never	Rarely/ Once in a while	Someti mes	Often	Alwa ys/C onsta nly
<b>Surface acting - Managing facial expression</b>							
1	I put on an act in order to deal with colleagues in an appropriate way.	1	2	3	4	5	6
2	I fake a good mood.	1	2	3	4	5	6
3	I just pretend to have the emotions I need to display for my job.	1	2	3	4	5	6
4	I put on a “mask” in order to display the emotions I needed to for my job.	1	2	3	4	5	6
<b>Deep acting - Managing internal feeling state</b>							
1	I put on an act in order to deal with colleagues in an appropriate way.	1	2	3	4	5	6
2	Make an effort to actually feel the emotions that I need to display towards others.	1	2	3	4	5	6
3	I work hard to feel the emotions that I need to show to others.	1	2	3	4	5	6

<b>B. Emotional Exhaustion</b>							
Introduction: Choose an answer that best describe yourself		Never/Not at all	Very few	Rarely/Once in a while	Several times a month	Several times a week	Almost every day
1	I feel emotionally drained from my work.	1	2	3	4	5	6
2	I feel fatigued when I get up in the morning and have to face another day on the job.	1	2	3	4	5	6
3	Working with people all day is really a strain for me.	1	2	3	4	5	6
4	I feel like I'm at the end of my rope.	1	2	3	4	5	6
5	I've become more callous toward people since I took this job.	1	2	3	4	5	6

<b>C. TURNOVER INTENTION</b>							
Introduction: To what extent do you agree or disagree?		Strongly disagree	Disagree	Some-what disagree	Some-what agree	Agree	Strongly agree
1	I may leave this company and work for another company in the next year.	1	2	3	4	5	6
2	I often think of quitting my present job.	1	2	3	4	5	6
3	I plan to stay in this company to develop my career for a long time.	1	2	3	4	5	6

<b>D. EMOTIONAL LABOR WITH PATIENTS</b>							
Instructions: When interacting with patients, how often do you actually do the following behavior during a typical work day.		Never/ Not at all	Nearly never	Rarely/ Once in a while	Sometimes	Often	Always/Constantly
<b>Surface acting - Managing facial expression</b>							
1	I put on an act in order to deal with patients in an appropriate way.	1	2	3	4	5	6
2	I fake a good mood.	1	2	3	4	5	6
3	I just pretend to have the emotions I need to display for my job.	1	2	3	4	5	6
4	I put on a "mask" in order to display the emotions I needed to for my job.	1	2	3	4	5	6
<b>Deep acting - Managing internal feeling state</b>							
1	I put on an act in order to deal with patients in an appropriate way.	1	2	3	4	5	6
2	Make an effort to actually feel the emotions that I need to display towards others.	1	2	3	4	5	6
3	I work hard to feel the emotions that I need to show to others.	1	2	3	4	5	6

## II. Respondent's information

1. Gender :  Male  Female
2. Age :  18-29 years old  
 30-39 years old  
 40-49 years old  
  $\geq$  50 years old
3. Marital status :  Single  
 Married  
 Others (divorce, etc)
4. Position :  Nurse  
 Senior Nurse  
 Supervisor Nurse  
 Co-cheif Superintendent Nurse  
 Superintendent Nurse
5. Education background :  College degree or below  
 Bachelor or above
6. Department :  Surgery  
 Internal Medicine  
 Obstetrics and Gynecology  
 Pediatrics  
 Emergency  
 Operating Theatre  
 ICU  
 Others
7. Professional tenure :  1-3 years  
 3-10 years  
 > 10 years
8. Have you ever changed your work unit over the past five years? :  Yes  
 No ([skip to No.10](#))

9. If you have changed your work unit over the past five years, how many?

- 1 unit
- 2 units
- 3 units
- > 4 units

10. Organization tenure

- <1 years
- 1-3 years
- 3-5 years
- 5-7 years
- 7-9 years
- > 9 years

11. Hospital size :

- < 500 beds
- 501-1000 beds
- 1001-1500 beds
- 1501-2000 beds
- > 2000 beds