

Turnover Intention and Burnout among Workers in Primary Care Institutions: Moderating Role of Job Satisfaction —Based on A Cross-Sectional Survey

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Research article

Keywords: Turnover Intention, Burnout, Job satisfaction, Workers in primary care institution, Structural equation model

Posted Date: July 28th, 2019

DOI: <https://doi.org/10.21203/rs.2.12008/v1>

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Version of Record: A version of this preprint was published on November 14th, 2019. See the published version at <https://doi.org/10.1186/s12889-019-7894-7>.

Abstract

Background: Global countries are suffering from a shortage of health professionals, turnover intention is closely related to job satisfaction and burnout, making good use of these relationship could alleviate the crises. Methods: This research was conducted in Huangpi, China. Convenience sampling methods and self-designed questionnaires was used. 1370 of valid samples were collected with 97.72% effective rate. Descriptive analyses were conducted to describe social demographic factors. The structural equation model (SEM) was performed to adjust model fitting, and the mediation effect test was carried out by using the bootstrap method. Sobel-Z test was used to verify the significance of mediation effect. Results: The mean age was 36.98 (SD=9.84). The fitting indices of hypothetical model is not good. After the adjustments, for job satisfaction, turnover intention and burnout, the Cronbach's is 0.976, 0.910, 0.879, respectively. $\chi^2/df = 5.590$, GFI=0.932, AGFI=0.901, CFI=0.977, NFI=0.973, IFI=0.977, TLI=0.970, RESEA=0.058. The revised model fitted well, and the SEM was put up by using the bootstrap method. The mediating effect is partial, and Sobel-Z test indicates that the mediation effect is significant. Burnout is negatively correlated with job satisfaction ($p < 0.01$) and the standardized path coefficient is -0.41. Job satisfaction is also negatively correlated with turnover intention ($p < 0.01$) and the standardized path coefficient is -0.18. Burnout is positively correlated with turnover intention ($p < 0.01$) and the standardized path coefficient is 0.83. Conclusions: Job satisfaction is a mediating variable that affects the relationship between burnout and turnover intention. Turnover intention was negatively related to job satisfaction and positively related to burnout, job satisfaction was negative related to burnout. And the mediation effect has a low impact of 7.4%. Keywords: Turnover Intention, Burnout, Job satisfaction, Workers in primary care institution, Structural equation model

Background

Turnover is generally viewed as the movement of staff out of an organization. It was regarded as a two-dimensional concept, distinguishing between the act of leaving as voluntary or involuntary, and between the leaving and joining of an individual to an organization[1]. Previous studies[2] defined turnover intention as the next withdrawal behavior when employees encounter dissatisfaction. A study conducted by Mobley pointed that turnover intention was the intention of a worker to leave an organization deliberately after a period of time working in a particular organization, after careful consideration, which belonged to voluntary turnover[3]. It is considered as an outcome of affective variables (such as burnout and job satisfaction) rather than actual turnover[4]. That is, turnover intention can predict actual turnover behavior.

An American clinical psychologist first proposed the term "job burnout[5]". At present, Job burnout was defined as the symptoms of practitioners in the service industry who were unable to cope effectively with the continuing pressure at work, included emotional exhaustion, depersonalization and reduced personal accomplishment[6]. Initially, job satisfaction was described as the physical and psychological satisfaction of staff in their work[7]. In later study, it was defined as the realization of a person's work values in the work situation, resulting in a pleasurable emotional state[8, 9]. The definition of "the attitude

towards one's work and related emotions, beliefs and behaviors" was used in our study, which depends on not only the nature of the work, but also the personality, attitude and expectation of medical staff[10, 11]. Low job satisfaction is the most common cause of staffs' turnover and influences the quality of health care service.

There are a plethora of researches on job satisfaction, burnout and turnover intention. A study found that higher work pressure and lower job satisfaction could easily lead to burnout, that is, job satisfaction was one of the important predictors of burnout[12]. However, another study of American surgeons has the opposite result: burnout is the biggest predictor of job satisfaction[13]. In fact, satisfaction and burnout are in no particular order and they need to be determined on a case-by-case basis. Yin et al.[14] found that satisfaction with work itself, occupational risks and off-duty arrangements were the main factors affecting doctors' job burnout through a survey on doctors in public hospitals. A study showed that job satisfaction had a direct predictive effect on burnout of middle school teacher, and it also existed as a mediating variable between job stress and job burnout[15]. Arie R and Yoram N had nosed out that negative correlation was existed in job satisfaction and job stress, burnout[16].

Burnout has a relatively strong predictive effect on turnover intention[17]. Most research supported a positive correlation between burnout and turnover intention[18-22]. Emotional exhaustion, negative stagnation and other factors related to burnout have a significant positive correlation with turnover intention[23]. Job satisfaction was negative correlated with turnover intention[24], turnover intention decreases with the increase of job satisfaction. Guo et al.[25] verified this opinion from a study of medical workers in Macao, and Wu et al.[26] confirmed this result from a research of clinical nurses in Changsha. The impact of job satisfaction on turnover intention is important, direct and negative. Satisfaction has a significant predictive effect on turnover intention.

At present, the medical work environment in China is tense, more and more medical personnel have left their jobs and changed their posts. As a result, there is a shortage of medical staff, which destroys the good medical environment and disrupts the medical order and affects the health of the people. A study based on the National Health Service Survey in 2013 on China[27] found that the percentage of employees with low, medium and high turnover intentions was 44.5%, 43.7% and 11.8% respectively in primary care institutions. And foreign studies[28] have investigated the turnover intention of nurses, and also found that 54% have turnover intention and 35% have turnover behavior. In view of the current shortage of medical personnel in various countries[29], job satisfaction and turnover intention may therefore be a crucial and topic concern.

Most previous research focused on the relationship between job satisfaction, turnover intention and burnout, and exploring the factors affecting the three. However, there are few studies on the mediating effect of a certain factor. Such research in China is still in its infancy. The purpose of this research is to examine the mediating role of job satisfaction in the relationship between burnout and turnover intention.

Methods

Participants and Setting

A cross-sectional survey design was used. This research was conducted in Huangpi District, Wuhan, China. It started in March 2019 and ended in June 2019. Convenience sampling methods was used. The inclusion criteria of participants were as follows, (1) Eligible participants had at least six months' work experiences in their own workplace. (2) An employee who had not suffered from mental illness and had not been stimulated by major adverse life events in the near future. (3) Participants were voluntary. And we excluded staffs with a working time of less than six months, and employees who were not in the post during the investigation. There were 1402 questionnaires distributed. Questionnaires with uncompleted answers or suspected unreal answers were excluded. Finally, a total of 1370 of valid samples were collected with 97.72% effective rate. All responses were anonymous to protect the privacy of participants.

Measures

We used self-designed questionnaires, which were classified into three parts, job satisfaction, burnout and turnover intention. Then we adjusted the questionnaire according to pilot survey, actual situation and local culture. All the measures were followed the translation and back-translation process from English to Chinese[30]. The three scales all use the 5-point Likert scale.

Job satisfaction Scale

Job satisfaction was measured with 18 items selected from the Minnesota Satisfaction Questionnaire (MSQ)[31] and the Job Satisfaction Survey (JSS)[32]. The content of job satisfaction included satisfaction with environment, remunerations, management, the work itself[22, 33]. Sample item includes "The comfort level of the working environment (office environment, greening, lighting, etc) will satisfy you." (Cronbach's $\alpha = 0.970$).

Burnout Scale

We used 5 items from the Maslach Burnout Inventory (MBI)[34] to measure individual burnout, and aggregated it to measure positive affect at the burnout. Participants respond to the following items: "I feel that my daily work is meaningless", "I can't find a sense of accomplishment at work", "I feel exhausted when I get off work every day", "this job has made me indifferent" and "this job makes me feel restless". (Cronbach's $\alpha = 0.925$).

Turnover intention Scale

The turnover intention questionnaire was designed with reference to turnover intention scale explored by Griffeth[35]. We measured turnover intention using 5 items. Participants respond to the following items: "I have had the idea of leaving this organization", "within a year, I will go find a new job", "If there is an opportunity, I will definitely accept a better job", "I think the employment situation in this industry is very good" and "Currently, I agree to find a good job in the market". (Cronbach's $\alpha = 0.721$)

Statistical analysis

Database was established with EpiData 3.0 for data entry and conversion. Double machine imputing method was used to enter the collected data into the computer. Descriptive analyses were conducted to describe social demographic factors. Cronbach's alpha was used to evaluate the reliability of scales. The structural equation model (SEM) was performed to adjust model fitting, the mediation effect test was carried out by using the bootstrap method. Sobel-Z test was used to verify the significance of mediation effect. Using SPSS 20.0 (IBM Corp, Armonk, NY, USA) and AMOS 24.0 (IBM Corp, Armonk, NY, USA) to analysis data, and $p < 0.05$ was determined to significant in statistics.

Results

Descriptive statistics

Table 1 showed the sociodemographic characteristics of the respondents. The mean age was 36.98 years (minimum: 18 years, maximum: 73 years. Standard Deviation (SD) =9.84). 426 (31.09%) medical staffs were male and 944 (68.91%) were female. The largest number of participants in the 40-49 age group, accounting for 34.45%, while the group over the age of 49 accounts for 11.31%. Most participants (77.30%) were married, 724 (52.58%) have a junior title and sixty-three percent have no night shift in their work.

Structural Equation Model Constructing and Fitting

The Hypothetical model was established, as shown in Figure 1. We have constructed four paths: (1) Path a: Path from independent variable to potential mediator variable, the path coefficient of path a represents the indirect effect of burnout to job satisfaction (Job satisfaction \rightarrow Burnout). (2) Path b: The path from potential mediator variable to dependent variable, the path coefficient of path b represents the indirect effect of job satisfaction to turnover intention (Turnover intention \rightarrow Job satisfaction). (3) Path c: the path from independent variable to dependent variable, the path coefficient of path c represents the total effect of burnout to turnover intention (Turnover intention \rightarrow Burnout). (4) Path c': Under the influence of potential mediator variables, the path from the independent variable to the dependent variable, the path coefficient of path c' represents the direct effect of burnout to turnover intention (Turnover intention' \rightarrow Burnout').

As shown in Table 2. From the results of the hypothetical model operation, we found that all fitting indices did not meet the fitting criteria, indicated that the hypothetical model was not ideal, so we revised the model. The model path was modified according to the amendment advice given by AMOS. We removed some items and added lots of bidirectional arrows to make the model fitting better. The final fitting indices results were also shown in Table 2, and the revised standardized path coefficient map were displayed on Figure 2. After the adjustments, Cronbach's a for job satisfaction is 0.976. Cronbach's a for turnover intention is 0.910. Cronbach's a for burnout is 0.879. It manifests that the reliability of three scales is acceptable.

As shown in Table 3, we estimated the significance of total effect, direct effect and indirect effect by bias-corrected approach. The results showed that the total effect was significant of independent variable (burnout) to dependent variable (turnover intention) ($p < 0.01$), that was, the total effect of path c was statistically significant. The direct effects of path a ($p < 0.01$), path b ($p < 0.01$) and path c' ($p < 0.01$) were also significant. The results of indirect effect test again proved that path c' was statistically significant. We concluded that this mediating effect was a partial mediating effect.

As shown in Table 4, standardized estimates and its standard errors were calculated by using bootstrap method. Standardized path coefficient of path a (Job Satisfaction \rightarrow Burnout) is -0.410 and its standard error (S_a) is 0.038. Standardized path coefficient of path b (Turnover intention \rightarrow Job satisfaction) is -0.180 and its standard error (S_b) is 0.028. Standardized path coefficient of path c' (Turnover intention' \rightarrow Burnout') is 0.824 and its standard error ($S_{c'}$) is 0.029. Looking up the related tables, the standardized path coefficient of path c is 0.899 and its standard error (S_c) is 0.020. Sobel-Z test is carried out according to the formula . Finally, $z = 4.506$. According to MacKinnon's critical value table, the result is $p < 0.05$, indicating that the mediation effect is significant.

Interpretation of the Revised Model

Model fit is acceptable if $\chi^2/df \leq 4.0$ [36], GFI > 0.90 , AGFI > 0.90 , CFI > 0.90 , NFI > 0.90 , IFI > 0.90 [37], TLI > 0.90 and RMSEA < 0.05 . As shown in Table 2, all fit indexes were up to standard, except for χ^2/df and RMSEA. Our sample size is larger than 1000, the value of χ^2/df is acceptable. In another study, the author pointed out that $0.05 < RMSEA < 0.08$ was also acceptable[38]. Overall, the model fits well and the model is established.

As shown in Figure 2, the standardized path coefficient of burnout to job satisfaction is -0.41, indicates that burnout is negatively correlated with job satisfaction. It shows that when the other conditions are unchanged, the turnover intention decreases by 0.41 units for each additional unit of burnout. The standardized path coefficient of job satisfaction to turnover intention is -0.18, demonstrates that job satisfaction is also negatively correlated with turnover intention ($p < 0.01$). Under the same other conditions, the turnover intention decreases by 0.18 units for each additional unit of job satisfaction. The standardized path coefficient of burnout to turnover intention is 0.83, reveals that burnout is positively correlated with turnover intention ($p < 0.01$). That is, under the influence of job satisfaction, the turnover intention increases by 0.83 units for each additional unit of burnout ($p < 0.01$).

The mediation effect is statistically significant ($p < 0.01$), and the impact of burnout on turnover intention through the intermediary effect of job satisfaction is 0.074 ($a*b = (-0.180)*(-0.410)$). It manifests that when other conditions remain unchanged, the turnover intention will be indirectly increased by 0.074 units for each unit of burnout.

Discussion

Our results demonstrated that for medical workers in primary care institutions, a mediator variable was existed in burnout and turnover intention: job satisfaction. Job satisfaction was usually regarded as a dependent variable[39-41] or an independent variable[42, 43] in most of the current studies. And work to family conflict[41], work engagement[39], burnout and workload[44] were viewed as mediator variables. However, an American study suggested that burnout was the biggest predictor of job satisfaction[13]. There are few researches on job satisfaction as a mediator variable, which provides new ideas for future research. That's why we try to study how job satisfaction as a mediating variable affects the correlation between burnout and turnover intention.

The results of the study provided further support for the importance of job satisfaction in engaging the workforce and retaining staff to settle the demands and challenges facing health care setting in primary care institutions. Turnover intention was negatively related to job satisfaction and positively related to burnout. Negative correlation was found between job satisfaction and burnout. Some studies conducted in China have also obtained similar results[14, 15, 22-24, 26, 27, 45], but the correlation coefficient of their results is greater than ours. In our study, the correlation coefficient of path B is relatively small, only -0.18. We speculated that traditional studies which usually used methods such as multivariate linear regression, logistic regression, ANOVA may neglect the measurement error, so its negative correlation is stronger. However, the error is taken into account in the SEM.

Although the mediation effect test confirms that the existence of job satisfaction as a mediating variable of job burnout affecting turnover intention, the mediation effect has a low impact of 7.4%. That is to say, the mediation effect accounts for 7.4% of the variation of dependent variables. Despite the low mediation effect, we still believe that the research is valuable and meaningful. We speculated that the low mediation effect was caused by the following reasons. Firstly, it is related to the choice of independent variables closely. Job burnout includes three dimensions: emotional exhaustion, depersonalization and reduced personal accomplishment[6]. For example, family conflict and doctor-patient relationship are more intuitive than job burnout as important factors that directly affect emotions. If we take them as independent variables directly, the respondent would understand the meaning of the question more clearly, therefore, the path coefficients of path a (mediator variable → independent variables) would be larger than those of the study (job satisfaction → burnout), which will lead to a higher mediation effect. Secondly, turnover intention, burnout and job satisfaction are difficult to measure directly. The items and measuring methods may be somewhat various in different studies[46]. Therefore, the difference of instrument selection is also one of the important reasons for the inconsistency of results. Thirdly, the influence of job satisfaction on turnover intention is limited. There are many factors affecting turnover intention. Turnover intention is influenced not only by job satisfaction, but also by social demographic factors such as education[47], years in work[47], family's relationship[47], monthly income, social support[48], mentoring[49], etc. and other unobserved factors. Therefore, these demographic factors and unobserved factors should be taken into account in the future study.

Because of the diversity of the participants (including doctors, nurses, technicians, etc.), we did not use the international scale completely. According to the research purpose, the appropriate items have been

chosen from these international scales, and the reliability and validity of the questionnaire is still guaranteed. Sample representativeness needs to be improved. In the future, we will continue to cooperate with other local governments in central China to conduct similar surveys to increase sample representativeness.

Conclusions

Our study provides a clear understanding of how job satisfaction can mediate the relationship between burnout and turnover intention. In the process of burnout affecting turnover intention, job satisfaction can be regarded as a mediating variable to influence its effect. And the mediation effect has a low impact of 7.4%. Turnover intention was negatively related to job satisfaction and positively related to burnout, job satisfaction was negative related to burnout. By taking some operable measures, such as improving treatment to improve employee job satisfaction, paying attention to employee psychological health to reduce job burnout, thereby reducing employee turnover rate and alleviating the current situation of shortage of health personnel in China.

Abbreviations

MSQ: Minnesota Satisfaction Questionnaire; JSS: Job Satisfaction Survey; MBI: Maslach Burnout Inventory; SEM: Structural Equation Model; SD: Standard Deviation; χ^2 : Chi-square; χ^2/df : Chi-square divided by degree of freedom; GFI: Goodness of fit index; AGFI: Adjusted goodness of fit index; CFI: Comparative fit index; NFI: Normed fit index; IFI: Incremental fit index; TLI: Tucker-Lewis index; RMSEA: Root mean square error for approximation; AIC: Akaike information criterion; Sa: the standard error of standardized path coefficient of path a; Sb: the standard error of standardized path coefficient of path b; Sc: the standard error of standardized path coefficient of path c; Sc': the standard error of standardized path coefficient of path c'; SE, Standard Error. SE-SE, the standard error caused by using bootstrap to estimate standard errors. SE-Bias, the standard error of bias; ANOVA: Analysis of Variance.

Declarations

Acknowledgements

We would like to thank Wuhan University and Huangpi District Center for Disease Control and Prevention for their support of this project, as well as the efforts of team partners in the project.

Authors' contributions

XyC participated in the survey, the data analysis and the writing of the article. LR took part in the design of the study and the writing of the article. YtZ and JrY contributed to the data collection and screening. HY and SrZ were involved in the data analysis and participated in the literature research. XdT made a second revision to the manuscript. All authors have read and approved the final version.

Funding

Not applicable.

Availability of data and materialsThe author does not have permission to publish the data, but if necessary, you can contact the corresponding author, and he will negotiate with the CDC of Huangpi district to provide data.**Ethics approval and consent to participate**As the project is in cooperation with the government of Huangpi District, the government departments have helped us to obtain the informed consent of the participants in advance, and the consent was verbal. The ethics committee of Wuhan University School of Medicine (WUSM) reviewed it, and verified it to comply with the Declaration of Helsinki and its revised version, as well as the relevant regulations of biomedical journals, and approved the research (No.2018YF0080).**Consent for publication** Not applicable.

Competing interests

The authors declare that they have no competing interests.

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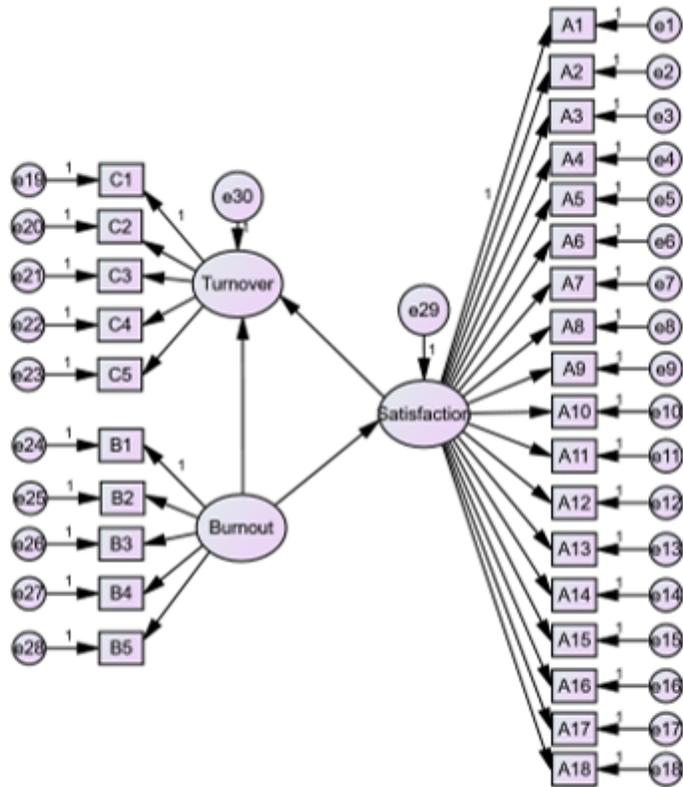
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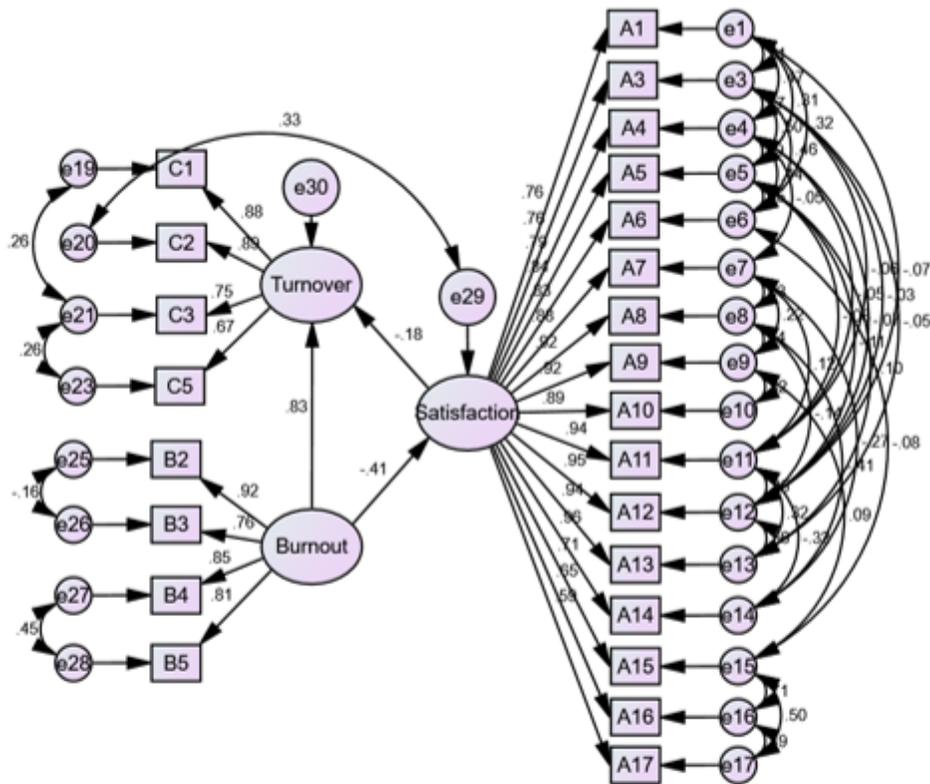
Figures



Note: A1 to A18, B1 to B5, and C1 to C5 are different items in the questionnaire

Figure 1

The hypothetical model of the relationship between job satisfaction, burnout and turnover intention



Note: A1 to A18, B1 to B5, and C1 to C5 are different items in the questionnaire

Figure 2

The revised structural equation modeling of the relationship between job satisfaction, burnout and turnover intention

Supplementary Files

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