

The relationships among job immersion, psychological capital, and life quality in nursing staffs (a STROBE-compliant article)

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Abstract

Nursing services is a high stress job. To improve the life quality of nursing staffs, we explored the relationships among psychological capital, job immersion, and life quality in nursing staffs, and verified that the psychological capital plays an intermediary role between the job immersion and life quality in nursing staffs.

General data questionnaire, job immersion scale, psychological capital scale, and life quality scale were performed in nursing staffs who were from 6 third-class hospitals including 2 hospitals in Jinzhou city, 2 hospitals in Chaoyang city, and 2 hospitals in Huludao city. The relationships among psychological capital, job immersion, and life quality, and psychological capital as an intermediary role between the job immersion and life quality were analyzed using SPSS20.0 and AMOS19.0 softwares.

In these nursing staffs, the total scores of the job immersion, psychological capital, and life quality were 47.45 ± 9.41 , 65.63 ± 10.35 , and 72.35 ± 11.24 , respectively. The psychological capital was positively correlated with the job immersion ($r = 0.452$, $P < 0.001$), the job immersion was positively correlated with the life quality ($r = 0.344$, $P < 0.001$) and the psychological capital was positively correlated with the life quality ($r = 0.314$, $P < 0.001$). Structural equation models showed that the job immersion could indirectly influence the life quality through the psychological capital. The mediating effect of psychological capital was 0.156 which accounted for 33.19% of the total effects.

The psychological capital should be improved, and the psychological capital combined with the job immersion together improves the life quality of nursing staffs.

Abbreviation: None.

Keywords: job immersion, life quality, mediating effect, nursing staffs, psychological capital

1. Introduction

Nursing services is a high stress job. Nursing staffs not only promote patients' health recovery, but also improve patients' life quality, which greatly increased the workload of nursing staffs.^[1] Therefore, nursing staffs face heavy workload.^[2] Job immersion means nursing staffs' interest for job and the energy in their job.

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It has been reported that the job immersion is closely related to life quality in nursing staffs.^[3] Psychological capital refers to the positive psychological state when they meet difficulties in career development. It has been reported that the job immersion is positively correlated with the psychological capital,^[4] and the psychological capital also can influence the life quality.^[4,5] The relationships among the psychological capital, job immersion, and life quality in nursing staffs has not been reported.^[6] Therefore, we explored the relationships among the psychological capital, job immersion, and life quality, and assumed that the psychological capital plays an intermediary role between the job immersion and life quality in nursing staffs.

2. Subjects and methods

All study methods were approved by ethics committee of Liaoning Medical University. The staffs participating in this study gave written informed consent to participate.

2.1. Subjects

Between February and December 2018, a total of 1080 nursing staffs filled in these questionnaires. The 1080 nursing staffs were randomly selected using excel tables from 6 third-class hospitals including 2 hospitals in Jinzhou city, 2 hospitals in Chaoyang city and 2 hospitals in Huludao city. In the 1080 questionnaires, 1052 (97.41%) questionnaires were valid. The inclusion criteria were that nursing staffs' clinical experience was >2 years; nursing staffs were from third-class hospitals; nursing staffs had nurse

practice certificate; and nursing staffs gave written informed consent to participate. The exclusion criterion was that they were not clinical front-line nursing staffs.

2.2. Questionnaires

2.2.1. General data questionnaire. The general data questionnaire was designed by us. In this questionnaire, the demographic data included age, sex, length of service, educational background, professional title, and duty.

2.2.2. Job immersion scale.^[7] The job immersion scale is composed of three aspects including concentration, work enjoyment and internal work motivation. The job immersion scale included 13 items and the score range of each item was one to five. The total score is positively reflects the job immersion level of nursing staffs. The Cronbach α coefficient of the job immersion scale used in this study was 0.867.

2.2.3. Psychological capital scale^[8]. The psychological capital scale is composed of four aspects including self-efficacy, hope, tenacity and optimism. The psychological capital scale included 24 items and the score range of each item was 1 to 6. The total score positively reflects the psychological capital of nursing staffs. The Cronbach α coefficient of the psychological capital scale used in this study was 0.891.

2.2.4. Life quality scale.^[9] The life quality scale has been widely used in China and has good reliability and validity. The life quality scale is composed of 8 aspects including physiological function, physical limitations, bodily pain, general health, vitality, social function, emotional limitations, and mental health. The life quality scale included 36 items with a score range of 0 to 100. The total score positively reflects the life quality of nursing staffs. The Cronbach α coefficient of the life quality scale used in this study was 0.859.

2.3. Quality control

The investigation was performed by 10 three-grade undergraduates. The 10 undergraduates had been trained how to perform the survey. All questionnaires were collected anonymously. The investigators explained the purpose of this study and how to fill in the questionnaire, ensuring that these staffs fully understand the content of these questionnaires.

2.4. Statistical analysis

Statistical analysis was performed using SPSS20.0 software (SPSS Inc, Chicago, IL). Measurement data were expressed as mean \pm standard deviation. A Pearson correlation analysis was used in the correlation analysis between the psychological capital, job immersion, and life quality. The psychological capital as a mediator between job immersion and life quality was analyzed using AMOS19.0 softwares. The intermediary role of psychological capital was verified by regression analysis and structural equation models. The statistical significance was established at $P < 0.05$.

3. Results

3.1. Demographic data

There were 1052 valid questionnaires. Of the 1052 nursing staffs, 124 were male and 928 female; 118 had master’s degree, 426

bachelor’s degree, and 508 college degree or below; 77 were nursing professors, 105 associate nursing professors, 364 nurse-in-charge and 506 nursing practitioners. The mean length of service was 13.98 ± 3.72 years (range: 2–42) in these nursing staffs.

3.2. Scores

In the 1052 staffs, the total scores of the job immersion, psychological capital, and life quality were 47.45 ± 9.41 , 65.63 ± 10.35 , and 72.35 ± 11.24 , respectively. Comparisons of life quality scores between different demographic characteristics in the 1052 nursing staffs are shown in the Table 1.

3.3. Correlation analysis between the psychological capital, job immersion, and life quality in these nursing staffs

Pearson correlation analyses indicated that the psychological capital was positively correlated with the job immersion ($r = 0.452$, $P < 0.001$), the job immersion was positively correlated with the life quality ($r = 0.344$, $P < 0.001$), and the psychological capital was positively correlated with the life quality ($r = 0.314$, $P < 0.001$) (Table 2).

3.4. Mediating effect of the psychological capital

Considering that the age and educational background may influence results, so we established Eq. (1) with the life quality as a

Table 1
Comparisons of life quality scores between different demographic characteristics in the 1052 nursing staffs (mean \pm standard deviation).

| Items | Life quality scores | t/F | P |
|------------------------------------|---------------------|--------|------|
| Sex | | -0.708 | .479 |
| Male | 70.35 \pm 10.24 | | |
| Female | 73.11 \pm 11.35 | | |
| Age, y | | -3.659 | .000 |
| 20~ | 69.21 \pm 8.98 | | |
| 30~ | 70.37 \pm 10.24 | | |
| 40~ | 73.22 \pm 10.99 | | |
| Educational background | | 5.639 | .002 |
| College degree or below | 69.87 \pm 10.89 | | |
| Bachelor’s degree | 70.41 \pm 10.56 | | |
| Master’s degree | 73.41 \pm 11.36 | | |
| Duty | | 1.638 | .086 |
| Nurse | 72.41 \pm 10.86 | | |
| Head nurse | 73.55 \pm 12.36 | | |
| Professional title | | 0.650 | .583 |
| Nursing practitioners (506) | 72.00 \pm 11.18 | | |
| Nurse-in-charge (364) | 72.37 \pm 11.32 | | |
| Associate nursing professors (105) | 73.16 \pm 11.23 | | |
| Nursing professors (77) | 73.56 \pm 10.43 | | |
| Length of service, y | | 1.436 | .238 |
| 2–14 | 72.06 \pm 11.36 | | |
| 14–28 | 73.12 \pm 11.29 | | |
| 28–42 | 73.39 \pm 10.86 | | |
| Departments | | 0.096 | .582 |
| Internal medicine | 72.41 \pm 10.86 | | |
| Surgery | 72.34 \pm 10.95 | | |
| Critical care medicine | 72.33 \pm 11.71 | | |
| Others | 72.37 \pm 11.56 | | |

Table 2
Correlation analysis between the psychological capital, job immersion and life quality.

| Variables | Psychological capital | Job immersion | Life quality |
|-----------------------|-----------------------|---------------|--------------|
| Psychological capital | 1 | | |
| Job immersion | 0.452* | 1 | |
| Life quality | 0.314* | 0.344* | 1 |

* Indicates $P < 0.01$

dependent variable and with the age and educational background as independent variables. After standardizing each predictive variable, we established Eq. (2) with the life quality as a dependent variable and with the job immersion as an independent variable, established Eq. (3) with the psychological capital as a dependent variable and with the job immersion as an independent variable, and established Eq. (4) with the life quality as a dependent variable and with the job immersion and psychological capital as independent variables. Results indicated that the job immersion could positively predict the life quality ($\beta = 0.315, P < 0.001$) and psychological capital ($\beta = 0.454, P = 0.002$), and the job immersion and psychological capital could simultaneously predicts the life quality ($\beta = 0.343, P = 0.001; \beta = 0.152, P < 0.001$), suggesting that the job immersion has a direct and indirect effect on the life quality and the psychological capital plays a partial intermediary role between the job immersion and life quality (Table 3).

3.5. Verification of the psychological capital as an intermediary variable between the job immersion and life quality

The structural equation model between the job immersion, psychological capital and life quality was constructed. The intermediary role of psychological capital was verified using AMOS structural equation. Results indicated $\chi^2/df = 0.982, GFI = 0.968, AGFI = 0.939, NFI = 0.952, RFI = 0.934, IFI = 0.964, TLI = 0.958, CFI = 0.976,$ and $RMSEA = 0.049$. The intermediary role of psychological capital in the effects of the

job immersion on the life quality was tested using Bootstrap method. Results indicated that 95% confidence intervals of indirect effect, direct effect, and total effect of the job immersion on the life quality did not include zero. Therefore, the structural equation model for the psychological capital as a partial intermediary role was confirmed, and the mediating effect of psychological capital was 0.156 which accounted for 33.19% (0.156/0.470) of the total effects. The analysis of the mediating effect of psychological capital is shown in Table 4 and its structural equation is shown in Figure 1.

4. Discussion

In this study, the job immersion was 47.45 ± 9.41 score which was higher than 35.11 ± 8.98 reported by Qiang et al.^[10] This suggests that the job immersion is higher in the nursing staffs of Liaoning Province. With the continuous development of nursing care in China, the social status of nursing staff has been gradually recognized, so nursing staffs have been regarded as the angel of white clothes. At the same time, some nursing staffs gradually have good educational background such as Master’s degree or doctor’s degree, which promotes scientific achievements. Liaoning Province as a Northeast economic center promotes international communication about nursing services. These factors all allow these nursing staffs to enjoy their job and to immerse themselves in nursing care. Therefore, the job immersion score was higher in the nursing staffs of Liaoning Province. In this study, the psychological capital was 65.63 ± 10.35 score which was higher than 62.58 ± 10.76 reported by Min et al.^[11] In this study, the life quality was 72.36 ± 12.04 score which was higher than 70.68 ± 12.41 reported by Bai et al.^[12] This suggests that the psychological capital and life quality are higher in these nursing staffs. Age and educational background can influence the life quality of nursing staff. With the increase of age and educational background, the life quality of nursing staff will gradually improve. This is mainly that with the increase of age and education, nursing staff will be more aware of the importance of nursing care, so their life quality will be improved.^[13]

This study indicated that the psychological capital was an intermediary variable between the job immersion and life quality,

Table 3
Regression analysis of the psychological capital as an intermediary variable between the job immersion and life quality.

| Equations | Dependent variables | Independent variables | Regression coefficient | SE | t | P |
|------------|-----------------------|------------------------|------------------------|-------|-------|-------|
| Equation 1 | Life quality | Age | -0.427 | 0.019 | 4.367 | .079 |
| | | Educational background | -0.512 | 0.022 | 1.973 | .058 |
| Equation 2 | Life quality | Job immersion | 0.315 | 0.035 | 4.326 | <.001 |
| Equation 3 | Psychological capital | Job immersion | 0.454 | 0.041 | 5.589 | .002 |
| Equation 4 | Life quality | Job immersion | 0.343 | 0.052 | 7.128 | .001 |
| | | Psychological capital | 0.152 | 0.034 | 4.563 | <.001 |

Table 4
Analysis of the mediating effect of psychological capital.

| Job immersion→life quality | Standardized path coefficient | Standard error | 95% CI confidence intervals | |
|----------------------------|-------------------------------|----------------|-----------------------------|--------------|
| | | | Lower limits | Upper limits |
| Total effect | 0.470 | 0.046 | 0.396 | 0.653 |
| Direct effect | 0.314 | 0.072 | 0.214 | 0.451 |
| Indirect effect | 0.156 | 0.037 | 0.141 | 0.364 |

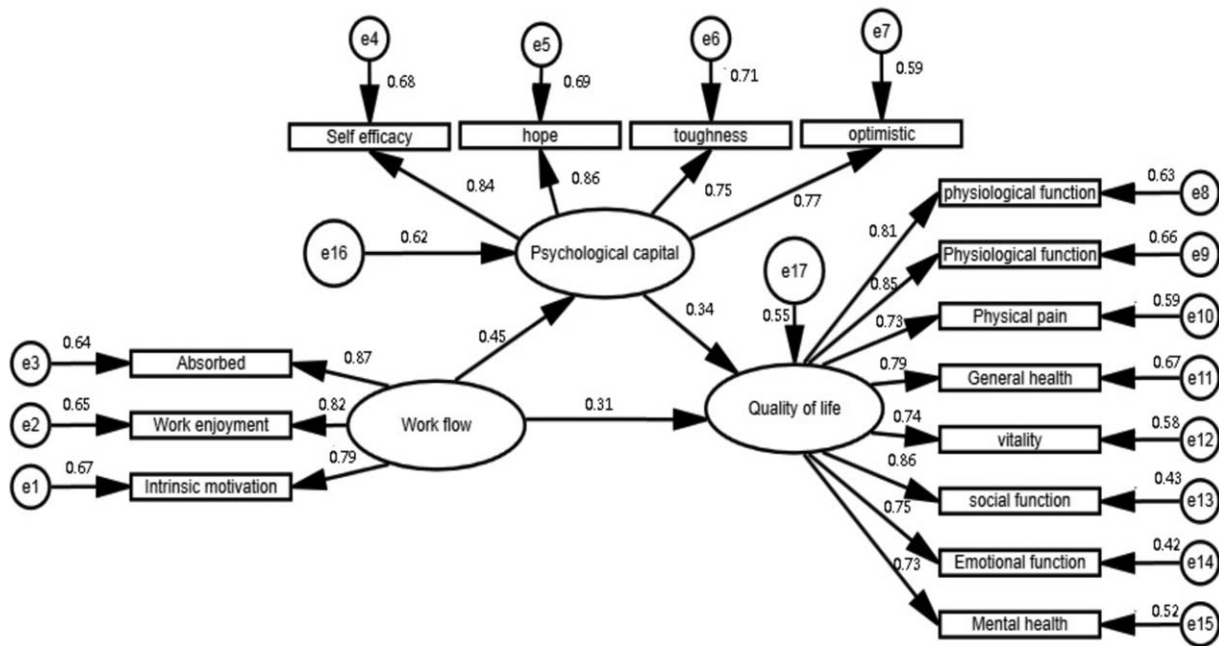


Figure 1. The model of the intermediary role of the psychological capital between the job immersion and life quality. Notes: The Arabic number on the arrows indicates the standardized regression coefficient.

that is, the job immersion not only directly influenced the life quality, but also indirectly influence the life quality through the psychological capital. If nursing staffs have higher job immersion, they will be able to enjoy their own job. At the same time, when they encounter difficulties, they will ignore these troubles due to their happiness obtained from their job. Therefore, the life quality is high in the nursing staff with high job immersion. It has been reported that the job immersion is positively correlated with the psychological capital in nursing staffs and the nursing staffs with high job immersion have high psychological capital.^[14] Nursing staffs face the problems in their work and life using optimistic and confident attitude, which improve their life quality. It has been confirmed that the psychological capital can influence the life quality in nursing staffs.^[15,16] Therefore, the psychological capital plays an intermediary role between the job immersion and life quality in nursing staffs.

The results of this study show that the job immersion not only directly but also indirectly influenced the life quality. The following suggestions are conducive to improving the psychological capital of nursing staffs: holding lectures on psychological knowledge, and inviting professional counselors to analyze nursing psychology, and to explain how to adjust psychological pressure; organizing nursing staff to talk about psychological confusion, giving nursing staff the opportunity to express their feelings.

4.1. Limitations

This study had several limitations. First, the nursing staffs in this study were from third-class hospitals in Northeast China, so whether there is an intermediary role of psychological capital between the job immersion and life quality in the nursing staffs from other regions of China remains to be further confirmed. Second, the specific mechanism of the intermediary role of the psychological capital has not been clear.

5. Conclusion

In summary, the psychological capital plays an intermediary role between the job immersion and life quality in nursing staffs. We will explore the mechanism of this intermediary role in future studies.

Author contributions

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