

A causal model of thriving at work in Chinese nurses

X. Zhu¹ RN MSN, W. Kunaviktikul² RN PhD FAAN , S. Sirakamon² RN PhD, K. Abhicharttibutra² RN PhD & S. Turale² RN DEd FACN FACMN 

1 PhD Candidate Senior Nurse, First Affiliated Hospital of Dali University, Dali city, China. **2** Professor and Dean, Faculty of Nursing, Chiang Mai University, Chiang Mai, Thailand

ZHU X., KUNAVIKTIKUL W., SIRAKAMON S., ABHICHARTTIBUTRA K. & TURALE S.. (2021) A causal model of thriving at work in Chinese nurses. *Int. Nurs. Rev.* **00**, 1–9

Aim: To develop and test the first causal model of thriving at work in Chinese nurses.

Background: Nurses' ability to thrive at their work is critical to retain qualified nurses and meet the needs of a constantly changing health environment. However, this is a poorly researched area.

Introduction: Thriving at work refers to the feeling of vitality and learning at work, which are evidenced to be solidly associated with nurses' development. Only a few factors have been explored regarding the effects of thriving at work.

Methods: A cross-sectional study was undertaken using stratified random sampling. This involved 565 nurses from five general hospitals in Dali city, Yunnan Province, People's Republic of China. Data were collected from April to September 2019 using seven instruments. The model was constructed and tested using the Analysis of Moment Structure program and reported using the STROBE checklist.

Results: All model variables provided direct and indirect effects to the outcome. The final model fitted the empirical data with acceptable indices.

Discussion: Predicting variables of workplace mindfulness, authentic leadership, workplace violence, organizational justice and years of experience were found to affect thriving at work directly and indirectly. Psychological capital and perceived organizational support mediated the effects between predicting variables to the outcome.

Conclusion and Implications for nursing and health policy: Recommendations for nursing and health leaders are provided to improve nurses' thriving at work by building fair, supportive, and safe working environments, improving head nurses' authentic leadership and cultivating nurses' mindfulness. Policies need to be promulgated to improve and regulate the nurse–patient ratio and to eliminate violence against Chinese nurses.

Keywords: Causal Model, Leadership, Psychological Capital, Thriving at Work, Workplace Mindfulness, Workplace Violence

Background

Health systems will meet people's needs around the world when there are sufficient nurses able to deliver quality care, and effective strategies are implemented to stop nurses from leaving the job; however, current trends indicate that a demand-based shortage of 5.7 million nurses is expected by 2030 (WHO 2020). Many nurses tend to change their jobs or do not keep working in hospitals for long periods now

Correspondence address: Dr Wipada Kunaviktikul, Faculty of Nursing, Chiang Mai University, Thailand; Tel: +66 53 945 012; E-mail: wipada.ku@cmu.ac.th

Sources of funding: There was no funding to support this study.

Conflict of interest: No conflict of interest has been declared by the authors.

because they think nurses' positions are unstable (Dwyer et al. 2019) or because their working conditions are unacceptable. Nursing turnover leads to increased workload and stress for the remaining nurses, exhausting them and creating low nursing thriving; this in turn creates a vicious cycle of further nurse turnover (Silén et al. 2019). The underlying reason for nurses' thriving at their work, and eradicating their turnover, lies in a positive relationship between individuals and their organization. Individuals are embedded in their organization and relate well in the workplace when they are thriving at work (Abid et al. 2016). A growing number of studies indicate that nurses' thriving at work is solidly, negatively and directly related to nurses' turnover intention (Dwyer et al. 2019; Silén et al. 2019).

Thriving at work refers to the feeling of vitality and learning at work (Spreitzer et al. 2005). Vitality is defined as the energy available to the self, either directly or indirectly, from basic psychological needs being met. And learning is described as developing some sort of improved capacity and progression in knowledge (Spreitzer et al. 2005). Compared to their peers who are not thriving, thriving nurses have low absenteeism and turnover rates and continue to achieve self-growth and physical and mental health (Battié 2015).

Studies reveal that nurses' psychological capital, workplace mindfulness, age, education level and years of experience provide positive effects on their thriving at work (Dwyer et al. 2019; Pan et al. 2018; You 2018). When nurses have more psychological capital and workplace mindfulness, they have better concentration and self-awareness and can help other nurses reassess an event as an opportunity for development rather than a loss, and benefit from thriving at work (Nawaz et al. 2018). Individuals with more years of experience and higher education have more expectations for themselves, and they are willing to put more energy into their work and learning (Kleine et al. 2019). Moreover, nurses' perceptions of organizational support, organizational justice and having no workplace violence are crucial to ensure high-quality thriving on the job (Bensemmane et al. 2018; Silén et al. 2019; Zhao et al. 2018). Employees who have a high degree of connectivity with the organization have more possibilities for creativity and energy (Kleine et al. 2019), but workplace violence damages their ability to thrive.

Notably, nursing supervisors' authentic leadership is beneficial for nurses to increase their thriving at work (Mortier et al. 2016). An authentic supervisor will demonstrate more trust in, and respect of subordinates (Mortier et al. 2016; Nawaz et al. 2018), which promotes employees' vitalized feelings and proactive learning behaviours. Furthermore, Pan et al. (2018) and Shen et al. (2018) indicated that the indirect effects of supervisors' authentic leadership and employees' workplace mindfulness on thriving at work occurred via psychological capital and perceived organizational support. Psychological capital is a personal and positive mental development state, and although transient and varied, often results in proactive behaviours (Kleine et al. 2019). Similarly, perceived organizational support is built on the basis of reciprocity and is changeable. When employees' emotional and social needs are met, positive outcomes will be brought out for both the organization and the individual (Eisenberger et al. 1986).

Studies conducted in the USA (Paterson et al. 2014) and in Pakistan (Abid et al. 2016) revealed a moderate to a high level of thriving at work among diverse professions. In the nursing field,

Mortier et al. (2016) in Belgium and Silén et al. (2018) in Sweden found a high level of thriving at work among nursing staff. Additionally, Griffin et al. (2017) stated that registered nurse anaesthetists perceived a high level of thriving throughout their academic programme with the American Association of Nurse Anesthetists. Employees with a high level of thriving have low absenteeism and a low turnover rate, which benefits their productivity and well-being (Battié 2015).

In China where this study was conducted, there is not generally a fair, supportive or safe working environment for nurses. For example, when compared with physicians and other health professionals, fewer professional development opportunities and welfare benefits are available for nurses (Wang et al. 2018). Additionally, occupational stress and a high workload contribute to a loss of incentive to achieve higher nursing psychological capital (Yim et al. 2017). Many nurses may be on 'autopilot' during their daily work and tend to finish their tasks in an absent frame of mind; they put emphasis on their endless workload and urgent, unsettled tasks instead of paying attention to the task at hand (Gao et al. 2017). Furthermore, Chinese nursing supervisors may not always be authentic because the Chinese traditional cultural hierarchy emphasizes obedience to authority. Thus, a nursing supervisor may lack ethical and authentic consideration when making a decision (Shen et al. 2018). This harms nurses' vitality and reduces their energy to learn (Wang et al. 2018).

A few studies have explored the direct effects of the factors mentioned above on thriving (Dwyer et al. 2019; Zhao et al. 2018). Some have been designed to examine indirect factors and the magnitude of how those factors interact with each other to produce thriving at work in nursing (Pan et al. 2018; Shen et al. 2018). However, no Chinese study has explored the development of a causal model to explain how nurses thrive at work.

Theoretical framework

On the basis of reviewing the above empirical studies, nine variables were extracted as affecting the thriving of nurses: psychological capital, perceived organizational support, workplace mindfulness, nursing supervisors' authentic leadership, workplace violence, organizational justice, nurses' age, educational level and years of experience. Among these, psychological capital and perceived organizational support were viewed as mediating variables between the seven predicting variables to nurses' thriving at work. The hypothesized model is presented in Fig. 1.

Study aim

This study's aim was to develop the Chinese Nursing Causal Model of Thriving at Work (hereafter named CNCMTW or the

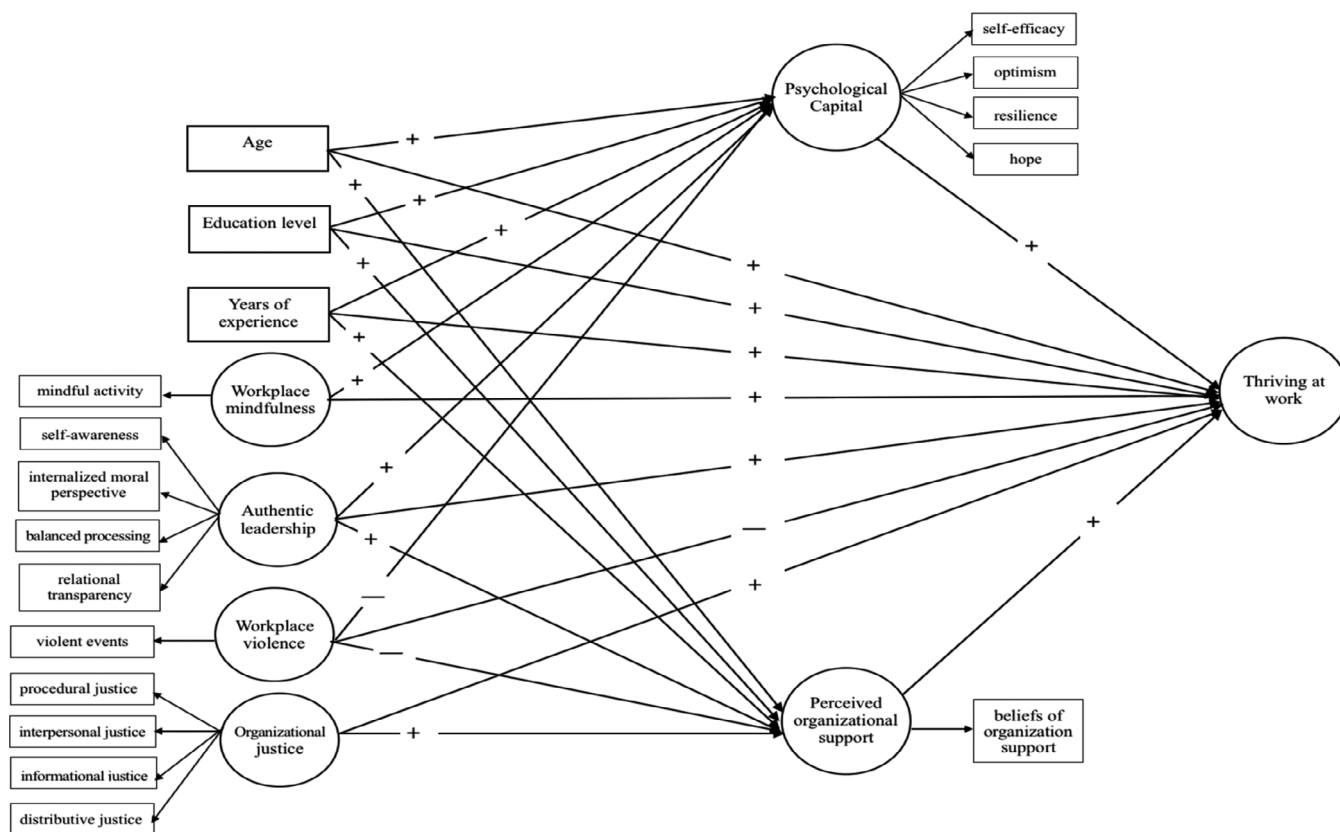


Fig. 1 The hypothesized model for thriving at work.

Model), which we hope will play a crucial role in expanding knowledge about thriving in nursing both for Chinese nursing and international expertise. In particular, the findings of this study can help to address the identified limitations of current knowledge regarding thriving at work in Chinese nurses. They can also enhance understanding of critical factors influencing this, a matter which is vitally important for health and nursing policymakers wanting to ensure a well-prepared nursing workforce that is thriving and growing on the job.

Methods

Design

We used a cross-sectional design to develop and test the first causal model of thriving at work in Chinese nurses. The relationships, effects and fitness among the variables of interest to thriving at work were examined.

Sample and settings

According to Wolf et al. (2013), the generally accepted rate to tackle the normality of a structural model is ten participants

for each parameter. Therefore, 580 samples were evaluated based on 58 estimated parameters in this study (17 loadings, 20 errors and 21 between construct correlation estimates). Considering a possible 20% non-response rate (Wolf et al. 2013), a total of 696 participants were required. The settings comprised five general hospitals in Dali city, Yunnan Province. The research coordinators allocated by the hospital directors helped the researcher to find the participants. Stratified random sampling was used. The inclusion criteria were RNs working in clinic positions >1 year. Nurses were excluded if they were undertaking maternity, sick, or continuing education leave, or had been one of 20 nurses who participated in the pilot testing of the instrument’s reliability.

Instruments

The research instrument for this study consisted of 8 parts: 1 Demographic data sheet included age, gender, marital status, education level, professional title, years of experience and working ward.

2 The Thriving at Work scale (Porath et al. 2012) which consists of 10 items and uses a seven-point Likert scale. You

(2018) translated it into Chinese. It was reported that the CFA model fit of this scale was as follows: CFI = 0.98, SRMR = 0.06 and RMSEA = 0.09. The good reliability of Cronbach alpha was 0.94 (Porath et al. 2012).

3 The Psychological Capital Questionnaire developed and translated into Chinese by Luthans et al. (2007) has 24 items and uses a six-point Likert scale. Confirmatory factor analysis indicated the following: SRMR = 0.051, RMSEA = 0.046 and CFI = 0.934. The reliability of Cronbach alpha was 0.88 (Luthans et al. 2007).

4 The Survey of Perceived Organizational Support (Eisenberger et al. 1986) has 17 items and uses a seven-point Likert scale. Feng (2012) translated it into Chinese and conducted a study among Chinese nurses and achieved a Cronbach alpha of 0.84. The validity of this scale was tested by a factor analysis and the POS accounted for 50% of the total variance (Feng 2012).

5 The Workplace Mindfulness Scale (Dane & Brummel 2014) has seven items using a six-point Likert scale. Gao et al. (2017) translated it into Chinese. Confirmatory factor analysis has supported the good validity of this scale (CFI = 0.91, RMSEA = 0.065), and the Cronbach alpha was 0.73 (Dane & Brummel 2014).

6 The Authentic Leadership Questionnaire was developed and translated into Chinese by Walumbwa et al. (2008) and has 16 items using a five-point Likert scale. It was reported that the four-dimensional structure fit of this scale was CFI = 0.97, RMSEA = 0.05 and the Cronbach alpha coefficient was 0.92 (Walumbwa et al. 2008).

7 The Workplace Violence Scale developed by Jiao et al. (2015) consists of 10 items and uses a six-point Likert scale. The result of the two-week retest reliability was 0.87 (Jiao et al. 2015).

8 Organizational Justice Scale (Colquitt 2001) uses a 5-point Likert scale for its 20 items and was translated into Chinese by Liu et al. (2014). The construct validity was RMSEA = 0.048, CFI = 0.91 and IFI = 0.91. The Cronbach coefficient value was 0.94 (Colquitt 2001).

The primary investigator (PI) gained permission to use all English and Chinese versions of the instruments. The reliability and validity of the scales were piloted-tested with 20 RNs having same criteria as the sample for the main study. All the scales showed good construct validity. The Cronbach's alpha value of the scales was between 0.80 and 0.96, reaching an acceptable value of 0.80.

Data collection

The research coordinators in each hospital were trained by PI. They distributed 696 questionnaires in total, which

included an information sheet, a consent form and a return envelope. All 696 surveys were returned, a 100% response rate, a phenomenon not uncommon among Chinese nurses who unquestioningly consider it their duty to complete such questionnaires. While unusual in many countries, the 100% response rate is in keeping with Chinese nursing obedience to study requests. Among them, 565 completed surveys (81.18%) were used for data analysis. The data were collected during April-September 2019.

Data analysis

This was conducted in four stages: (1) the demographic characteristics of participants were examined by descriptive analysis by the SPSS Program version 13.0. (2) The relationships of variables in the Model were examined using Spearman's Rank-order correlation analysis. This approach is used for the inferential hypothesis when testing two-tailed hypotheses (Kline 2011). (3) Preliminary data analysis for distributional characteristics was conducted by using normality testing approach of Skewness and the Kurtosis coefficient values, and normal probability plots (the P-P and Q-Q plot). (4) The hypothesized model was tested by using the Analysis of Moment Structure (AMOS version 23) program. The AMOS program revealed the correlation matrix, covariance matrix, mean and standard deviations among the variables in Model. When the fitness of the hypothesized model was identified, the researchers justified and modified the fit between model and data based on the indices.

Kline (2011) suggested the overall fitness of a model is evaluated by the following indexes: (1) A small Chi-square (χ^2) corresponds to a good fit. (2) A non-significant difference ($P < 0.05$) is recommended as a fitness indicator. (3) The ratio of Chi-square divided by its degree of freedom ($\chi^2/df < 3$) means a better fit. (4) Goodness Fit Index (GFI), Adjusted Goodness Fit Index (AGFI), Normal Fit Index (NFI), Comparative Fit Index (CFI) and Parsimonious Goodness Fit Index (PGFI), which were higher than 0.90, indicate a better fit. (5) Root Mean Squared Error of Approximation (RMSEA), less than 0.05, indicates a goodness of fit. The approach adopted for initially testing the hypothesized model was a theory-based approach. Since the poor fitness of the hypothesized model was identified, a data-driven approach was used to modify the model by following the suggestions of modification indices and deleting any non-significant path coefficients (Kline 2011).

Ethical Considerations

This study received ethical approval from Research Ethics Committee of Chiang Mai University Faculty of Nursing

(approval number 092/2019), Lishui University and each of the hospitals where data was collected. Each participant signed an informed consent form after written information was provided to assure protection of their study rights. Data were kept secure with computer passwords.

Results

Demographic characteristics

A total of 565 participants completed the survey. The majority were women (94.16%) with an average age of 30.68 years, married (70.09%), having a bachelor’s degree or above (45.49%), having 1–10 years’ nursing experience (72.92%), and working in medical (28.14%) and surgical units (23.01%).

Relationships of variables in the Model

Six predicting variables of workplace mindfulness, authentic leadership, workplace violence, organizational justice, years of experience and age had relationships with nurses’ thriving. Two mediating variables of psychological capital and perceived organizational support were also related to nurses’ thriving significantly (Table 1).

Model testing

The hypothesized Chinese Nursing Causal Model of Thriving at Work was tested with structural equation modelling (SEM), which was analysed by the Analysis of Moment Structure (AMOS version 23) program. As originally proposed, the hypothesized model did not completely fit the collected data. Fit indices showed Chi-square (χ^2) = 3068.592, χ^2/df = 2.449, $P < 0.001$, RMSEA = 0.051. In addition, all of fit indices were

shown to have an unacceptable range, including value of GFI = 0.864, AGFI = 0.850, CFI = 0.900, NFI = 0.843, TLI = 0.894 and PGFI = 0.785. These indices indicated that the Model did not accurately represent some model parameters (Fig. 1).

Based on the modification indices, the hypothesized Model was modified by dropping nine non-significant paths and adding four correlations of measurement errors. The nine dropped non-significant paths can be found when comparing Figs 1 and 2. Four correlations were added between POS item residuals, including the residuals of item 5 and 0, items 9 and 11, items 9 and 16, and items 11 and 13. Finally, the results revealed that all the pathways were statistically significant. The overall fit indices for the modified Model improved with a Chi-square of (χ^2) = 1366.646, χ^2/df = 1.236, $P < 0.001$ and RMSEA = 0.020. In addition, most of fit indices were displayed in an acceptable range, including the values of GFI = 0.913, AGFI = 0.904, CFI = 0.985, NFI = 0.924, TLI = 0.984 and PGFI = 0.824 (Fig. 2). Psychological capital, perceived organizational support, workplace mindfulness, authentic leadership, workplace violence, organizational justice and years of experience directly affected thriving at work. Meanwhile, workplace mindfulness, authentic leadership, workplace violence and organizational justice had indirect effects on nurses’ working thriving. The modified Model achieved good fitness with all empirical data and significantly explained 68.2% of the variance of thriving at work. (Fig. 2).

Discussion

The literature on thriving at work has focused more on its consequences and remained scattered on its antecedents over the past decade. Currently, nursing still lacks comprehensive

Table 1 Relationships of variables in the model

	<i>Thriving</i>	<i>PsyCap</i>	<i>POS</i>	<i>AL</i>	<i>WM</i>	<i>WPV</i>	<i>OJ</i>	<i>Education</i>	<i>Years</i>	<i>Age</i>
Thriving	1									
PsyCap	0.424**	1								
POS	0.478**	0.262**	1							
AL	0.399**	0.276**	0.501**	1						
WM	0.385**	0.487**	0.254**	0.271**	1					
WPV	-0.411**	-0.418**	-0.461**	-0.247**	-0.194**	1				
OJ	0.399**	0.247**	0.473**	0.352**	0.227**	-0.250**	1			
Education	0.062	0.018	-0.011	-0.015	-0.010	-0.050	-0.004	1		
Years	0.226**	-0.004	-0.046	-0.009	0.005	0.047	0.054	0.114**	1	
Age	0.225**	0.014	-0.033	-0.035	-0.010	0.013	0.059	0.277**	0.813**	1

**Correlation is significant at the 0.01 level (two-tailed).

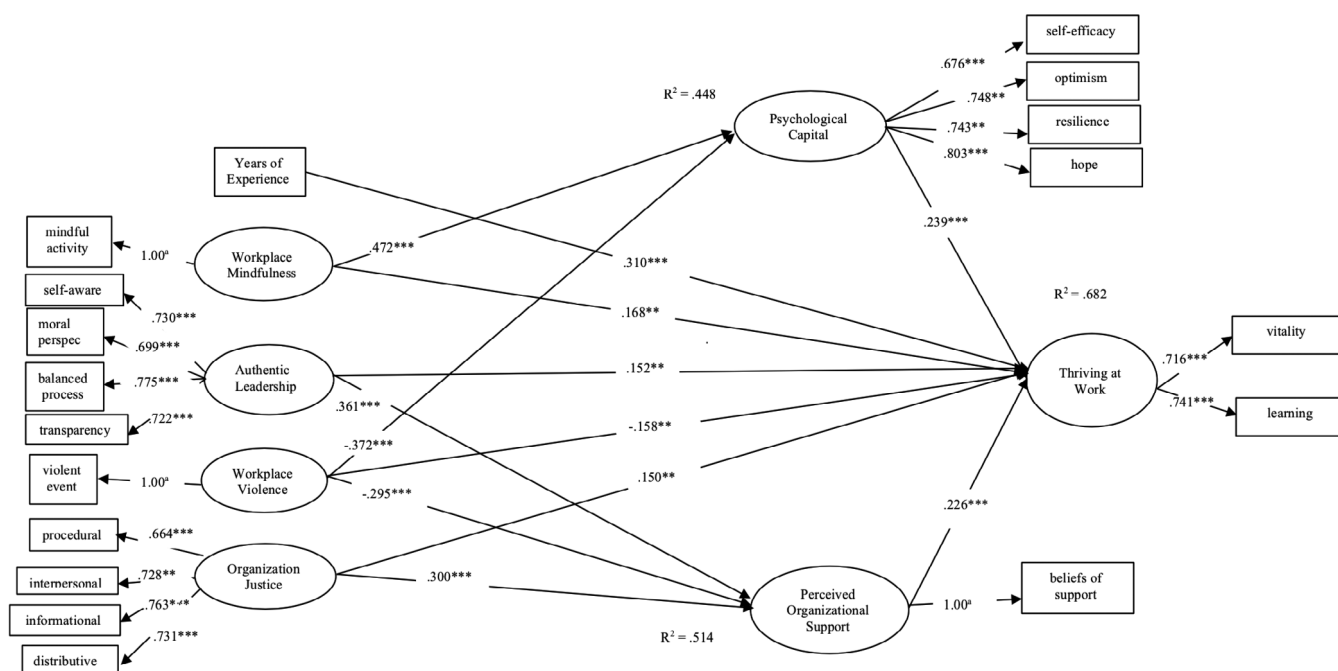


Fig. 2 The modified model for thriving at work.

knowledge of the factors predicting nurses' thriving at work. Previous studies have examined the incremental effectiveness of work thriving by predicting important working outputs (i.e. turnover intention, working satisfaction, employees' health and employees' development). Instead, our findings suggest that nurses' thriving at work requires the addition of good personal attributes and resources as well as good organizational attributes. This study contributes to a better understanding of nurse thriving by synthesizing the associations among thriving and related predictors. Furthermore, the causal modelling technique we utilized provides a better experience to assess the true magnitude of all direct and indirect relatedness.

This, the first study of its kind in China allowed the development of the Chinese Nursing Causal Model of Thriving at Work. Findings demonstrated that nurses' psychological capital, perceived organizational support, workplace mindfulness, authentic leadership, workplace violence, organizational justice and years of experience correlate and affect the outcome variable of thriving at work. Most paths in Model were significant and provided evidence that the Model is valid for evaluating thriving at work among Chinese nurses.

Findings indicated that nurses' psychological capital had positive effects on thriving at work. A possible explanation is that nurses' favourable psychological capital fosters good personal resources, which in turn strengthens nurses' thriving at

work. Employees with high psychological assets can attain work goals with proficiency and assurance, because they are more willing to keep themselves busy, improving their learning ability and enthusiasm, which in turn promotes positive work behaviours (Porath et al. 2012). Moreover, workplace mindfulness had positive effects on nurses' psychological capital, while workplace violence affected nurses' psychological capital negatively. Mindful individuals tend to be less susceptible to stress and are more likely to be psychologically well-adjusted, and can avoid many dysfunctional psychological problems that come their way (Pan 2018). This helps nurses cope with work stress and difficulties, which increase their positive learning attitude, good working enthusiasm and work efficacy.

Our study also found that workplace violence had negative effects on nurses' psychological capital. Confronted with workplace violence, nursing staff pay more attention to their safety rather than optimism, hope and work efficacy (Yang et al. 2012). This finally decreases nurses' motivation to learn and their work engagement. In this study, nurses' perception of organizational support positively affected nurses' thriving. When nurses sense support from the organization, they have feelings of worth and a sense that they are valued contributors to the hospital. This, in turn, makes nurses feel energetic and more willing to learn and to actively work hard (You 2018). Furthermore, three factors had effects on perceived

organizational support: authentic leadership, workplace violence, and organizational justice. An authentic nursing supervisor can establish a supportive workplace by caring for the well-being and development of subordinates (Mortier et al., 2016). As supervisors act as agents of the organization, their authenticity, empathy and support can be the main reason for nurses' positive perceptions about organizational support, and this benefits nurses' active learning and positive working. Similarly, Arif et al. (2020) revealed that organizational justice acts as an important resource for exchange between employees and their organizations. Organizational justice can promote employees' perceptions of sufficient care and support from their organization, which increases their willingness to put more energy into their work and learning. On the contrary, aggressive behaviours from other health professionals or patients or relatives deplete nurses' ability to thrive at work, and they perceive less support in their workplace. Workplace violence ruins nurses' perceptions of trust and belongingness to an organization and leads them to be dispirited at work (Hamby et al. 2018).

Our findings demonstrate that nurses' workplace mindfulness had a positive effect on thriving at work. The explanation could be that purposeful awareness and attention to 'staying in the moment' enabled greater employee stress reduction and depth of thought, resulting in greater nurse vitality and apprehension of learning objectives (Sheridan 2016). A mindful nurse can become so eager and absorbed in their thoughts and determination to get things done that it might facilitate a nurse's learning much more than just being on 'autopilot' (Pan et al. 2018). Additionally, our study found that nursing supervisors' authentic leadership positively affected nurses' thriving at work because an authentic supervisor can better comprehend the situation of their followers and offer them a hand if necessary (Wu & Chen 2019). In essence, when nurses are encountering troubles, their leaders can help or give directions to them, and so they might feel more active and vigorous to complete their tasks better. Similarly, it could be explained that a positive effect of organizational justice on thriving at work is one which promotes fairness in the workplace and is perceived to be the source of trust in an organization (Nawaz et al. 2018). The stronger the sense of trust and respect of employees have regarding the fairness of an organization, the easier it is to generate a feeling of vitality and learning (Arif et al. 2020). Of significance is that our findings corroborated that workplace violence had an important effect on thriving at work. This may be explained by high negative emotions caused by workplace violence regarding nurses' feelings of safety that distracted them from attending to their patient care (Yang et al. 2012).

Confronted with the occurrence of workplace violence, nurses often experience vulnerability, tension, anxiety, fear and other feelings that harm their work enthusiasm (Zhao et al. 2018).

Finally, this study demonstrated that increasing nursing experience could positively affect nurses' thriving since a large number of the participants (72.92%) had 1-10 working years during the survey. The first ten years of nursing work is commonly regarded as the prime time for nurses to gain knowledge and develop skills (You 2018). When the nurses have greater competence and utilize resources better, their work vitality and aptitude in learning become enhanced (Yim et al. 2017).

Limitations

This study is limited to reflect the sequences and patterns of the relationships for all the variables studied and changing over time as it had a cross-sectional design. Also, the generalization of the results applied to all Chinese nurse is limited, because the samples in this study only consisted of nurses working in general hospitals in Dali city. A study about nurses working at other parts of China and in other types of hospitals might have resulted in different findings due to the contrasts in the culture or in the policies between Chinese provinces.

Conclusion and recommendations

Our findings add to both Chinese and international knowledge about nurses' thriving at work. According to the results, nurses' psychological capital, their perceived organizational support, workplace mindfulness, authentic leadership of nursing supervisors, organizational justice and years of experience as well as some violence inherent in the lower status of their workplace were all correlated to a greater perception of thriving at work from Chinese nurses. Therefore, hospital directors, nurse administrators and other nursing and health leaders should apply these results to improve nurses' thriving at work through building a fair, supportive and safe working environment, improving nursing supervisors' authentic leadership style, training nurses' mindful, coping and working abilities.

Implications for nursing and health policy

It is crucial for health and nursing leaders to develop and implement some strategic plans and policies to ensure Chinese nurses have adequate remuneration, fair working conditions, equitable working hours, occupational safety, social protection, leadership development, mentorship, flexible scheduling, and lifelong learning and career progression opportunities. These activities are suggested to regulate nurses' working hours, conditions, a minimum wage and

measures to prevent attacks on nurses. Also, suggestions include a mentoring programme for newly hired RNs, an authentic leadership training programme for nursing supervisors, continuing education programmes and nursing career planning projects for all nurses. Promoting positive collaboration with interdisciplinary care teams and creating shift flexibility for nurses to minimize workloads are important. Critically, ensuring decent work conditions is necessary for nurses. Specific policies should be formulated to address violations of nurses' dignity and rights. Nurses need to be able to implement their latent leadership capacity. Policies should ensure that nurses participate in decision-making forums at all levels that affect key health systems and public health policy matters.

Author contributions

Study design: XLZ, WK, SS, KA and ST.

Data collection: XLZ.

Data analysis: XLZ, WK, SS and KA.

Study supervision: WK, SS, KA and ST.

Manuscript writing: XLZ, WK, ST, SS and KA.

Critical revisions for important intellectual content: XLZ, WK and ST.

References

- Abid, G., et al. (2016) Promoting thriving at work and waning turnover intention: A relational perspective. *Future Business Journal*, **2** (2), 127–137. <https://doi.org/10.1016/j.fbj.2016.08.001>
- Arif, S., et al. (2020) What is the effect of organizational justice and perceived organizational and supervisor support on employee's level of trust?. *SEISENSE Journal of Management*, **3** (1), 47–63. <https://doi.org/10.33215/sjom.v3i1.263>
- Battié, R.N. (2015) Thriving as healthy perioperative nurses. *AORN Journal*, **102** (5), 461–463. <https://doi.org/10.1016/j.aorn.2015.09.009>
- Bensemmane, S., et al. (2018) Team justice and thriving: a dynamic approach. *Journal of Managerial Psychology*, **33** (2), 229–242. <https://doi.org/10.1108/JMP-07-2017-0223>
- Colquitt, J.A. (2001) On the dimensionality of organizational justice: a construct validation of a measure. *Journal of Applied Psychology*, **86** (3), 386–400. <https://doi.org/10.1037//0021-9010.86.4.386>
- Dane, E. & Brummel, B.J. (2014) Examining workplace mindfulness and its relations to job performance and turnover intention. *Human Relations*, **67** (1), 105–128. <https://doi.org/10.1177/0018726713487753>
- Dwyer, P.A., et al. (2019) The influence of psychological capital, authentic leadership in preceptors, and structural empowerment on new graduate nurse burnout and turnover intent. *Applied Nursing Research*, **48**, 37–44. <https://doi.org/10.1016/j.apnr.2019.04.005>
- Eisenberger, R., et al. (1986) Perceived organizational support. *Journal of Applied Psychology*, **71** (3), 500–507. <https://doi.org/10.1037/0021-9010.71.3.500>
- Feng, L.P. (2012) *Perceived Organizational Support and Work Engagement Among Nurses in Affiliated Hospitals of Kunming Medical University, the People's Republic of China*. Chiang Mai University, Thailand. (Unpublished Master's Thesis).
- Gao, L., et al. (2017) Impact of workplace mindfulness on thriving at work of nursing staff. *Chinese Journal of Practical Nursing*, **33** (9), 701–703.
- Griffin, A., et al. (2017) Wellness and thriving in a student registered nurse anesthetist population. *American Anesthetist Nursing Journal*, **85** (5), 325–331.
- Hamby, S., Grych, J. & Banyard, V. (2018) Resilience portfolios and poly-strengths: Identifying protective factors associated with thriving after adversity. *Psychology of Violence*, **8** (2), 172–183. <https://doi.org/10.1037/vio0000135>
- Jiao, M., et al. (2015) Workplace violence against nurses in Chinese hospitals: A cross-sectional survey. *British Medical Journal Open*, **5** (3), e006719. <https://doi.org/10.1136/bmjopen-2014-006719>
- Kleine, A.K., Rudolph, C.W. & Zacher, H. (2019) Thriving at work: A meta-analysis. *Journal of Organizational Behavior*, **40** (9–10), 973–999. <https://doi.org/10.1002/job.2375>
- Kline, R.B. (2011) *Principles and Practice of Structural Equation Modeling*, 3rd edn. The Guilford, New York, NY.
- Liu, C.C., et al. (2014) The impact of organizational justice and organizational identification on nurses' work engagement [in Chinese]. *Chinese Journal of Nursing*, **9**, 005–012.
- Luthans, F., et al. (2007) Positive psychological capital: measurement and relationship with performance and satisfaction. *Personnel Psychology*, **60** (3), 541–572. <https://doi.org/10.1111/j.1744-6570.2007.00083.x>
- Mortier, A.V., Vlerick, P. & Clays, E. (2016) Authentic leadership and thriving among nurses: the mediating role of empathy. *Journal of Nursing Management*, **24** (3), 357–365. <https://doi.org/10.1111/jonm.12329>
- Nawaz, M., et al. (2018) Understanding employee thriving: the role of workplace context, personality and individual resources. *Total Quality Management & Business Excellence*, **31**, 1345–1362, <https://doi.org/10.1080/14783363.2018.1482209>
- Pan, M.M., et al. (2018) Mindfulness and thriving at work: mediating of psychology capital and well-being [in Chinese]. *Chinese Journal of Nursing Practice*, **26** (2), 358–362. <https://doi.org/10.16128/j.cnki.1005-3611.2018.02.031>
- Paterson, T.A., Luthans, F. & Jeung, W. (2014) Thriving at work: impact of psychological capital and supervisor support. *Journal of Organizational Behavior*, **35** (3), 434–446. <https://doi.org/10.1002/job.1907>
- Porath, C., et al. (2012) Thriving at work: toward its measurement, construct validation, and theoretical refinement. *Journal of Organizational Behavior*, **33** (2), 250–275. <https://doi.org/10.1002/job.756>
- Shen, L., et al. (2018) The Effect of authentic leadership on employees' thriving at work—the multiple mediating role of perceived organizational support and psychological capital [in Chinese]. *Soft Science*, **32** (4), 90–94. <https://doi.org/10.13956/j.ss.1001-8409.2018.04.20>
- Sheridan, C. (2016) Excerpt from the mindful nurse: Using the power of mindfulness and compassion to help you thrive in your work. *Journal*

- of *Community and Public Health Nursing*, **3** (1), 1–2. <https://doi.org/10.4172/2471-9846.1000161>
- Silén, M., et al. (2019) Relationships between structural and psychological empowerment, mediated by person-centered processes and thriving for nursing home staff. *Geriatric Nursing*, **40** (1), 67–71. <https://doi.org/10.1016/j.gerinurse.2018.06.016>
- Spreitzer, G., et al. (2005) A socially embedded model of thriving at work. *Organization Science*, **16** (5), 537–549. <https://doi.org/10.1287/orsc.1050.0153>
- Walumbwa, F.O., et al. (2008) Authentic leadership: development and validation of a theory-based measure. *Journal of Management*, **34** (1), 89–126. <https://doi.org/10.1177/0149206307308913>
- Wang, Y., et al. (2018) The working status of nurses with a master or doctoral degree in tertiary hospitals in China [in Chinese]. *Chinese Nursing Management*, **18** (1), 43–47.
- Wolf, E.J., et al. (2013) Sample size requirements for structural equation models: An evaluation of power, bias, and solution propriety. *Educational and Psychological Measurement*, **73** (6), 913–934.
- World Health Organization. (2020) *State of the World's Nursing*. WHO, Geneva. Available at: <https://www.who.int/publications/i/item/nursing-report-2020> (cited 6 August 2020).
- Wu, C. & Chen, T. (2019) Inspiring pro-sociality in hotel workplaces: roles of authentic leadership, collective mindfulness, and collective thriving. *Tourism Management Perspectives*, **31**, 123–135. <https://doi.org/10.1016/j.tmp.2019.04.002>
- Yang, L.Q., et al. (2012) Psychosocial precursors and physical consequences of workplace violence towards nurses: a longitudinal examination with naturally occurring groups in hospital settings. *International Journal of Nursing Studies*, **49**, 1091–1102. <https://doi.org/10.1016/j.ijnurstu.2012.03.006>
- Yim, H.Y., et al. (2017) Mediating role of psychological capital in relationship between occupational stress and turnover intention among nurses at veterans administration hospitals in Korea. *Asian Nursing Research*, **11** (1), 6–12. <https://doi.org/10.1016/j.anr.2017.01.002>
- You, M. (2018) *Organizational Support and Thriving at Work as Perceived by Nurses in the Affiliated Hospitals of Dali University, the People's Republic of China.*, Chiang Mai University, Thailand. (Unpublished Master's Thesis).
- Zhao, S.H., et al. (2018) Impact of workplace violence against nurses' thriving at work, job satisfaction and turnover intention: a cross-sectional study. *Journal of Clinical Nursing*, **27**, 2620–2632. <https://doi.org/10.1111/jocn.14311>