

Research Paper

The Mediating Role of Self-transcendence in the Relationship Between Psychological Vulnerability and Work-related Well-being of Nurses



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ABSTRACT

Background and Objectives: Nurses often face many challenges in life which negatively affect their well-being. This study aims to investigate the mediating role of self-transcendence in the relationship between psychological vulnerability and work-related well-being of nurses in Birjand City, Iran.

Methods: The present study was a descriptive correlation with the structural equation modeling (SEM) approach. The statistical population included 795 public hospital nurses in Birjand City, Iran in 2020. The research sample included 440 people selected using the convenience sampling method. Data collection tools included the psychological vulnerability scale, the subscale self-transcendence and character questionnaire, and the work-related well-being scale. The data were analyzed using the SEM approach, SPSS software, version 22 and LISREL software, version 8.8.

Results: The results showed that the direct path of psychological vulnerability to spiritual acceptance, creative self-forgetfulness and transpersonal identity was negative and significant ($P < 0.01$). The direct path of self-forgetfulness, transpersonal identity, and spiritual acceptance to work-related well-being was positive and significant ($P < 0.01$). Also, the indirect route of psychological vulnerability to work-related well-being through spiritual acceptance, self-forgetfulness, and transpersonal identity was significant ($P < 0.01$).

Conclusion: The results of the study indicate that self-transcendence can play a significant indirect role in reducing the adverse effects of psychological vulnerability on nurses' work-related well-being. Therefore, using the self-care training program based on the theory of self-transcendence, it is possible to improve the three dimensions of self-transcendence of nurses, increase their work well-being, and reduce their psychological vulnerability.

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Introduction

Nurses usually face many stressful life situations, including personal life challenges, the nature of work, commitment to patient care, and working with patients needing help [1]. These challenges negatively affect their well-being and reduce their quality of life and work [2].

In such a work environment, nurses may experience various psychological injuries, from burnout to moral dilemmas. These kinds of damages have been the focus of much international research on the disease (lack of well-being). Recently, global leaders and researchers have called for us to shift our focus from the illness of nurses (the negative aspect of well-being) to the health and well-being of nurses [3].

Well-being is a holistic concept and includes mental well-being, psychological well-being, social well-being, and work well-being [4, 5]. The structure of well-being at the workplace can be demonstrated in three dimensions, job satisfaction, workplace participation, and organizational commitment [5].

In pursuit of what has passed and considering the importance of the nursing profession, this research seeks to determine the factors that play a role in career well-being. This research considers psychological vulnerability a predictive variable for work well-being. Vulnerability is a critical concept in nursing to understand the patient's condition. Because nurses are expected to take care of the patient and witness the patient's problems, they are vulnerable in patient care [6].

Given the importance and widespread scope of well-being in positive psychology, the factors influencing it have been extensively studied. One of the valuable structures in this area is the self-transcendence dimensions for nursing and research activities in this field [7]. Research results related to this area have supported the idea that self-transcendence is a mediating or moderating factor that balances or transforms people's experience of vulnerability into well-being [8].

The self-transcendence structure that forms the theoretical framework of the current study is based on the psychobiological model of Gloninger's personality and its related questionnaire, the nature and character inventory, which has four nature dimensions including harm avoidance, novelty seeking, reward dependence, and persistence, and three character dimensions including

self-directedness, cooperativeness, and self-transcendence [9]. Based on various empirical results proposed by Reed, self-care through expanding self-boundaries and orienting towards life with broader perspectives and goals facilitates well-being. It evaluates three aspects, creative self-forgetfulness versus self-aware experience, transpersonal versus self-isolation, and spiritual acceptance versus logical materialism [9, 10].

Although self-transcendence has been investigated directly and mediatory about psychological constructs, this research has primarily focused on patient populations, while nurses have been studied less. Researchers believe that future research should focus on specific aspects of self-transcendence to understand better their role in modulating and strengthening pathology related to medical professions, especially nurses [11]. Research has shown that high scores in the subscale of transpersonal identity have a significant correlation with some psychological injuries, but this view needs further investigation [10]. Given the intensity of the problems experienced in the nursing profession, leading to reduced job satisfaction, increased turnover, and decreased quality of clinical care [12], it is essential to develop support programs and strengthen and modify resources that improve the well-being of nurses both professionally and personally. This field of research is relatively new, and few studies have investigated the possible consequences of the emerging constructs with the mediating role of self-transcendence on nurses' health. Therefore, the present study was conducted to determine the mediating role of creative self-forgetfulness, transpersonal identity, and spiritual acceptance in establishing the relationship between psychological vulnerability and work well-being in nurses and providing a more comprehensive reference source and framework.

Methods

The current research was descriptive of correlation type with a structural equation modeling (SEM) approach. The research sample included 795 nurses working in the public hospitals of Birjand City in 2020. To calculate the sample size, relevant research papers on the SEM approach were consulted, and a sample size of 500 participants was considered for the present study. The convenience method was used to achieve and prevent waste of time and cost in rapid sampling. Thus, in the first stage, the names of hospitals in Birjand City and the list of departments of each hospital were identified. In the next step, the statistics of the nurses employed in each department of the referring authorities were obtained. Then, considering the possibility of sample loss (non-return of

some questionnaires or incomplete questionnaires), 600 questionnaires were duplicated. The questionnaires were made available to the head nurse of each department to be distributed among the nurses according to the number of nurses in each department. The following tools were used to collect information:

Psychological vulnerability scale (PVS)

The PVS is a 6-question self-report instrument scored on a 5-point Likert scale designed to detect cognitive incompatibility patterns, such as dependence and perfectionism. The questionnaire's validity has been reported using the internal consistency method for different samples in the range of 0.65 to 0.87 [13]. The standardized version in the study of Nogria, Barros, and Sequeira [14], which was used in this study, specified a one-factor structure. The validity of the questionnaire is 0.88 and convergent reliability through its correlation with the short psychometric symptoms questionnaire is in the range of 0.28 to 0.63. This study's principal component method analysis yielded a two-factor structure. Based on the content of the items, the first factor was labeled as generalized negative biases, and the second factor was named external validation needs. Validity through Cronbach's α was calculated for the whole questionnaire and the two mentioned subscales as 0.69, 0.63, and 0.57, respectively. The confirmatory factor analysis indices of $df=7$, chi-square index (X^2)=69.15, comparative fit index (CFI)=0.95, goodness of fit index (GFI)=0.98, relative fit index (RFI)=0.88, root mean square error of approximation (RMSEA)=0.088, and $P<0.05$ indicate that the model fits well.

Work well-being scale

The work well-being scale, which includes 27 items related to work well-being and measures various aspects of well-being, such as engagement, use of abilities, job resources, job demands, meaning, relationships, autonomy, and competence, is scored on a 5-point Likert scale. Exploratory factor analysis results identified a three-factor structure with 18 items named job-related affect, job demands, and job resources. Convergent validity was reported through positive and meaningful correlation with flourishing and resilience. Divergent validity was reported through significant and negative correlations with the depression, anxiety, and stress scale. The validity of the questionnaire was estimated using the internal consistency method for the three mentioned factors as 0.86, 0.65, and 0.84, respectively. In this study, the results of exploratory factor analysis confirmed the structure of the three main factors. The validity was cal-

culated through internal consistency as 0.89, 0.90, 0.83, and 0.84. The confirmatory factor analysis indices of $df=131$, $X^2=88.663$, CFI=0.94, GFI=0.86, RFI=0.91, RMSEA=0.097, and $P<0.05$ indicate the model fit.

Creative self-forgetfulness, spiritual acceptance, and transpersonal identity

To measure creative self-forgetfulness, spiritual acceptance, and transpersonal identity, the subscale of the self-transcendence questionnaire was used [9]. The self-transcendence subscale measures three aspects of self-forgetfulness, spiritual acceptance, and transpersonal identity. Internal consistency for the mentioned subscales was estimated as 0.73, 0.73, and 0.78, respectively. In this research, in the exploratory factor analysis of the subscale, spiritual acceptance was obtained as a three-factor structure, and based on the item content structure, it was named transcendent experiences, belief in miracles, and spiritual acceptance. Validity was calculated through Cronbach's α for the three mentioned subscales as 0.83, 0.78, and 0.89, respectively. Confirmatory factor analysis indices of $df=61$, $X^2=48.255$, CFI=0.94, GFI=0.92, RFI=0.90, RMSEA=0.085, and $P<0.05$ indicated the model fit. In the exploratory factor analysis of the subscale of creative self-forgetfulness, a two-factor structure, fascination and meditation, was obtained. The reliability index through Cronbach's α was calculated as 0.67, 0.77, and 0.65 for the entire questionnaire and the two subscales. In the confirmatory factor analysis, the fit indices were calculated as $df=25$, $X^2=72.117$, CFI=0.92, GFI=0.94, RFI=0.86, RMSEA=0.092, and $P<0.05$, which indicated the fitness of the model. In the exploratory factor analysis of the transpersonal identity subscale, a two-factor structure was obtained, connection with nature and connection with others. The reliability index was calculated through Cronbach's α as 0.65 and 0.63, respectively. In the confirmatory factor analysis, fit indices as $df=25$, $X^2=24.22$, CFI=0.94, GFI=0.99, RFI=0.86, RMSEA=0.04, and $P<0.05$ indicated the model's fitness. The Pearson correlation and SEM approach were used to check the research hypotheses. The data were analyzed using SPSS software, version 23 and LISREL software, version 8.8.

To comply with ethical issues, a consent letter was prepared, and the purpose of the research was explained. The participants first read the consent form and participated in the study if they wished. The following items were presented to the participants: Participation in the research will not have any financial costs for the participants. Due to respect for the individual and his authority, the participant could withdraw from the study whenever

he wanted. Even after filling out the questionnaire, he can refuse to have the results of his questionnaire included in the research. The participants were informed about the purpose and usefulness of the study. It was emphasized to the participants that doing this research and participating in it would not cause them any harm.

Results

Out of 600 questionnaires distributed, 113 were not returned, 47 were incompletely filled out and were excluded from the analysis. Statistical analysis was performed on the data of 440 people. Out of the 600 distributed questionnaires, 113 were not returned, and 47 were incompletely filled out excluded from the analysis; thus, statistical analysis was performed on the data of 440 people. Of these, 313(71.14%) were women and 127(28.86%) were men. The age range of the subjects was between 20 and 55 years (Mean±SD age, 56.7±00.35). Out of 440 people, 32(7.27%) are between 20 and 25 years old, 109(24.77%) are between 26 and 30 years old, 91 (20.69%) are between 31 and 35 years old, 77(17.5%) are between 36 and 40, 65(14.7%) are between 41 and 45 years old, and 66(15.0%) are 46 years old and above.

Before analyzing the research data, the underlying assumptions of the analysis were examined. The Kolmogorov-Smirnov test was used to check the hypothesis for the normality of the data. The study showed that none of the research variables violated the normality assumption. In examining the model's assumptions, the researchers believe that the non-uniformity of the dispersion of the multivariate regressions does not invalidate the LISREL models. Also, correlations <0.80 indicate the absence of multiple collinearity. Table 1 presents the correlation matrix of research variables. The correlation coefficients of the variables in the table confirm the hypothesis of the lack of numerous collinearity.

Based on the above information, it can be said that the highest correlation was observed between the component of transcendent experiences and belief in miracles; this correlation was positive and significant ($P<0.01$). In addition, the lowest correlation was observed between spiritual acceptance and meditation. This correlation is also positive and significant ($P<0.01$). The proposed conceptual model was investigated through the SEM approach to predict work well-being through psychological vulnerability with the mediating role of creative self-forgetfulness, transpersonal identity, and spiritual acceptance. The SEM approach was chosen because it is superior to ordinal least squares techniques. It can

be used to evaluate the adequacy of theoretical models, compare models, and estimate model parameters among different groups (Misra, Christ, and Barnett, 2003). The maximum likelihood estimation (MLE), GFI, χ^2 , CFI, adaptive goodness of fit index (AGFI), normal fit index (NFI), non-normal fit index (NNFI), incremental fit index (IFI), root mean square error of approximation (RMSEA), etc. were used to fit the model. Figure 1 shows the path coefficients of the hypothetical model, and Table 2 presents the path coefficients of the exogenous and endogenous variables.

According to the data in Figure 1 and Table 2, the direct effect of psychological vulnerability on spiritual acceptance ($\beta = -0.84$), creative self-forgetfulness ($\beta = -0.81$), and transpersonal identity ($\beta = -0.93$) is negative and significant and on work-related well-being ($\beta = -0.75$) is negative and non-significant. In addition, spiritual acceptance ($\beta = 0.55$), creative self-forgetfulness ($\beta = 0.38$), and transpersonal identity ($\beta = 0.81$) directly, positively and significantly affect work-related well-being. In addition, the indirect effects and total effects of psychological vulnerability through spiritual acceptance, creative self-forgetfulness, and transpersonal identity on work-related well-being are adverse and significant ($\beta = -1.53$) and ($\beta = -0.79$), respectively.

Measuring pattern fit

In the proposed model, the results of the χ^2 square test to check the fit of the overall model showed no complete harmony between the proposed and observed model ($P<0.01$ and $\chi^2_{(47)} = 65.112$). Therefore, the null hypothesis about the model's fit with the data is not accepted. However, this index has two limitations, firstly, this statistic examines the perfect fit of the model with the data, while achieving a model that perfectly fits the data is rare, secondly, with the increase in the sample size, the probability of the significance of the index increases. Therefore, a model may have a close and acceptable fit to the data, but it is improbable for the model to achieve a non-significant χ^2 value. As shown in Table 3, the GFI is 0.96, the AGFI is 0.93, the CFI is 0.99, the NFI is 0.98, the IFI is 0.99, the NNFI is 0.98, the RFI is 0.97, and RMSEA is 0.056. Hu and Bentler [15] suggest that when GFI, CFI, and IFI are >0.90, and RMSEA is <0.08, it indicates a good and adequate fit of the model. As it is known, the indices indicate the appropriate fit of the model with the data.

Despite the good fit, the model was trimmed and modified based on the modification indicators due to the non-significance of the direct path of psychological

Table 1. Correlation matrix between psychological vulnerability, creative self-forgetfulness, transpersonal identity, spiritual acceptance, and work well-being

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1	1											
2	0.60**	1										
3	-0.51**	-0.51**	1									
4	-0.47**	-0.52**	0.62**	1								
5	-0.38**	-0.42**	0.54**	0.56**	1							
6	-0.44**	-0.39**	0.38**	0.33**	0.33**	1						
7	0.41**	-0.38**	0.38**	0.34**	0.31**	0.54**	1					
8	-0.45**	-0.48**	0.44**	0.47**	0.41**	0.54**	0.49**	1				
9	-0.36**	-0.45**	0.45**	0.42**	0.37**	0.44**	0.44**	0.51**	1			
10	-0.45**	-0.38**	0.44**	0.42**	0.35**	0.42**	0.42**	0.44**	0.44**	1		
11	-0.39**	-0.44**	0.47**	0.53**	0.48**	0.45**	0.43**	0.49**	0.47**	0.50**	1	
12	-0.38**	-0.36**	0.40**	0.42**	0.41**	0.35**	0.36**	0.38**	0.43**	0.47**	0.54**	1

1: Generalized negative biases, 2: Need for an external source of validation, 3: Transcendent experiences, 4: Belief in miracles, 5: Spiritual acceptance, 6: Fascination, 7: Meditation, 8: Connection with nature, 9: Connection with others, 10: Work-related emotion, 11: Job requirements, 12: Job resources.

**Significant level=0.01.

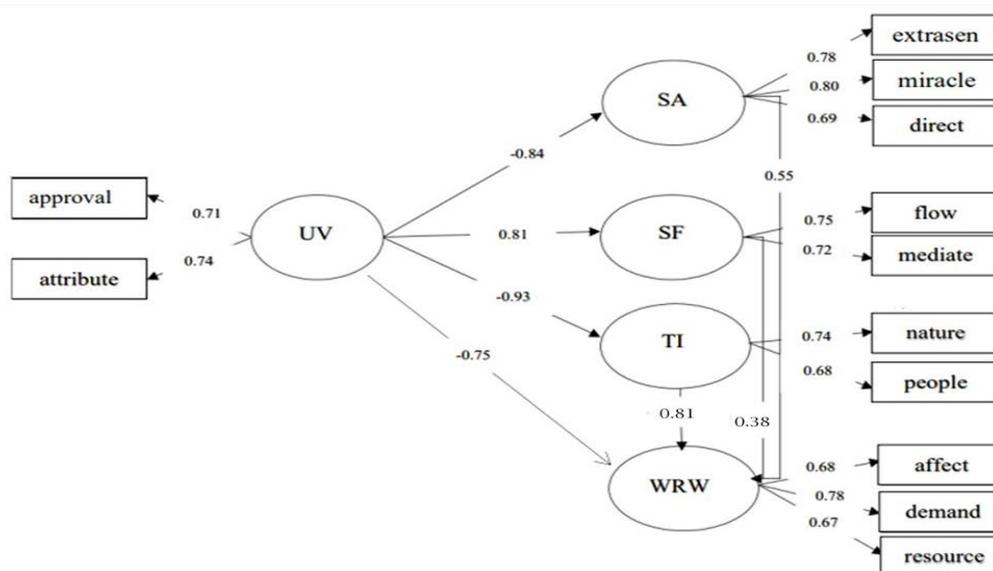


Figure 1. Path coefficients of the hypothetical model in modeling work well-being through psychological vulnerability with the mediating role of creative self-forgetfulness, transpersonal identity, and spiritual acceptance

Chi-square=112.65; df=47; P=0.000; RMSEA=0.056.

RMSEA: Root mean square error of approximation.

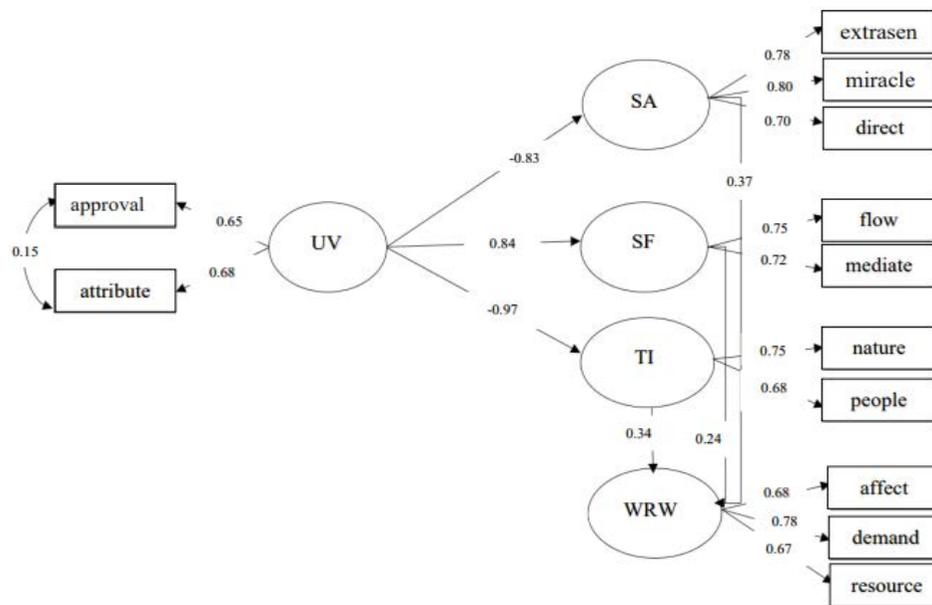


Figure 2. Path coefficients of the modified model of modeling work well-being through vulnerability with the mediating role of creative self-forgetfulness, transpersonal identity, and spiritual acceptance

Chi-square=95.50, df=47, P=0.000, RMSEA=0.048.

RMSEA: Root mean square error of approximation.

vulnerability to work-related well-being. After removing the non-significant path and selecting the model modification indices, LISREL suggested connecting the error path of generalized negative biases to the need for an external source of confirmation. This modification reduces the χ^2 value by 15.17, which becomes closer to the fitted model. The output after modification had better-fit indices compared to the one before modification. Based on the new fit index, we have GFI=0.97, AGFI=94.0, CFI=0.99, RFI=0.98, NFI=0.98, NNFI=0.99, IFI=0.99, and RMSEA=0.048, which all indicate the good fit of the model with the data (Figure 2). Also, the results showed that 69%, 71%, and 76% of the observed variance in spiritual acceptance, creative self-forgetfulness, and transpersonal identity are explained through psychological vulnerability, respectively. In addition, 79% of the observed variance in work well-being can be explained by combining the variables of psychological vulnerability, spiritual acceptance, creative self-forgetfulness, and transpersonal identity.

Discussion

The present study was conducted to provide a model to predict work well-being about psychological vulnerability with the mediating role of self-transcendence. The results investigating the direct relationship between the

paths in the designed model showed a significant relationship between all the paths except the direct path of psychological vulnerability to work well-being.

The direct path of psychological vulnerability to spiritual acceptance, creative self-forgetfulness, and transpersonal identity is negative and meaningful, and the direct path of spiritual acceptance, creative self-forgetfulness, and transpersonal identity is positive and meaningful work well-being. In addition, it was found that spiritual acceptance, creative self-forgetfulness, and transpersonal identity mediate the relationship between psychological vulnerability and work well-being. After correlating the error path of generalized negative biases with the need for an external source of validation, the model has a sufficient and appropriate fit.

The results related to the relationship of psychological vulnerability with creative self-forgetfulness, transpersonal identity, and spiritual acceptance are consistent with Satici [16] and Heredia & Sanchez's results [17]. Previous results have shown a negative relationship between psychological vulnerability and self-transcendence, psychological flexibility, authentic living, hope blossoming, optimism, happiness, forgiveness and gratitude, social competence, mindfulness, insight, resilience, social support, and self-efficacy [16, 18].

Table 2. Path coefficients of exogenous and endogenous variables

Predictor	Criterion	β	Se	t	P	
Of psychological vulnerability	Spiritual acceptance	-0.84	0.06	-14.92	<0.01	
	Creative self-forgetfulness	-0.81	0.06	-13.26	<0.01	
	Transpersonal identity	-0.93	0.06	-15.36	<0.01	
Direct effects	Work-related well-being	-0.75	0.47	-1.56	<0.05	
SA	Work-related well-being	0.55	0.13	4.35	<0.01	
SF	Work-related well-being	0.38	0.12	3.07	<0.01	
TI	Work-related well-being	0.81	0.40	2.03	<0.05	
Indirect effects	Of psychological vulnerability on work-related well-being	Through spiritual acceptance, creative self-forgetfulness, and transpersonal identity	-1.53	0.46	-30.3	<0.01
Total effects	Of psychological vulnerability on work-related well-being	Through spiritual acceptance, creative self-forgetfulness, and transpersonal identity	-0.79	0.07	-11.66	<0.01

In explaining such results, it can be said that psychological vulnerability is defined as cognitive structures that make people prone to stress and represents a pattern of cognitive beliefs that reflect dependence on success or approval from external sources for feeling personal worth and related to the perception of dependence, perfectionism, negative documents and the need for external verification sources. Therefore, it can lead to dysfunctional or less efficient cognitive, emotional, and behavioral patterns (e.g. passivity, self-blame, isolation, and catastrophizing) that lead to psychopathology [19, 20]. Vulnerability causes people to be quickly affected by unfortunate life events, experience more negative emotions, feel inferior to others, and be involved more quickly when faced with stressful events; therefore, psychological vulnerability is a necessary construct that can influence adaptive constructs [19].

The results related to the relationship of creative self-forgetfulness, transpersonal identity, and spiritual acceptance with work well-being are consistent with the

results of this research [21, 8]. These studies showed that self-transcendence has a positive relationship with nurses' emotional well-being, spiritual well-being, optimism, and meaning in life, and the combination of self-transcendence and meaning in life predicts life satisfaction [8, 22]. In explaining these results, it can be said that self-transcendence facilitates caring for patients and increases the feeling of vitality and ability (agency) [23].

According to Reed's model, the core of self-transcendence is the connection with oneself and others. According to this model, nurses work in emotionally and physically demanding environments. They may have high intra-personal and interpersonal coherence (reciprocity), facilitating their caring interactions with patients and increasing their well-being dimensions [24]. Therefore, by facilitating the processes of intra-personal and interpersonal connection using self-transcendence, the individual's inner strength, integrity, and well-being are provided. In other words, achieving well-being includes an intentional activity on the part of the person of intra-

Table 3. Indices of fit of the research conceptual model

Indicator	Chi-square	df	GFI	CFI	NFI	IFI	NNFI	AGFI	RFI	RMSEA
Fitness	65.112	47	0.96	0.99	0.98	0.99	0.98	0.93	0.97	0.056

Abbreviations: GFI: Goodness of fit index; CFI: Comparative fit index; NFI: Normal fit index; IFI: Incremental fit index; NNFI: Non-normal fit index; AGFI: Adaptive goodness of fit index; RFI: Relative fit index; RMSEA: Root mean square error of approximation.

personal thinking and interpersonal conflict that expands personal boundaries and helps a person to find meaning in a difficult situation or to feel purposeful after enduring suffering. These and other behaviors that expand personal boundaries (self-transcendence) can transform deprivation or difficulty (increased vulnerability) into positive outcomes (well-being) [20].

The results related to the mediating role of creative self-forgetfulness, transpersonal identity, and spiritual acceptance in the relationship between psychological vulnerability and work well-being are consistent with the results of other groups [16, 19, 25, 26]. Reports have shown that the relationship between psychological vulnerability and mental well-being through shyness, psychological vulnerability, and mental happiness through hopelessness, vulnerability to available resources, and dimensions of well-being (depression and life satisfaction) is mediated through psychosocial self-transcendence and spiritual self-transcendence also mediates the relationship between vulnerability to alcohol use and psychosocial well-being [8, 16, 17, 19].

The relationship between vulnerability and self-development is not linear. This relationship can only be observed within certain levels of experienced vulnerability, and personal and contextual factors can affect it [8, 17]. A model was presented to study individual-level and community-level correlates of vulnerability to poor physical, psychological, and social health. In this model, vulnerability helps understand a person's situation, where a person's vulnerability is primarily influenced by individual perception. Based on this, the more satisfaction resources a person has, the less likely they are to be affected by vulnerability levels [8]. According to Reid's self-transcendence theory [27], self-transcendence turns the experience of vulnerability into well-being in terms of access to resources. In general, self-transcendence is a vital inner resource for well-being. For individuals with accessible resources, self-transcendence acts as an intermediary that protects them from vulnerability while enhancing their satisfaction with life and well-being.

This research has some limitations. The present study was conducted on nurses in Birjand City with specific cultural and geographical conditions; therefore, caution should be exercised in generalizing the results to other communities, such as nurses in other cities or non-nursing individuals. In addition, the results of the present study are based on usual and non-clinical population reports and are not generalizable to abnormal individuals and clinical populations. Although this descriptive study is correlational and was conducted using SEM, inferring direct relationships does not seem easy due to the nature

of the variables. This research was based on self-report measures. As a result, the results may be influenced by social desirability bias. Moreover, in such cases, misunderstanding may occur about the questions and their content and bias in answering the tests.

Conclusion

The results of this research support the mediating role of self-escape in the relationship between psychological vulnerability and occupational well-being, indicating that creative self-forgetfulness, individual identity, and spiritual acceptance can indirectly play a significant role in reducing the negative effects of psychological vulnerability on nurses' work well-being. Based on this, it is suggested that professionals and counselors use educational and psychological training programs, such as the promotion of self-transcendence and health or self-care training programs based on the growth theory of self-transcendence to enhance the three dimensions of self-transcendence (creative self-forgetfulness, transpersonal identity, and spiritual acceptance), increase occupational well-being, and reduce psychological vulnerability.

Ethical Considerations

Compliance with ethical guidelines

The study was approved by the Ethics Committee of [Birjand University of Medical Sciences](#) (Code: IR.BUMS.REC.1398.378).

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Authors' contributions

All authors equally contributed to preparing this article.

Conflict of interest

The authors declared no conflict of interest.

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