

CONSTRUCT VALIDITY OF THE VIETNAMESE VERSION OF MASLACH BURNOUT INVENTORY-GENERAL SURVEY

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ABSTRACT

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Burnout is a state of emotional, physical, and mental exhaustion caused by excessive and prolonged stress. The purpose of this study is to validate the Vietnamese version of Maslach Burnout Inventory-General Survey (MBI-GS) for burnout measuring in Vietnam. Methods using cross-sectional study, factorial validity of MBI-GS was tested by exploratory factor analysis then continued by confirmatory factor analysis. Pearson's correlation is used to check criterion-related validity. The model of three factors structure without item 8 and 9 was suggested as the best fit model with chi-square ($X^2 = 285.13$, $P < 0.001$), root mean square error of approximation (RMSEA = 0.07), comparative fit index (CFI = 0.92), goodness of fit index (GFI = 0.91). The construct validity of Vietnamese version of Maslach Burnout Inventory-General Survey is acceptable for use in future investigations regarding burnout.

BACKGROUND

Globally, numbers of job stress measures have been available such as General Health Question (GHQ; Goldberg, 1978) which used to detect psychological issue such as depression or anxiety. Another scale namely Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) developed by Radloff in USA is designed to measure current depression in general population. This scale is helpful for epidemiologic studies accompanied by depression. The Zung Self-Rating Depression Scale was designed by William W.K Zung to assess depression disorder. The Zung Self-Rating Depression Scale is a short self-administered survey to quantify the depressed status of a patient (Zung, 1965).

The concept of burnout materialized in 1970s (Schaufeli et al., 2009) was defined as a multidimensional syndrome that is experienced in response to chronic job stressor. The Maslach Burnout Inventory (MBI) (Maslach, 1996) is considered to be the primary burnout measure that most widely used. There are three version of MBI which is known as MBI-Human Service Survey (MBI-HSS), a second ver-

sion of the MBI was adapted to people working in educational setting (MBI-Education Survey or MBI-ES) and the third, general version of the MBI was developed offered the increasing interest in burnout within occupation (Kitaoka et al., 2004). MBI-GS is mostly used in general object such as medical staff, teachers or workers (Maslach, 1996) therefore, our research are more interested in this scale.

For the particular case of MBI-GS, the three-factor structure including exhaustion, cynicism and professional efficacy of the MBI-GS was validated through multinational samples in Sweden (Schutte, Toppinen, Kalimo, & Schaufeli, 2000), in Japan (Kitaoka et al., 2004) in Romania (Maria et al., 2014) in Iran (Zohre et al., 2016). Although the confirmation of three-factor structure for MBI-GS were popular in burnout research but there has been raised some argument in term of number of factors. In the history of burnout, instead of combining three dimensions of burnout into a single one, an approach has introduced to reduce burnout to just one dimension namely exhaustion. The concept of exhaustion refers to feeling of overextended emotion and physical resources. Then, people who suffer from experience of burn-

out, they seemed to gain experience exhaustion (Pick & Leiter, 1991). Other disagreement of two factors reported that, inefficacy in some distances can be a function of either exhaustion or cynicism. The feeling of exhaustion or cynicism would produce lack of professional efficacy. It is difficult to gain accomplishment if people experienced feeling of exhaustion so that combination of two is suggested (Lee & Ashforth, 1996). Due to the lack of agreement on factor structure, it recommended that the development of MBI-GS is still necessary. Another reason for conducting research on MBI-GS measure is that though validation of Vietnamese version of MBI-GS was introduced but it only utilized exploratory factor analysis which is insufficient to get deeper and clearer understanding involving measurement's validity (Nguyen et al., 2018). In order to make further progress on burnout research in Vietnam, the confirmatory factor analysis is applied in this study. Therefore, the aim of this research is to offer contribution on multi-dimensional burnout construct by implementing of reliability, factorial and criterion-related validities.

METHODS

A cross-sectional study was used to carry out the survey. Participants were clinical nurses working in different departments at three public hospitals in Hai Phong, Vietnam: one general hospital and two specialty hospitals (a children's hospital and an obstetric hospital). There were 490 clinical nurses in total of three hospital, about 500 administered questionnaires were delivered to clinical nurses at three hospitals using random sampling. Due to the number of nurses at each hospital, 260 questionnaires were sent to the general hospital, 90 to the children's hospital, and 150 to the obstetrics hospital. Overall, 443 questionnaires were returned (general hospital, $N = 234$; children's hospital, $N = 8$; obstetrics hospital, $N = 129$) with a response rate of 88.6% (general hospital, 90.0%; children's hospital, 88.8%; obstetrics hospital, 86.0%). However, among 443 responses, there were 13 invalid responses with the same answer given for the entire scale or where there was missing data for some questions. Therefore, we obtained a final sample size of 430 nurses (general hospital, $N = 230$; children's hospital, $N = 78$; obstetrics hospital, $N = 122$) for statistical analysis.

We administered three sets of questionnaires: 1) a demographic questionnaire; 2) an MBI-GS questionnaire (Maslach, Jackson & Leiter, 1996); and 3) an Areas of Worklife Scale (AWS) questionnaire

(Leiter & Maslach, 2011) which already validated and translated in Vietnamese version (Nguyen, Kitaoka, Sukigara, & Thai, 2018).

The demographic questionnaire related to sex, age, marital status, children, age of children, years of nursing work, work place, nursing position, on-duty work schedule and education level. The MBI-GS consists of three scales totaling 16 items: exhaustion is defined through five items which presents like "I feel emotionally drained from my work", cynicism also concludes five items, one of them is "I have become less interested in my work since I started this job", and professional efficacy with six items that represented as "I can effectively solve the problems that arise in my work". Each item is scored using a 7-point Likert scale (never, a few times a year, once a month, a few times a month, once a week, a few times a week, and daily) ranging from 0 to 6. The translation process entailed two phases: 1) forward translation, involving translation of the MBI-GS from English to Vietnamese by a bilingual researcher; and 2) back-translation, involving two independent bilingual translators, both of whom majored in English teaching and translation. Afterward, two researchers carefully compared the back translation to the original English version item-by-item to evaluate conceptual equivalence. The 28-item AWS questionnaire consists of six key domains: workload (5 items), control (4), rewards (4), community (5), fairness (6), and value (4). Each scale contains both a positive word item (e.g., "I have enough time to do what's important in my job" [workload]) and a negative word item (e.g., "I do not get recognized for my contributions at work" [rewards]). Subjects indicated their degree of agreement with these statements using a 5-point Likert scale ranging from 1 (strongly disagree) to 3 (hard to decide) to 5 (strongly agree). Scoring for the negative word item is reversed.

To indicate internal consistence of the MBI-GS and AWS subscales, we used Cronbach's alpha. The construct validity of each model of MBI-GS was first tested by exploratory factor analysis. In term of factor analysis, we used principal component analysis for extraction method and Promax with Kaiser Normalization for rotation method. The next, confirmatory factor analysis was conducted to perform construct validity. We used indicators for fit model like root mean square error of approximation (RMSEA), comparative fit index (CFI), goodness of fit index (GFI), normed fit index (NFI) and Akaike's information criterion (AIC) to perform result. Then, Pearson's correlation is applied to check criterion-related validity among dimension of burnout and work life area.

RESULTS

Characteristics of Participants

Shows participants' characteristics. Many more nurses were female (88.1%) than male (11.9%). Average age of participants was 31.64 years ($SD = 6.72$). Most nurses were already married (78.8%) with children under 11 years of age (75.3%). As for job factors, average years of nursing work was 8.6 years ($SD = 6.48$), working year group from 1 to 5 years had the highest percentage of 41.9%. Conversely, group over 15 years of working was 13.9%. The most common on-duty work schedule was two days per week (63.5%), and the majority of nurses had a two-year nursing diploma (65.3%).

Factorial Validity

Shows factor loading of the Vietnamese MBI-GS. Initially, four factors with an eigen value over one were presented. However, in the original MBI-GS version, exploratory factor analysis showed three factors. Therefore, we selected three factors for rotation. After extraction, factor 1 was identified as exhaustion, factor 2 as professional efficacy, and as exhaustion, factor 2 as professional efficacy, and factor 3 as cynicism. Loading of all items indicated a sufficient value greater than 0.4. In the original version, item 8 and 9 are located in cynicism, but according to factor loading in this study, these two items moved to exhaustion subscale. Therefore, based on these results, we continued to carry out confirmatory.

The confirmatory analysis pointed out the fit indices of hypothesis models. The result of model 3b (model of three factors structure without item 8 and 9) was recommend as the best fit model with chi-square ($X^2 = 285.13$, $P < 0.001$), root mean square error of approximation ($RMSEA = 0.07$), comparative fit index ($CFI = 0.92$), goodness of fit index ($GFI = 0.91$), normed fit index ($NFI = 0.90$) and Akaike's information criterion ($AIC = 349.13$). These results meet criteria for model fit (Taylor, Sharland, Cronin, & Bullard, 1993). Figure 1 is final model 3b of factorial structure for the MBI-GS and covariance are significant at $p < 0.001$.

Internal Consistency and Criterion-Related Validity

The Cronbach's alpha of exhaustion, professional efficacy, and cynicism reached values of 0.89, 0.80, and 0.77, respectively. The Vietnamese version of AWS already validated in previous study. Regarding AWS subscales, value of alpha is 0.74 for

workload, 0.62 for control, 0.68 for community, and 0.77 for fairness. Alpha of rewards and value dimension are 0.71 and 0.81 respectively.

Indicated relation between burnout and area of work life, the correlation was dramatically significant with $p < 0.01$ that supported evidence of criterion-related validity.

DISCUSSION

The aim of this study is to investigate the factorial validity of MBI-GS among clinical nurses in Vietnam which is the first confirmatory validation of the MBI-GS performed on Vietnamese sample. In general, the study meets the factorial and criterion-related validity as well as its internal consistency. Before conducting the confirmatory factor analysis, we present exploratory factor analysis. The construct validity evaluation supported a three-factor structure. However, our analysis suggested that items 8,9 of the scale should be moved to the exhaustion rather than cynicism subscale in comparison with original scale. Then, confirmatory factor analysis results suggested that the three factors model excluding item 8 and 9 was supposed to be the most appropriate model as it satisfies the criteria of model fit. At last the model without item 8 and 9 is selected. This model suggested improvement of modification indices after deleting two items that improved fit model indicated by RMSEA.

Our results are congruent with the Malaysian version when their findings also stated that item 8 and 9 should locate in the exhaustion instead of cynicism dimension (Chen et al., 2014). The item 8 and 9 respectively refer to "I have become less interested in my work since I started this job" and "I have become less enthusiastic about my work". This may link to the feeling of exhaustion as Vietnamese nurses most stated in their responses. This matter mainly suggested the result of differences in cultural knowledge and experience (Chen et al., 2014). Besides, factorial validity of Romanian version supported three-factor structure of MBI-GS without item 13 of the cynicism scale as it cross-loaded both on exhaustion and professional efficacy scale. Other study performed that, the item 11 an indicator of the cynicism dimension suggested reconsideration due to its factor loading, after removing this item the three factorial structures indicated a significant improved fit (Jose, Saturnino, Alicia, & Irene, 2016). However, both of Japanese and Chinese versions (Kitaoka et al., 2004; Wu et al., 2007) have supported the original version with totaling of 16 items.

In term of criterion-related validity, the results stated the three factors of job burnout were correlated with six dimensions of area of work life. Workload had positive correlation with exhaustion and cynicism but positive correlation with professional efficacy. There were numerous studies using different measurement scales to examine the relation between burnout and work life like work engagement or job demands (Jose, Saturnino, Alicia, & Irene, 2016; Maria, Florina, Adriana, & Dan, 2014). But some of dimensions are similar such as workload in Romanian version studied among healthcare professionals. Romanian version performed workload and emotional demands are related positively with exhaustion and cynicism and negatively with professional efficacy. By contrast, other finding showed positive correlation between professional efficacy and work engagement (Jose, Saturnino, Alicia, & Irene, 2016). In summary, the current result of this study recommended the evidence of adequate criterion-related validity for Vietnamese version of MBI-GS.

Strengths and Limitations of the Study

The first study on burnout in Vietnam only used exploratory factor analysis not confirmatory factor analyses. Although exploratory factor analysis of first study satisfied basic validity, several items on the Vietnamese MBI-GS did not meet factorability criteria. As this is the second study provides additional explanation on these items. However, the number of burnout studies in Vietnam still limited that was unavailable for comparison or reference. Further inunavailable for comparison or reference. Further investigation is needed to have overview of Vietnamese burnout. All study participants were clinical nurses, other types of participants is necessary to have a multi-dimensional view of burnout in Vietnam.

CONCLUSION

Based on our findings, the reliability and validity of the Vietnamese MBI-GS is acceptable for use in future investigations. Our factorial validity results suggest various factors of area of work life leading to burnout. According to these results, some solutions or interventions can be applied for burnout prevention, such as consideration of more nurses and appropriate work schedules to reduce workload among nurses. In order to limit exhaustion and increase professional efficacy intervention program should be recommended in clinical nurses in Vietnam.

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