Chinese Adaptation and Psychometric Validation of the Hospice Volunteer Motivation Scale: Post-print

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Abstract

Background: Volunteers are important human resources for hospice care services. Exploring the service motivations of hospice care volunteers is of great significance to the hospice care cause in China, which is in its early stage of development. Objective: To translate and revise the Inventory of Motivations for Hospice Palliative Care Volunteerism (IMHPCV), and to evaluate the reliability and validity of the Chinese version of IMHPCV and its applicability in the Chinese cultural context, so as to provide a more accurate and effective tool and reference for future research on hospice care volunteer service motivations. Methods: Relevant experts were invited to conduct translation, back-translation, and cultural adaptation of the IMHPCV to form the final version of the Chinese IMHPCV. From June to July 2019, using convenience sampling, online questionnaires were sent via mobile WeChat to heads of palliative care pilot units in the Beijing area, and the online questionnaires were disseminated within their domains. Hospice care volunteers who completed the questionnaires were taken as study subjects, and they were surveyed using a personal basic information questionnaire, the Chinese version of IMHPCV, and a newly added motivation items questionnaire proposed by hospice care volunteers during the pre-survey phase and considered by researchers. Structural validity and reliability of the scale were tested through methods such as Exploratory Structural Equation Modeling (ESEM), calculation of factor loadings, and Cronbach' s α coefficient; and Pearson correlation analysis was used to analyze the correlations among dimensions of the Chinese version of IMHPCV. Results: A total of 220 valid questionnaires were collected. Factor structure results showed that the Exploratory Structural Equation Modeling results indicated the model fit was fair (2=735.357, P<0.001); most items in the Chinese version of IMHPCV had factor loadings >0.3, and all newly added items had factor loadings >0.5. Correlation analysis results among dimensions showed that "altruism" was negatively correlated with "civic responsibility" and "personal gain," and

positively correlated with "self-development" and "leisure"; "civic responsibility" was negatively correlated with "self-development" and positively correlated with "leisure" and "personal gain"; "self-development" was negatively correlated with "leisure" and "personal gain"; "leisure" was positively correlated with "personal gain" (P<0.05). Regarding internal consistency reliability, the Cronbach's α coefficient of the Chinese version of IMHPCV was 0.829. Comparisons of scores among dimensions showed statistically significant differences (F=49.842, P<0.001). Conclusion: The Chinese version of IMHPCV has good reliability and validity, and possesses certain applicability in the Chinese cultural context, but there remains considerable room for improvement. Although the newly added items cannot replace the content of the original scale, they do suggest the possible existence of motivation factors with local characteristics. Future research should increase the sample size of preliminary interviews and, as much as possible, select interview subjects with different characteristics to extract potential candidate items, so as to improve this measurement tool.

Full Text

Translation and Validation of the Inventory of Motivations for Hospice Palliative Care Volunteerism in Chinese

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Abstract

Background: Volunteers constitute essential human resources for hospice care. Exploring the service motivations of hospice volunteers holds significant importance for the development of hospice care in China, which remains in its early stages.

Objective: To translate and revise the Inventory of Motivations for Hospice Palliative Care Volunteerism (IMHPCV) and evaluate the reliability, validity, and cultural applicability of the Chinese version.

Methods: Following authorization from the original author, we translated the IMHPCV into Chinese using forward translation, back-translation, and cultural adaptation according to WHO guidelines. The final Chinese version was administered to hospice volunteers in Beijing pilot palliative care units between June and July 2019 using convenience sampling via WeChat. Participants completed an online questionnaire comprising basic demographic information, the Chinese IMHPCV, and additional motivation items identified during pre-testing. We employed exploratory structural equation modeling (ESEM) to assess construct

validity, examined factor loadings, calculated Cronbach' s α coefficients for reliability, and used Pearson correlation analysis to examine inter-dimensional relationships.

Results: A total of 220 valid questionnaires were collected. The ESEM indicated modest model fit (^{2}=735.357, P<0.001). Most items demonstrated factor loadings >0.3, while newly added items showed loadings >0.5. Correlation analysis revealed that "altruism" was negatively correlated with "civic responsibility" and "personal gain," but positively correlated with "self-development" and "leisure." "Civic responsibility" was negatively correlated with "self-development" but positively correlated with "leisure" and "personal gain." "Self-development" was negatively correlated with both "leisure" and "personal gain," while "leisure" was positively correlated with "personal gain" (P<0.05). The overall Cronbach' s α coefficient was 0.829. Significant differences existed among dimension scores (F=49.842, P<0.001).

Conclusion: The Chinese version of IMHPCV demonstrates acceptable reliability and validity with some cultural applicability, though substantial room for improvement remains. While the new items cannot replace the original scale content, they suggest the existence of culturally specific motivational factors. Future research should increase pre-interview sample sizes and recruit more diverse participants to identify potential alternative items and improve this measurement tool.

Keywords: hospice and palliative care; volunteers; motivation; hospice; volunteerism; scale; reliability; validity

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Introduction

Hospice volunteers play a vital role in providing emotional and practical support to terminally ill patients and their families. However, against the backdrop of China' s underdeveloped hospice care system—evidenced by China' s consistently low ranking in global Quality of Death indices [1-3]—volunteers in this field receive far less attention and exist in smaller numbers compared to other sectors [4]. Within a cultural context that traditionally "values life and avoids death," exploring the motivations of Chinese hospice volunteers can not only deepen understanding of this population and improve supportive services but also promote the overall development of hospice care in China [5].

Previous research has examined hospice volunteer motivations. Planalp et al. [6] applied the Volunteer Functions Inventory (VFI) [7-8] and found that "value expression/understanding" (e.g., compassion for those in need) represented the most important motivational dimension, followed by "social interaction," "self-enhancement/self-protection," and "career development." The Inventory of Motivations for Hospice Palliative Care Volunteerism (IMHPCV) [9] offers a more specialized tool for examining hospice volunteer motivations, comprising five di-

mensions (altruism, civic responsibility, self-development, leisure, and personal gain) with five items each, totaling 25 items. Originally developed in Canada, the scale has been adapted for use in the UK, Germany, and France, consistently showing that hospice volunteers score higher on "altruism" and "civic responsibility" than on personal dimensions (self-development, leisure, and personal gain) [6,10-12]. German research further revealed that compared to volunteers in other fields who typically cite social connections and personal influence as motivations, hospice volunteers prioritize altruism and learning-related experiences [13], suggesting they are more driven by social responsibility and philanthropic ideals.

As China' s aging population deepens [14], over seven million terminally ill patients require hospice care annually [15], yet slow development of hospice services fails to meet this substantial demand. Chinese empirical research in this field remains scarce, particularly regarding volunteer motivations. Although one research team has previously translated the IMHPCV, their work had limitations in sample size and scope [16]. Therefore, this study followed standardized translation procedures to adapt the IMHPCV for Chinese contexts and tested its psychometric properties among Chinese hospice volunteers to provide a more accurate and effective tool for future research.

Methods

1.1 Study Participants Between June and July 2019, we recruited participants using convenience sampling. Online questionnaires were distributed via WeChat to directors of Beijing palliative care pilot units, who then disseminated them within their networks. Hospice volunteers who completed the questionnaire were selected as study subjects. Inclusion criteria were: (1) membership in a hospice volunteer organization, and (2) active service in hospital palliative care wards. Exclusion criterion was no prior participation in hospice volunteer services. The required sample size was calculated as 5-10 times the number of scale items [15]; with 25 IMHPCV items, the minimum sample size was 125.

1.2 Research Methods 1.2.1 Scale Translation and Adaptation

After obtaining written permission from IMHPCV author Claxton-Oldfield, we translated the scale following WHO guidelines for instrument translation and adaptation [17]. (1) Forward translation: Two native Chinese speakers with excellent English proficiency independently translated the original scale, then discussed discrepancies to produce the first Chinese draft. (2) Back-translation: Two bilingual translators unfamiliar with the original scale—a chief physician of palliative care and a university foreign teacher—independently back-translated the first draft. Researchers reviewed these versions with the translators, compared them against the original to eliminate ambiguities, and produced a second Chinese draft. (3) Adaptation: Palliative care experts, linguists, and hospice

volunteers reviewed the second draft, making adjustments for Chinese cultural context and everyday expression. Table 1 presents the final Chinese version of IMHPCV.

1.2.2 Survey Instrument

For data collection convenience and to broaden the sample, we used the Wenjuanxing online survey platform [18] to develop and distribute the questionnaire. The online questionnaire consisted of four parts: (1) research introduction including purpose, design, confidentiality measures, and investigators; (2) basic personal information; (3) the Chinese IMHPCV; and (4) newly added motivational items identified during pre-testing. The questionnaire required complete responses for submission; questionnaires with identical responses across all items were excluded.

The personal information section included gender, age, education level, occupation, religious belief, previous volunteer experience, and duration of palliative care volunteer service.

The Chinese IMHPCV is a 25-item self-report questionnaire assessing hospice volunteer motivations [6]. The 25 items cover five conceptual dimensions: altruism (e.g., "I want to help others cope with death"), civic responsibility (e.g., "I believe people should give back to their community"), self-development (e.g., "I like being noticed when volunteering"), leisure (e.g., "I like having something to do"), and personal gain (e.g., "Volunteer experience will help me achieve future goals"). Each item uses a 5-point Likert scale from 1 ("did not influence me at all") to 5 ("influenced me very much"). Higher dimension scores indicate greater influence on the volunteer' s decision to enter hospice care.

New items were added based on suggestions from hospice volunteers during the pre-testing phase. In pre-testing, 10 hospice volunteers serving in a Beijing palliative care ward identified additional influential factors: "gaining strength to face my own death through volunteering," "loss of loved ones motivating me to become a hospice volunteer," "personal experiences/life reflections prompting me to seek answers," "requirements from organizations, leaders, or external forces," "experience with loved ones in hospice/palliative care units motivating involvement," and "influence from relatives and friends participating in hospice volunteering." These items were included in the final online questionnaire, which also contained an open-ended question for participants to list "other factors."

1.3 Statistical Analysis We used SPSS 25.0 and Mplus 7.0 for statistical analysis. Normally distributed continuous data were expressed as ($\bar{x}\pm s$), with one-way ANOVA for multi-group comparisons. Categorical data were expressed as percentages.

Exploratory structural equation modeling (ESEM), which integrates advantages of exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) [19], was used to analyze the Chinese IMHPCV' s structure. The model used

principal component analysis for factor extraction and Oblimin oblique rotation. Model fit was evaluated using first-order five-factor model fit indices [adopted criteria: chi-square/degrees of freedom (CMIN/DF) $\leq$ 3, root mean square error of approximation (RMSEA) $<$ 0.06, root mean square residual (RMR) $\rightarrow$ 0, goodness-of-fit index (GFI) $\geq$ 0.95, adjusted goodness-of-fit index (AGFI) $\geq$ 0.95, comparative fit index (CFI) $\geq$ 0.95]. Validity was assessed through factor loadings and common factors. Pearson correlation analysis examined inter-dimensional correlations. Internal consistency reliability was determined by Cronbach's α coefficient, with 0.7-0.9 considered high reliability [20]. P<0.05 was considered statistically significant.

Results

2.1 Participant Characteristics A total of 220 valid questionnaires were collected. Participants ranged in age from 17 to 69 years, with a mean age of $39.8\pm11.6 years. The mean age was 38.2\pm13.1 years for males and 40.2\pm11.2$ years for females. Nearly half of the responses (103/220) came from Beijing IP addresses. Detailed participant characteristics are presented in Table 2 .

2.2 Factor Structure and Psychometric Properties 2.2.1 Factor Structure

The ESEM results indicated modest model fit (^{2}=735.357, P<0.001). First-order five-factor model fit indices are shown in Table 3 : CMIN/DF and RMSEA met the adopted criteria, while other indices showed substantial deviations. Factor loadings for the Chinese IMHPCV revealed that most items loaded >0.3 on their intended factors, though some items in "self-development," "leisure," and "personal gain" showed higher cross-loadings on other factors. Three items in "civic responsibility" had loadings <0.3 and did not converge. Newly added items demonstrated loadings >0.5, as detailed in Table 4 . The original five dimensions cumulatively explained 68.981% of variance. Replacing the "civic responsibility" dimension with new items reduced cumulative explained variance to 59.503%, suggesting the original structure' s validity while indicating need for further refinement.

Correlation analysis revealed significant relationships among dimensions: altruism was negatively correlated with civic responsibility and personal gain, but positively correlated with self-development and leisure; civic responsibility was negatively correlated with self-development but positively correlated with leisure and personal gain; self-development was negatively correlated with leisure and personal gain; leisure was positively correlated with personal gain (P<0.05). These patterns suggest conceptual overlap among items, as shown in Table 5 .

2.2.2 Reliability

Internal consistency analysis yielded a Cronbach' s α coefficient of 0.829 for the

overall Chinese IMHPCV. Altruism and civic responsibility dimensions showed satisfactory reliability (α=0.891 and 0.844, respectively), while self-development, leisure, and personal gain dimensions demonstrated lower reliability (α=0.621, 0.646, and 0.657, respectively). Significant differences existed among dimension scores (F=49.842, P<0.001), as detailed in Table 6 .

Discussion

3.1 Scale Structure and Internal Consistency The primary objective was to provide empirical evidence for the Chinese IMHPCV. Consistent with Claxton-Oldfield et al. [9], ESEM indicated that five factors explained nearly 70% of variance in hospice volunteer motivations. However, low parameter estimates and multiple cross-loadings suggest model fit could improve with item revisions. New items showed high factor loadings and converged as a distinct factor, yet replacing the "civic responsibility" dimension with these items reduced overall explanatory power, supporting the original structure' s validity while highlighting the need for further research to enhance the Chinese version' s validity. This partly reflects how death-related issues, deeply influenced by cultural background, require more than simple adaptation of Western-developed scales.

Regarding internal consistency, the three dimensions showing poor reliability may reflect translation challenges in perfectly adapting an English-language scale for Chinese culture. International studies demonstrate that English-speaking countries report substantially higher internal consistency [6,8-10]. The original Canadian development study reported Cronbach' s α >0.8 for all dimensions except leisure [9]; UK research found α>0.8 for altruism, civic responsibility, and self-development, and α>0.7 for leisure and personal gain [11]; German and French adaptations showed α>0.7 for civic responsibility and self-development, though the French personal gain dimension had α=0.1 [10,12]. Alternatively, fewer Chinese hospice volunteers may be motivated by self-development, leisure, and personal gain, as suggested by the new items. Overlap between self-development and leisure dimensions was also observed in German research [10]. Future studies should conduct in-depth interviews to explore indigenous motivations among Chinese hospice volunteers and revise the scale accordingly; otherwise, the current instrument cannot effectively measure and reflect authentic Chinese volunteer motivations.

3.2 Motivations of Chinese Hospice Volunteers Consistent with existing research, this study found Chinese hospice volunteers are primarily motivated by altruism [6,8-10,21-24], with personal gain factors having relatively less influence. Overall, the Chinese IMHPCV scores were higher than those reported in France [12] and Germany [10] but slightly lower than in Canada [9] and the UK [11] for altruism. New items proposed by volunteers during pre-testing showed high factor loadings in the formal survey, indicating that culturally specific

factors must be considered when examining Chinese hospice volunteer motivations. However, these items did not form an independent factor nor could they replace existing dimensions, highlighting the complexity of motivational influences. Given hospice care's nascent stage and limited public awareness in China, some volunteers may indeed be influenced by external forces.

3.3 Research Outlook Compared to Zhang et al.'s [16] Chinese adaptation of IMHPCV, this study recruited a broader sample, partially addressing previous limitations. Additionally, data were collected before the COVID-19 pandemic, allowing focused discussion on culturally specific motivational characteristics. These preliminary results demonstrate the Chinese IMHPCV' s applicability while revealing substantial room for improvement. Although new items cannot replace original content, they suggest potential indigenous motivational factors. More diverse and in-depth exploration is necessary to refine this instrument. Future research should increase pre-interview sample sizes and recruit participants with varied characteristics to identify potential alternative items and improve this measurement tool.

Author Contributions

WANG Jiannan conceptualized the research, collected and analyzed data, drafted the manuscript, and was responsible for quality control and final approval. SUN Jinming contributed to manuscript revision and verified data results.

Conflict of Interest Statement

The authors declare no conflict of interest.

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Note: Figure translations are in progress. See original paper for figures.