

A SHORT REPORT

Translation, Cultural Adaptation, and Reliability of Nursing Students' Belongingness Scale-Clinical Placement Experience

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Background and objective: Considering the limitation of reports on the translation of research questionnaires, the present study aims to clarify the necessity of correctly conducting the translation process. Therefore, it deals with describing the process and the required stages for the cultural adaptation of research instruments in an operational style. Consequently, it may provide a platform for researchers to pay more attention to this important issue.

Methodology: Levett-Jones *et al.*'s (2009) Belongingness Scale-Clinical Placement Experience (BES-CPE) includes 34 items and three subscales of self-esteem, connectedness, and efficacy in 5-point Likert scale. It was translated and studied for cultural adaptation according to Wild *et al.*'s (2005) model. Following the preparation of the final questionnaire to evaluate reliability, instrument consistency was studied using test-retest method, with a two-week interval, and completing the questionnaire by 25 nursing students. Moreover, internal consistency was evaluated through Cronbach's alpha.

Findings: During the processes of translation, back translation, and review, six items were corrected and the observation of cultural equivalences was also considered in the questionnaire. Then, in the process of acquiring cognitive debriefing and review, results of interviewing a number of students indicated that some items are problematic. For instance, the results are ambiguous. Thus, five items of the questionnaire were changed. The reliability of the instrument was obtained as $r=0.70$ through test-retest replicability method. Cronbach's alpha was 0.90 for the whole instrument. Moreover, the values of Cronbach's alpha for the subscales of self-esteem, connectedness, and efficiency were 0.88, 0.75, and 0.84, respectively.

Conclusion: Complete record of translating the instrument, especially when it is translated into another language and culture, proves important for optimum use by other researchers. In the

الترجمة و الإنطباق الثقافي و استقامه تجربه انسجام طلاب التمريض مع المحيط السريري

التصميم و الهدف: نظرا الى قلة التقارير المرتبطة به عملية ترجمة استمارات الابحاث تسمى هذه الدراسة الى التوير ضرورة اجراء اسلوب صحيح للترجمة و ايضا تسمى لوصف طريق الترجمة و المراحل التي تكون بحاجة لريا من جهة انطباق الثقافي لمعدات البحث بأساليب عملية حتى تجلب نظر الباحثين بشكل أكبر الى هذا الموضوع .

الأسلوب: إن مقياس لوت هونز و زملائه لديه ٣٤ مورد و ٣ مقاييس مصفوفة: عزت النفس و الكفاءة التي يوجد فيها خمس نقاط في طيف ليكرت و قد طابقت هادي وايلد و زملائه التي ترجمت و تم تطبيقها مع المعايير الثقافية. بعد ما حصلنا على الأستماره النسخية تم تأييدها بواسطة اسلوب ألفا كرونباخ. اشترك ٢٥ من طلبة كلية التمريض في هذه الدراسة.

النتائج: في حين اجراء مراحل الترجمة و الترجمة المعكوبة و اعاده القراءة . تم اصلاح . موارد من الاستماره و تم رعايه الامور الثقافية فيها و في مرحله كسب المعلومات و اعاده القراءة انتسار استقصاء آراء عدد من الطلاب الى أن هناك عدد من المشاكل مثل الإبرام و وجود امور ذو وجهين.

لذلك تم تغيير خمسي معاير. كان مستوى ثبات المعدات مع اسلوب تقبل تكرار الفحص و اعاده الفحص $r=70.0$. مقدار الفا كرونباخ لجميع المعدات ٠.٩٠. و مقياس عزت النفس ٠.٨٨ .

الاستنتاج: إن تسجيل جميع مراحل ترجمه الادوات خصوصا عندما يترجم الى لغة و ثقافة ثانية تساعد الباحثين بشكل كبير و اتارت هذه الدراسة الى أن الموضوع مرتفع و مؤيد و نستطيع استعمال هذه الأستماره في ايران. **الكلمات الرئيسية:** الترجمة، انطباق الثقافي، مستوى الانسجام، طلاب التمريض.

ترجمه ، ثقافتی انطباق، سوالنامه کا علمی اعتبار جو نرسنگ اسٹوڈنٹس کے کلینیکل فضا میں تعلق پذیری سے متعلق ہے۔ (بی ای ایس- سی پی ای) ایک مختصر رپورٹ

بیگ گروانڈ: تحقیقاتی سوالناموں کے صحیح ترجموں کے بارے میں کم رپورٹوں کے پیش نظر، یہ تحقیق انجام دی گئی ہے۔ اس کا مقصد صحیح ترجمے کی ضرورت کو اجاگر کرنا، ترجمے کے عمل اور تحقیقاتی وسائل کے ثقافتی انطباق کے مراحل کو عملی طریقے سے بیان کیا گیا ہے تاکہ اس ضروری مسئلے کی طرف محققین کی توجہ مبذول کرائی جاسکے۔

روش: کلینیکل فضا میں طلباء کی تعلق پذیری کے لیوٹ جونز اسکیل میں چونتیس آئٹمز ہیں جن میں تین ذیلی آئٹمز عزت نفس، اور پینچ نکاتی لائیکرٹ اسکیل کی کارآمدی کے بارے میں ہیں۔ اس کا ترجمہ وائلڈ مائیل سن دویزار پانچ کے مطابق کیا گیا اور ثقافتی انطباق کے لئے اس کا جائزہ لیا گیا۔ سوالنامہ مکمل کرنے کے بعد اسکا علمی اعتبار دو ہفتوں کی مدت میں ٹسٹ ری ٹسٹ کے تحت کیا گیا۔ سوالنامہ نرسنگ کے پچیس طلباء نے تیار کیا تھا اور اس کا جائزہ کرونباخ ماڈل سے لیا گیا۔

نتیجے: ترجمے کے مراحل اور دوبارہ چیک کرنے سے یہ واضح ہوا کہ سوالنامے کے چھے آئٹم کی اصلاح کی گئی اور ثقافتی لحاظ سے ایڈجسٹ کیا گیا۔ اس کے بعد کے مرحلوں میں جب متعدد طلباء کی نظر معلوم کی گئی تو پتہ چلا کہ بعض سوالوں میں ابہام ہے۔ اس کے نتیجے میں پانچ سوالوں کی اصلاح کی گئی۔

نتیجے: سوالنامے کے ترجمے کے مراحل کا مکمل طرح سے اندراج بالخصوص جب وہ دیگر زبانوں میں ہو دیگر محققین کے لئے نہایت مفید واقع ہوتا ہے۔ اس تحقیق میں ہم نے یہ سہولت فراہم کر دی ہے اور ہمارے ماڈل کے اعلیٰ علمی معیار سے کلینیکل فضا میں نرسنگ طلباء کی تعلق پذیری کا جائزہ لیا جاسکتا ہے لہذا یہ ماڈل ایران میں استعمال کیا جاسکتا ہے۔

کلیدی الفاظ: ترجمہ، ثقافتی انطباق، تعلق پذیری۔

ترجمه، انطباق فرهنگی و پایایی پرسشنامه تجربه تعلق پذیری دانشجویان پرستاری در محیط بالینی: گزارش کوتاه

زمینه و هدف: با عنایت به محدودیت گزارشات مربوط به فرآیند ترجمه پرسشنامه های پژوهشی، پژوهش حاضر با هدف روشن ساختن ضرورت انجام صحیح فرآیند ترجمه، به توصیف فرآیند ترجمه و مراحل مورد نیاز انطباق فرهنگی ابزار پژوهش به شیوه ی عملیاتی پرداخته تا زمینه های توجه بیشتر پژوهشگران به این موضوع مهم فراهم آید.

روش: مقیاس تجربه تعلق پذیری محیط بالینی لوت جونز و همکاران دارای ٣٤ گویه و سه خرده مقیاس عزت نفس، پیوستگی و کارآمدی در طیف لیكرت ٥ نقطه ای است که مطابق راهنمای وایلد و همکاران مورد ترجمه و انطباق فرهنگی قرار گرفت. پس از تهیه پرسشنامه نهایی به منظور بررسی پایایی، ثبات ابزار با کمک آزمون - باز آزمون، به فاصله دو هفته و با تکمیل پرسشنامه توسط ٢٥ نفر دانشجوی پرستاری و روش همسانی درونی به شیوه ی آلفای کرونباخ مورد بررسی قرار گرفت.

یافته ها: طی مراحل ترجمه، ترجمه برگردان و بازنگری، ٦ گویه پرسشنامه اصلاح و رعایت برابریهای فرهنگی در پرسشنامه لحاظ گردید. در ادامه در مرحله کسب اطلاعات شناختی و بازنگری مجدد، نتایج مصاحبه با تعدادی از دانشجویان بیانگران بود که در مورد برخی گویه ها مشکلاتی نظیر دوپهلوی بودن و ابهام وجود دارد. بدین ترتیب ٥ گویه پرسشنامه تغییر یافت. میزان پایایی ابزار با روش تکرار پذیری آزمون - باز آزمون $r=0.70$ بدست آمد. مقدار آلفای کرونباخ برای کل ابزار 0.90 و برای خرده مقیاس های عزت نفس (0.88)، پیوستگی (0.75) و کارآمدی (0.84) بود.

نتیجه گیری: ثبت کامل فرآیند ترجمه ابزار به ویژه زمانی که ابزار به زبان و فرهنگ دیگری ترجمه شود، برای استفاده بهینه ی توسط سایر پژوهشگران حائز اهمیت است. در پژوهش حاضر این موضوع مرتفع گردید. نتایج حاکی از پایایی بالای ابزار بود. بدین ترتیب پرسشنامه مورد نظر قابل استفاده برای سنجش تعلق پذیری دانشجویان پرستاری در محیط بالینی کشور ایران خواهد بود.

واژه های کلیدی: ترجمه، انطباق فرهنگی، پایایی، تعلق پذیری، دانشجویان پرستاری

INTRODUCTION

Many researchers in educational area believe that belongingness is one of the most significant needs of the students for their correct performance in learning environments. Higher-level needs may be less important if nursing students' needs for (security) and belongingness are not satisfied [1-4]. Among the consequences of belongingness, supported by ample evidence, positive clinical placement experience, high self-esteem, flexibility, increased self-regulatory learning, and increasing self-efficacy can be mentioned [5-9]. Given the outcomes of belongingness from educational aspect in particular, it may be claimed that measuring the students' sense of belongingness is a method for evaluating the effectiveness of the programs in nursing clinical education [1]. Measuring the sense of belongingness specific to clinical settings requires a valid and reliable instrument. Therefore, Levett-Jones *et al.*'s (2009) Belongingness Scale--Clinical Placement Experience (BES-CPE) is considered an appropriate instrument. It is used in various studies [3,6,10,11,12], and has a high validity and reliability. However, since this scale is in English and has been used in another society, some specialists such as Guillemine believe that it is necessary to do translation and cultural adaptation under these conditions [13]. Translation is a process through which a message in the source language (SL) can be conveyed to the target language (TL). This process requires observing its own specific rules and principles [14]. Due to the correct process of translation, it is possible to compare the findings of this research with those obtained in domestic and foreign ones [14,15]. At present, research questionnaires are not properly translated before being used in other societies with different cultures and languages. Thus, the results obtained from such instruments sometimes do not clearly indicate what the instrument has intended to measure [16]. On the one hand, it is important to clarify the necessity of correctly doing the process of translation and cultural adaptation. On the other hand, there is the limitation of reports on the translation process of the questionnaires in nursing research. As a result, the present study deals with describing the translation process and cultural adaptation in a detailed operational method. Consequently, it may provide a platform for researchers to pay more attention to this important subject.

METHODS

Levett-Jones *et al.*'s (2009) Belongingness Scale--Clinical Placement Experience (BES-CPE) is a self-administered instrument, including 34 items and three subscales of self-esteem (13 items), connectedness (10 items) and efficacy (8 items). It is based on 5-point Likert scale from 1 (never correct) to 5 (always correct) in which the mean for each item and also for the whole scale is measured. Higher scores denote higher levels of belongingness. Items 6, 12, and 26 are not included in any subscale, and some items (e.g., 10, 14, 22, and 26) are inversely scored (Table 1).

The first step to be assured of the acceptable translation quality involves selecting the best method for translating the research instrument [14]. In the present research, to translate the questionnaire, Wild *et al.*'s (2005) 10-stage model was selected [17] (Table 2). For cultural adaptation in the process of back translation, attempts were made by the translation group to observe cultural equivalences (e.g., semantic, idiomatic, empirical, and perceptual). According to Wild *et al.* (2005), the first stage in translation process involves gaining permission from the instrument designer(s) to use it and selecting the key-in country persons. Hence, permission to use the instrument was obtained from its designer (that is, Ms. Levett-Jones in Newcastle University). By key-in country persons, we mean those main coordinators who manage the process of translation in the target country (i.e., second and third authors). Based on the second stage of forward translation, the questionnaire was independently translated by two translators who had university degrees in the field of English and were also familiar with medical area and the related concepts. Wild *et al.* (2005) believe that reconciliation is necessary following the process of forward translation. Therefore, a panel including the members of the research team was formed. Both translation copies were discussed, compared, and their contradictions and differences were specified. Then, they were corrected and integrated into a single copy.

Concerning back translation, the two translators were asked to cooperate with the research. The first back translator was from the Philippines, residing in Iran, mastering both English and Persian, with a university degree in mathematics. The second back translator received university education in the field of English, mastering both Persian and English languages. In order to make sure of the conceptual equivalence, back translation review and harmonization were, then, carried out. Therefore, the research team members identified the problematic items while studying the back translations. Aiming to clarify and correct the intended items, they asked for assistance from the instrument designer. The next stage, according to the applied model, involves cognitive debriefing. In this stage, opinions of six nursing students about the translated questionnaire were obtained through interviews. The objective was to check their comprehension, interpretation, and conception, as well as the substituted words. After interviewing the students and learning about their opinions on each of the items, the required modifications were made. The final translation was, then, reviewed by members of the research team. In the end, all the stages of conducting the process were written in a report, including the measures taken [17], a summary of which is offered in the present paper. Following the preparation of the final questionnaire to evaluate reliability, instrument consistency was studied using test-retest method within a two-week interval, and the completion of the questionnaire by 25 nursing students. Moreover, internal consistency was evaluated through Cronbach's alpha.

RESULTS

The research results are presented in the following three sections:

1. Findings in the processes of translation, back translation, and review

In the first item of the original questionnaire, the term "fit in" had been translated into Persian as "سازگاری یافتن" by the translators, which was translated into English as "adaptation" in the process of back translation. By consulting the instrument designer while reviewing, the term "سازگاری یافتن" was changed into "مورد پذیرش قرار گرفتن". Another instance of modification was related to translating the word "competent" in the third item of the questionnaire. In translation, the term "شایسته و با صلاحیت" was used. Moreover, in the back translation, the translators used the term "competent and qualified." According to the designer, the word "qualified" is not applicable to nursing students; therefore, it was removed and the word "competent" or "شایسته" was maintained. Regarding other items of the questionnaire (14,17, 30, and 33), attempts were made to eliminate the existing discords between forward translation and back translation with the help of the instrument designer. Furthermore, to observe cultural adaptation, attempts were made to follow these equivalences during back translation. In order to find semantic or linguistic equivalence and to keep the translated concepts close to the English concepts [18] and equivalent expressions (the items that require substitution), as much as possible, attempts were made to bring about the semantic equivalences of the sentences in both original and translated copies while making grammatical modifications into their structures. For example, the sentence "I view my placement as a place to experience a sense of belonging," which was translated into Persian as "از نظر من، محیط بالینی مکانی برای تجربه حس تعلق داشتن است." was translated back as "In my opinion, the clinical setting is a place to experience 'sense of belonging.'" As you may notice, the word "view" is removed in back translation because it is not a part of common expressions in Persian.

To consider empirical equivalence and be certain about the equivalent translation of daily activities [14], some terms in the original English copy were replaced with appropriate Persian ones. For instance, the term "clinical placement" was replaced with "محیط بالینی" in Persian. Also, another modification was related to item 13 stating that "در محیط بالینی، برایم مهم است که شخصی از طریق نشان دهد که متوجه روز تولدم روز تولد دانشجو توسط همکاران" where reminding "روز تولد دانشجو یا پرستار" in the Persian questionnaire.

2. Pre-test and the second review

Results of interviewing the students indicated that some items are problematic to answer. The identified problems include phrasing, ambiguity, etc. Table 3 shows the problems identified in the pre-test stage and the items that were changed within the second review. Based on the findings from the pre-test, five items including 2,6,8,12, and 19 were changed.

3. Instrument reliability

To measure instrument reliability, test-retest method was used. Its results were, then, applied to 25 persons within a two-week interval, and the reliability value was obtained as $r=0.70$. Moreover, the values of Cronbach's alpha for subscale of self-esteem, connectedness, and efficacy were 0.88, 0.75, and 0.84, respectively.

DISCUSSION

In the present research, measuring the students' sense of belongingness in a clinical placement requires its specific instrument. Therefore, Levett-Jones *et al.*'s English instrument was considered appropriate. Regarding linguistic and cultural differences, the success of translating the instrument from its source cultural platform into that of other societies through mere translation seems unlikely. The presence of a systematic approach for the translation and cultural adaptation of the instrument is necessary for success in this regard. Wild *et al.* (2005) have standardized the process of translation and cultural adaptation into ten stages. In this study, the researchers have conducted the process of translation and cultural adaptation, based on the foregoing model for the purpose of using the belongingness instrument within Iranian cultural domain. Although equivalence or the power of research questionnaire is important to study similar phenomena in two or more cultures in translation process, it is also equally important to be certain about comprehension of the translated copy by the target population in much the same way as the original copy can be understood by the main population [18]. The results of the present research in that regard were mentioned as acquiring cognitive debriefing or pre-test. Moreover, the results, obtained from the review stage and cognitive interviews with the individuals, indicated that the Persian translation has effectively reflected the original English questionnaire. Indeed, it is possible to identify specific cultural concepts, unclear items and, consequently, preventable errors with the help of pre-test [19]. Moreover, the results from this research indicate that Cronbach's alpha for the whole instrument is 0.90, similar to those obtained by Kim and Jung (2012), who dealt with validation of the Korean version of the scale. In their study, the reliability through internal consistency method and with the help of Cronbach's alpha was reported as 0.90 for the entire foregoing instrument, and between 0.71 and 0.84 for its subscales [12]. Cronbach's alpha varied between 0.75 and 0.88 for the subscales. These values were lower than those reported by Levett-Jones *et al.* (2009), Metsala (2012) as well as Kim and Park (2010), but similar to those of Kim and Jung (2012). In another research, Kim and Park (2010) studied a number of 202 nursing students to test the conceptual framework of Jones and Lathlean (2009), using Levett-Jones *et al.*'s belongingness scale. Their results showed a high reliability ($\alpha=0.91$) for the instrument [6]. Metsala (2012), in a research titled "formulating belongingness scale for higher education students – a pilot study" dealt with designing an instrument concerning belongingness based on Levett-Jones *et al.*'s research. Thus,

four items in Levett-Jones *et al.*'s BES-CPE, specific to clinical setting, were omitted and five new items related to participation spaces and public communities were considered. The values of Cronbach's alpha for subscales of the research instrument were 0.81, 0.84, and 0.95, respectively [10]. In the study by Levett-Jones *et al.* (2009), reliability was also confirmed through Cronbach's alpha method. Cronbach's alpha was reported to be 0.92 for the whole scale and between 0.80 and 0.90 for its subscales [7]. Polit and Beck have suggested that if Cronbach's alpha is greater than 0.70, the instrument reliability is at an acceptable level [23]. Therefore, the present research confirms the results of other studies, indicating the high reliability of the scale.

Finally, it should be stated that complete record of the process of translating the scale may be effective in optimizing future applications of the instrument by researchers. However, there are limited published reports and documentation in this field. Presenting a method for the translation and cultural adaptation of the scale in written form may facilitate the proper use of the instrument and, consequently, the possibility of inter-cultural comparisons based on validity and equality.

Conclusion: Complete record of translating the instrument,

especially when it is translated into other language and culture, proves important for optimum use by other researchers. Most research questionnaires are designed in English-speaking countries; therefore, it is necessary to correctly conduct the process of translation and cultural adaptation to use them in other societies. In the present research, attempts were made to remove this problem through correct precise administration of translation, presentation of an instrument adaptable to Iranian culture and a report on the process of translation, cultural adaptation, and validity of the instrument. The results indicated high reliability of the instrument. Thus, the intended questionnaire will be applicable for the measurement of nursing students' belongingness in Iranian clinical settings.

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