

## **Cross-Cultural Adaptation of the Toronto Empathy Questionnaire to Sinhalese for Implementation among Nursing Students in Sri Lanka**

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The Toronto Empathy Questionnaire (TEQ) is a valuable tool for assessing empathy in nursing students. This study aimed to translate the 16-item TEQ into Sinhalese and cross-culturally adapt it to Sri Lanka. The process of cross-cultural adaptation consisted of five distinct stages: (I) initial translation, (II) synthesis of the translation, (III) back translation, (IV) Expert Committee Delphi review, and (V) testing of the pre-final version after obtaining permission from its developer. The content and consensual validity of the translated version were assessed by a two-round Delphi procedure involving a panel of five experts. Evaluation metrics included Content Validity Index (CVI) parameters such as I-CVI, Universal Agreement (S-CVI/UA), and Average CVI (S-CVI/Ave). Administered to 197 nursing undergraduates at General Sir John Kotelawala Defence University in Sri Lanka, the finalized Sinhalese TEQ demonstrated exceptional content validity (I-CVI = 1.0 for each item) and the highest overall content validity indices (S-CVI/UA = 1.0; S-CVI/Ave = 1.0). The high internal consistency, as indicated by Cronbach's alpha coefficient of 0.732, underscores the Sinhalese TEQ's reliability. In conclusion, this cross-culturally adapted assessment tool proves valid and reliable for evaluating empathy levels among nursing students in Sri Lanka.

**KEYWORDS:** Empathy, Toronto Empathy Questionnaire, Nursing Students, Sri Lanka

### **INTRODUCTION**

#### **The significance of effective communication in healthcare**

The significance of effective communication skills has been emphasized as a key attribute for healthcare professionals. To facilitate effective communication, the clinician needs to possess a sense of assurance in their comprehension and documentation of the patient's needs, thus enabling the provision of individualised treatment (Moudatsou et al., 2020).

#### **Communication in nursing**

Communication is considered an essential component within the nursing profession, including several areas such as prevention, treatment, rehabilitation, health education, and promotion. Moreover, it is acknowledged that the quality of communication between nurses and patients plays a crucial role in improving the overall quality of patient care (DeWolf Bosek et al., 2013) and the acquisition of empathetic abilities is crucial in this context (Kahrman et al., 2016). During the latter half of the 19th century, Florence Nightingale, renowned as the pioneer of modern nursing, expressed her views on the significance of the interpersonal exchange that occurs between the nurse and the patient (Sharma and Gupta, 2023).

#### **Understanding Empathy**

Empathy is an essential component of every caring interaction and has special significance in the provision of high-quality nursing care (Yu and Kirk, 2008). Therefore, it is considered essential for therapeutic communication that serves to enhance the connection between

caregivers and their patients (Moudatsou et al., 2020). Defined as the ability to share and understand the emotional experiences of others (Lemogne, 2015), Empathy is a crucial component of therapeutic communication. Extensive evidence supports the notion that empathy plays a crucial role in promoting improved health outcomes (Moudatsou et al., 2020) as well as comprehending the requirements, needs, feelings, and emotions of patients.

### **Cultivating empathy in healthcare professionals**

The cultivation of empathy plays a significant role in the preservation of therapeutic alliances between healthcare professionals, namely nurses, and their patients (Wu, 2021). When nurses fail to attend adequately to both direct and indirect emotional signals from patients, it results in missed opportunities to demonstrate empathy. The patient's physical and psychological well-being is greatly impacted (Yu and Kirk, 2008). Hence, the nurse needs to preserve therapeutic alliances with the patient. The presence of empathy in a nurse facilitates the establishment and maintenance of a therapeutic alliance with the patient, hence contributing to the patient's holistic healing, including physical and psychological aspects. Enhancing empathy among nursing students may have substantial effects on their clinical practicum. Empathy serves as a mechanism for efficient communication and contributes to enhanced patient care via the comprehension of patients' ideas and emotions (Hajibabaei et al., 2018).

### **Theoretical frameworks of empathy in nursing**

Within the field of nursing, there is a multitude of hypotheses that have been put forth about the concept of empathy. Peplau underscores the need to cultivate empathetic connections with patients at all stages of nurse-patient communication (Hagerty et al., 2017). Parola et al. (2020) believe that Travelbee's theory of human-to-human connections suggests that a nurse who has empathetic qualities is capable of understanding the underlying cause of an individual's suffering and predicting the subsequent behavioural responses (Parola et al., 2020). Paterson and Zderad emphasised the participatory and sympathetic characteristics inherent in the nurse-patient interaction (McCamant, 2006). These theories have been developed by theorists to provide a theoretical understanding of the nature, relevance, necessity, and constituent parts of interpersonal relationships, namely those between individuals or between nurses and patients. These explanations are grounded in the theorists' professional expertise and viewpoint. Pehrson et al. created a model of empathetic communication with patients based on the experiences of nurses working in cancer wards. The model's strategies encompassed the identification or elicitation of empathic opportunities in patients, the pursuit of a mutual comprehension of the patient's emotions or experiences, the provision of empathic responses to said emotions or experiences, the facilitation of coping mechanisms, and the establishment of social support networks (Pehrson et al., 2016). Wu (2019), drawing upon the insights of psychotherapists, outlines ten strategies employed by nurses to effectively establish empathetic communication with patients. These practises include actively engaging in the clients' emotions or thoughts, providing comfort, relating to shared experiences, summarising the essence of clients' challenging encounters, summarising the consequences of clients' challenging encounters, offering an empathic diagnosis, proposing potential approaches for resolving the reported issue, and elucidating the significance of clients' problematic experiences (Wu, 2019). According to Tyner's observations, empathetic communication with cancer patients involves employing nonverbal behaviours. These behaviours encompass the utilisation of facial expressions to effectively convey an understanding of the patient's concerns, purposefully positioning oneself in a seated position facing the patient to foster a sense of genuine interest, employing bodily movements to demonstrate comprehension, and employing hand gestures to establish an

appropriate level of humility and sensitivity (Tyner, 1985). According to Raudonis (1993), the observations made by hospice nurses suggest that the establishment of an empathetic connection involves the recognition of patients as valued persons, irrespective of their medical diagnosis, and the development of a warm and friendly rapport with them

### **Positive outcomes of empathy in nursing**

Research consistently demonstrates that there is a positive correlation between the degree of empathy exhibited by nurses and the enhancement of patient well-being. Throughout their healthcare experience, patients who receive empathy from their healthcare providers tend to report decreased levels of stress and anxiety as well as an overall improvement in their emotional well-being. Moreover, empathetic communication significantly contributes to the satisfaction of patients. Establishing a relationship of trust with patients is facilitated when nurses demonstrate authentic empathy and regard for their emotional matters. Positive feedback regarding healthcare experiences and greater adherence to treatment plans are positively correlated with elevated levels of patient satisfaction (Moudatsou et al., 2020). Consequently, patient engagement may facilitate expedited recuperation, diminished sojourns in the hospital, and a more streamlined regimen of treatment.

Effective communication that is based on empathy and comprehension fosters patient adherence to prescribed medications, treatment plans, and subsequent consultations, ultimately resulting in improved health outcomes (Squier, 1990). Moreover, empathic nurses often demonstrate an enhanced awareness of the needs and concerns of their patients. An increased level of consciousness may potentially aid in the mitigation of medical errors and complications. Gaining insight into the viewpoints of patients has the potential to result in enhanced precision in evaluations, informed decision-making, and a proactive stance in averting potential complications (Hannan et al., 2019).

The development of empathy in nursing students throughout their academic journey yields enduring advantages. Scholars who cultivate robust empathic abilities are more adept at navigating the intricate emotional terrain that comprises the healthcare industry. Subsequently, this fosters the development of compassionate healthcare practitioners, thereby guaranteeing a beneficial influence on future patient treatment. Moreover, regular evaluation of the degree of empathy exhibited by nursing students holds substantial importance in fostering the development of a future practitioner who embodies empathy (Kumara and Sudusinghe, 2021).

### **Measuring empathy**

Several empathy measuring instruments, including the Interpersonal Reactivity Index (IRI: (Davis, 1983); the Empathy Scale (Hogan R, 1969); and the Emotional Empathy Scale (Mehrabian and Epstein, 1972) were available and used by medical education researchers. Nevertheless, these instruments were originally designed for widespread use among the general populace, and none of these adequately captures the substance of empathy in the context of patient care and health professions education (Evans et al., 1993). However, the Jefferson Scale of Empathy (JSE) and TEQ (Spreng et al., 2009) are psychometrically sound instruments measuring empathy in the context of health professions education and patient care.

TEQ is a freely available tool which was designed to measure empathy levels in several research cohorts, including nursing students. The TEQ comprises a set of 16 questions that include a diverse array of attributes about the conceptual underpinnings of empathy (Spreng et al., 2009). Based on the provided inquiries, it is seen that a total of eight items, including items 2, 4, 7, 10, 11, 12, 14, and 15, are assigned negative scores due to their phrasing with

reverse scoring. Conversely, eight items are scored as positive. The scale used in this study is a Likert-type scale consisting of five points, with a range from 0 (representing "never") to 5 (representing "always"). Ultimately, the collective responses were aggregated to quantify a final score of 64. Based on the final ratings, those individuals with higher scores had a notable degree of empathy. Consequently, the TEQ emerged as a concise, uncomplicated, uniform, and potent evaluative instrument for measuring empathy as an affective phenomenon. The internal consistency and test-retest reliability coefficients of the TEQ were found to be 0.79 and 0.73, respectively (Totan et al., 2012). Although the scale used to evaluate empathy was deemed reliable, it had not undergone cross-cultural adaptation for its use among nursing students in Sri Lanka. Therefore, the main aim of this research was to translate TEQ into Sinhalese and cross-culturally adapt it to the Sri Lankan context. The specific objectives of the study were to translate the TEQ into Sinhalese and cross-culturally adapt it for the Sri Lankan context; assess the content and consensual validity of the Sinhalese version through a Modified Delphi Technique; Conduct a pre-test of the adapted TEQ among a sample of nursing graduates; and determine the internal consistency reliability of the cross-culturally adapted TEQ using a larger sample of nursing students.

### Research Questions

1. What is the process of cross-cultural adaptation of the TEQ to Sinhalese for nursing students in Sri Lanka?
2. How valid and reliable is the Sinhalese version of the TEQ in assessing empathy among nursing students in Sri Lanka?

## METHODOLOGY

### The translation process

The original authors have provided permission for the translation, cross-cultural adaptation, and the use of TEQ. The research obtained ethical clearance from the Ethics Review Committee of the Faculty of Medicine at General Sir John Kotelawala Defence University in Sri Lanka. The process of cross-cultural adaptation included five distinct stages: (I) initial translation, (II) synthesis of translations, (III) back translation, (IV) Expert Committee Delphi review, and (V) testing of the pre-final version (Beaton et al., 2000).

During the first step, two proficient translators who are local and possess native-level proficiency in both English and Sinhalese languages were engaged to translate the TEQ scale from English to Sinhalese. Initially, the two translators engaged in individual efforts to do the forward translation of the original items, instructions, and answers. During the second phase, the translators, along with the principal investigator, engaged in discussions about the translations and reached a consensus on a reconciled version. The language was adapted to be conversational and easily comprehensible for the intended audience, while also ensuring that the translated scale maintained conceptual equivalence with the original scale. During the third stage of the study, a proficient translator, who has native fluency in English and expertise in Sinhalese, conducted a back-translation of the first Sinhalese version of the scale into English. At this point, the translator was not given authorization to use the original version of the scale to avoid biasness.

### Content and consensus validity

The Modified Delphi Technique was used to assess the content validity and consensual validity of the translated scale. The panel of experts involved in this evaluation consisted of a consultant psychiatrist, two clinical psychologists, a senior lecturer in sociology, a senior lecturer in nursing, and a nursing officer (Grade I) (Hecht, 1979; Jones and Hunter, 1995). On

a scale of 0 (complete disagreement) to 9 (complete agreement), each item was rated for consensual validity based on whether its conceptual meaning was retained after translation (ii) if it was appropriate for use with nursing students (iii) if it was culturally relevant to Sri Lanka. The content validity of each item was graded on a scale of 0 (complete disagreement) to 9, with consideration given to (i) whether each item was a relevant indication of its scale and (ii) whether the scale's overall set of items was adequate for evaluating empathy. Items that had ratings of 70% or above in the categories of 4-6 or 7-9 were included in the analysis. Conversely, items that obtained ratings of 70% or above in the 0-3 category underwent an additional round of the Delphi procedure. The content validity of individual items (I-CVI) and the overall scale (S-CVI) was evaluated by using the consensus of the panel of experts. There are two techniques often used for determining the Scale Content Validity Index (S-CVI), namely the average CVI (S-CVI/Ave) and the universal agreement (UA) among experts (Polit and Beck, 2010). The S-CVI/UA was computed by using the proportions of items on a scale that obtained ratings falling between the 4-6 or 7-9 categories, as determined by all experts. Additionally, the S-CVI/Ave value was derived by averaging the I-CVIs for all items on the scale.

### **Pre-testing**

A group of thirty nursing graduates from the Faculty of Allied Health Sciences at General Sir John Kotelawala Defence University were involved in a preliminary examination to evaluate the degree of difficulty, conceptual clarity, respondent discomfort, and appropriateness of length of a given scale.

### **Assessing reliability**

A descriptive cross-sectional study was conducted among nursing students at the Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University in Sri Lanka, to assess the reliability of the cross-culturally adapted scale. To conduct an internal consistency reliability test, it is recommended to use a sample size that is five to ten times more than the number of items included in the instrument (Kyriazos, 2018). Therefore, to verify the scale, it was necessary to have a minimum sample size of 140 individuals (calculated by multiplying 28 items by 5). The online version of the translated and cross-culturally modified TEQ was disseminated to a total of 197 nursing students of General Sir John Kotelawala Defence University, Sri Lanka who expressed their willingness to participate. Statistical Package for Social Sciences (SPSS) version 23.0 was used to analyse the demographic features of the participants via the application of descriptive statistics. Cronbach's alpha was used to assess the internal consistency reliability of the scale. A Cronbach's alpha internal coefficient of reliability of at least 0.7 is considered the minimum acceptable threshold (Furtado et al., 2022).

## **RESULTS**

### **Personal Characteristics**

The total sample consisted of Sri Lankan individuals, with a total of 197 participants. Most participants, specifically 160 individuals, identified as female, constituting 81.20% of the sample. The study population consisted of nursing undergraduates at various stages of their academic journey, namely first-year students (43.7%, n = 86), second-year students (20.8%, n = 41), third-year students (19.3%, n = 38), and fourth-year students (16.2%, n = 32) (Table 1).

**Table 1 Personal Characteristics**

<b>Characteristics</b>	<b>Status</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
Gender	Female	160	81.20
	Male	37	18.80
Nationality	Sri Lankan	197	100.0
Year of Study	First-year	86	43.70
	Second year	41	20.80
	Third year	38	19.30
	Fourth year	32	16.20

**Content and consensual validity of cross-culturally adapted TEQ**

All the components of the Sinhalese version of the TEQ were retained, without any exclusions, since a significant majority (70% or more) of the ratings were categorised into groups 4-6 and 7-9, as determined by the Delphi technique in a summative manner. Furthermore, the Delphi technique was repeated in the second round for all the items, which included doing re-ratings specifically for categories 7-9. Consequently, the TEQ that underwent cross-cultural adaptation demonstrated the most substantial content validity for both the individual questions (I-CVI = 1.0) and the overall test (S-CVI/UA = 1.0; S-CVI/Ave = 1.0). The consensus among scholars is that the cross-culturally adjusted TEQ has high reliability as a tool for assessing empathy.

**Reliability of the cross-culturally adapted TEQ**

The Cronbach's alpha coefficient of 0.732 suggests that the validated scale had a satisfactory level of internal consistency.

**DISCUSSION**

Empathy is a competency to be learned by nurses and a therapeutic tool in the helping relationship that has repercussions on the health of both patients and professionals (Bas-Sarmiento et al., 2017). Therefore, it is of utmost importance to cultivate and conduct frequent evaluations of this essential characteristic throughout the nursing education process (Kumara and Sudusinghe, 2021). However, there is no cross-culturally adapted instrument to assess empathy in the Sri Lankan context. Therefore, the current study aimed at cross-culturally adapting the TEQ, which is a valid commonly used tool to assess empathy worldwide.

**Cross-cultural adaptation of the TEQ**

The adaptation of a questionnaire for use in a different cultural context is not governed by rigid rules and standards. Nevertheless, it is well acknowledged that using a questionnaire in a different language context immediately after a translation is deemed unsuitable (Beaton et al., 2000; Guillemin et al., 1993; Herdman et al., 1998; Reichenheim and Moraes, 2007; Wang et al., 2006). Consequently, the process of cross-cultural adaptation of the TEQ has undergone five distinct steps to attain satisfactory content and consensual validity, as shown by previous studies (Beaton et al., 2000; Fink et al., 1984; Jones and Hunter, 1995).

## **Reliability in cross-culturally adapted TEQ**

Reliability has three key components: internal consistency, stability, and equivalence. (Bannigan and Watson, 2009). The concept of internal consistency is often used in the context of reliability testing to assess the degree to which each item within a test assesses a consistent idea or construct (Tavakol and Dennick, 2011). To establish the reliability of a scale, it is generally recommended that both Cronbach's alpha and composite reliability (CR) values be above the threshold of 0.70. Moreover, a Cronbach's alpha value over 0.9 is regarded as exceptional (Lin et al., 2020). Nevertheless, Cronbach's alpha value for the cross-culturally adapted and translated TEQ demonstrated satisfactory outcomes ( $\alpha = 0.732$ ), compared to prior studies that reported test-retest reliability coefficients of 0.79 and 0.73, respectively (Totan et al., 2012).

## **CONCLUSION**

The content and consensual validity of the TEQ's Sinhalese translation for nursing students in Sri Lanka are both exceptional. The comprehensive translation process, which incorporates expert evaluation, guarantees that the Sinhalese TEQ measures and conveys empathy with precision. The Delphi procedure yielded high Content Validity Index parameters, which confirmed the questionnaire's cultural alignment and relevance. As indicated by Cronbach's alpha coefficient, reliability analysis verifies that the Sinhalese TEQ is internally consistent. In the future, this culturally adapted TEQ will significantly contribute to the assessment and growth of empathy among nursing students in Sri Lanka.

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## **CONFLICT OF INTEREST**

The authors assert that they have no conflicts of interest.

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