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CROSS-CULTURAL ADAPTATION OF THE BIG FIVE INVENTORY (BFI) TO SINHALA

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ABSTRACT

Purpose: The present study aimed to adapt the Big Five Inventory (BFI) into Sinhala and evaluate its content validity and comprehension.
Methods: Following WHO guidelines, the scale was forward-translated, reviewed by an expert panel (n=3), back-translated, and tested for comprehension among 11 participants with varied educational backgrounds. Content Validity Index (CVI) scores were calculated. Results: Thirty-one items required minor linguistic modifications. Two items scored low (ICVI = 0.3–0.5) and were revised with linguistic consultation. Eight items scored moderate relevance (ICVI = 0.6) and were modified with expert input. The majority scored 1.0. The overall S-CVI was 0.88, indicating acceptable content validity. All items were rated "easy to understand" in the comprehension test.
Conclusion: The Sinhala BFI demonstrates acceptable content validity and comprehension. Further psychometric validation (e.g., reliability, factor structure) is required before clinical and occupational use.

KEYWORDS: personality, adaptation, Sri Lanka, Sinhala, Big Five Inventory, BFI

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1. INTRODUCTION

1.1 Big Five Personality Theory

Personality varies from person to person. The Big Five Personality Theory interestingly measures one's behaviour to testify 'what people are like'. Hence, such 'quantifiable data' can be used according to the Big Five Inventory for personality identification. (John, Robins, & Pervin, 2010) These five dimensions articulate conceptual statuses that the researchers have put into perspective. The original scale was derived in the 1970s by two independent groups of researchers; Paul Costa and Robert McCrae being the first team and Warren Norman and Lewis Goldberg known to be the second team. (Rammstedt & John, 2020) Though the researchers have taken slightly different routes the results concluded the same findings. Most of the personalities can be deemed to have five main dimensions regardless of any language or culture (John & Srivastava, 1999).

1.2 Application of Big Five Traits

The Big Five traits provide a framework for understanding enduring interpersonal patterns and adaptive behaviours (Sullivan, 1953). They have been linked to treatment adherence, occupational performance as well as vulnerability to mental and physical health conditions (John, Naumann & Soto, 2008). While biological structures, including the amygdala and neurotransmitter systems, contribute to personality stability (Loehlin et al., 1998; Buss, 1996), environmental demands shape characteristic adaptations. The Big Five Inventory (BFI) operates these traits in accessible language, enabling both researchers and clinicians to measure personality in diverse populations (Canli, 2006; Rammstedt, Goldberg & Borg, 2010).

1.3 The BFI scale and Cross-cultural Adaptation

Beyond its broad application, the Big Five Inventory (BFI) is an essential instrument for comprehending individual variations, making a substantial contribution to both academic studies and real-world evaluations in many cultural situations. The BFI is a reliable self-report instrument validated across multiple languages and cultural contexts, including Spanish (Benet-Martínez & John, 1998), Japanese (Yoshino et al., 2022), Chinese (Zhang et al., 2019), Korean (Choi et al., 2025), and Bangla (Siraji et al., 2025). These studies demonstrate that the BFI can be applied across different cultures, but they also highlight challenges in translation. Therefore, cross-cultural adaptation requires careful attention to equivalence in local language, cultural relevance and comprehension across different educational backgrounds (Gjersing, Caplehorn & Clausen, 2010).

1.4 Research Gap and Justification

Despite the widespread validation of the Big Five Inventory across Asian contexts there are no reported studies on any psychometric tests on personality for Sri Lanka. This absence is a critical research gap, limiting both clinical and occupational applications of personality measurement. The current study addresses this gap by adapting the BFI into Sinhala, ensuring cultural and linguistic relevance while maintaining fidelity to the original construct.

2. METHODOLOGY

2.1 Translation process

The translation and adaptation of the BFI scale were conducted in accordance with the guidelines provided by the World Health Organization (WHO). The principal investigator, who is proficient in both Sinhala and English, carried out the translation of the scale to Sinhala. Furthermore, the investigator was a Clinical Psychologist with over a decade of experience in the field. The ensuing phase involved valuable input and feedback from experienced professionals in the field of mental health,

According to the current research, back translation and afterwards modification are among the most widely used cultural adaptation methods. Establishing content validity is also among the most widely used methods for validation. Both these have been incorporated in the current study (Lei *et al.*, 2022).

The researchers received permission for the adaptation from the authors of the original scale. Ethical clearance for the study was obtained from the Ethics Review Committee of the Faculty of Medicine at General Sir John Kotelawala Defence University. (RP/2022/10)

2.2 The Expert Committee Size and Justification

An expert panel of three related to the field of psychology (forensic, counselling, and clinical) was selected. Although the panel size is limited, it aligns with WHO and International Test Commission (ITC) recommendations for studies on early snake adaptation, where panels consisting of 3-5 members are considered sufficient.

The experts rated item relevance on a 1–4 Likert scale. Scores were summed across raters, with a maximum possible of 12 per item. Items scoring below 10 were flagged for revision.

2.3 Content Validity

Item-level CVI (ICVI) values were calculated by dividing the number of experts rating an item as "3" or "4" by the total number of experts (Yusoff, 2019). The scale-level CVI (S-CVI) was then computed as the average of all ICVI values.

- Majority of items scored ICVI = 1.0 (high relevance).

- Eight items scored ICVI = 0.6 (moderate relevance).

- Two items scored ICVI = 0.3 - 0.5 (low relevance).

The overall S-CVI was 0.88, indicating acceptable content validity.

2.4 Resolving Linguistic Issues

Items that had received lower scores were revised collaboratively with the expert panel. Thirty-one items required minor modifications. For two items, consultation was required from a Sinhala language professor. This step was important to minimize any cultural and linguistic gaps.

2.5 Sampling Methods

For the comprehension test, participants were recruited using convenience sampling but with explicit inclusion criteria to ensure literacy and comprehension. Eleven individuals participated: five secondary school students (Grade 11) and six university-level participants, ranging from undergraduate to postgraduate. This diversity was intended to capture comprehension across different educational levels. The sample size was consistent with the **International Test Commission (ITC) guidelines**, which emphasize that pilot adaptation studies require small, diverse samples to identify linguistic and cultural issues rather than to establish statistical representativeness (International Test Commission, 2017; Willis, 2005). Prior to their involvement, written informed consent was obtained from each participant, in accordance with ethical standards in the research process.

2.6 Comprehension Test

The participants rated the items on a Likert scale of 1-5 on the ease of comprehension. 1 was indicated as the lowest level of comprehension (I did not understand anything), 5 being the highest level of comprehension (I completely understood).

2.7 Back Translation

The final Sinhala version was back-translated by a licensed translation company in Colombo (We Translate PVT LTD) and reviewed by the original authors, who approved the adaptation without further modifications.

2.8 Material

At all stages of the adaptation, Ethical standards 0f the institutional committee were followed. Participant consent was obtained as per institutional protocol. Ratings were collected through Google Forms, and all meetings were conducted online due to COVID-19 risks.

3. RESULTS AND DISCUSSION

3.1 Results

Thirty-one items required minor linguistic modifications for clarity. Eight items were revised following expert panel feedback, and two items were revised with input from a Sinhala linguistics professor. The revisions are summarized in Table 2.

The majority of items achieved high relevance (ICVI = 1.0). Eight items had scores of moderate relevance (ICVI = 0.6), and two items scored low relevance (ICVI = 0.3–0.5). The overall S-CVI was 0.88, which indicates acceptable content validity. These results are summarized in Table 1.

All eleven participants rated items as fully comprehensible (5/5). No further modifications were suggested.

The back-translated version was reviewed by the original authors, who approved the adaptation without further modifications.

Table 1. Summary of CVI and Comprehension Ratings

Item Category	ICVI Range	Number of Items	Notes
High relevance	1.0	Majority	Accepted without modifications
Moderate relevance	0.6	8 items	Modified with expert panel comments
Low relevance	0.3-0.5	2 items	Revised with linguistic consultation
S-CVI (overall)	0.88	-	Acceptable content validity
Comprehension ratings	5/5	11 participants	All items were rated as easy to understand

Table 2: Summary of Item Revisions

Revision Type	Number of items	Notes
Minor linguistic modifications	31 Items	Adjusted phrasing for clarity without altering semantic meaning
Expert panel revisions	8 items	Modified based on panel feedback to improve relevance
Linguistic consultation	2 items	Revised with input from Sinhala language professor to resolve cultural/semantic gaps
Comprehension test outcomes	11 participants	All items rated 5/5 (“easy to understand”), no further revisions required

3.2 Discussion

The current study, which aimed at culturally adapting the BFI scale to Sinhalese, encountered several challenges during the translation process. For example, several Western personality constructs lacked direct Sinhala equivalents, which therefore required longer phrases to convey the meaning. This could be an indication of a lack of usage of personality-related concepts in Sri Lankan culture. Many other clinicians who had adapted different materials had encountered similar difficulties (Weeratunga et al., 2022) (Siriwardana et. al, 2018).These barriers to cross-cultural adaptation to Sinhalese need to be studied

further to build an evidence-based argument (Hjersing et al., 2010) (Denissenet et. al., 2010) (Fossati et al., 2008).

Similar linguistic challenges have been documented internationally as well. The recent South Asian validation of BFI to Bangladesh is a solid example (Siraji et al., 2025). Further, the Japanese validation study has also faced similar linguistic challenges (Yoshino et al., 2022). Yet, all these studies found BFI to be reliable and valid to use in these populations, despite the linguistic challenges. These parallels suggest that linguistic complexity is not unique to Sinhala. Instead, it is a recurring issue in the cross-cultural adaptation of the BFI.

4. LIMITATIONS

Importantly, while other studies concluded that the BFI remained reliable and valid despite linguistic challenges, the present adaptation has only focused on content validity and comprehension. The lack of reliability testing and factor analysis should be acknowledged as a limitation to this Sinhala adaptation's psychometric strength. Therefore, future researchers can look into these aspects and conduct full psychometric evaluation to establish a more psychometrically refined personality assessment tool.

5. CONCLUSION

To sum up, the Big Five Inventory (BFI) which was adapted into Sinhala demonstrates acceptable content validity and strong comprehension across educational levels suggesting it is culturally appropriate to be used among Sinhala speakers in Sri Lanka. The scale's applicability is ensured by the effective translation process, which is led by professional expertise and attention to language complexities, especially for those with ordinary reading levels. It can be interview-administered to individuals who are illiterate as it uses a semi-formal language format.

The study highlights the efficacy and practicality of digital platforms in research initiatives as it reduced the difficulties presented by the COVID-19 pandemic. However, as this adaptation offers an initial stage, full psychometric validation, including reliability and factor structure analyses, remains necessary before it can be confidently applied in clinical settings.

By addressing linguistic and cultural factors, this adaptation process contributes to improving the cross-cultural applicability of psychological tests. In addition, it provides the foundation for a validated personality assessment tool that is culturally relevant to the Sri Lankan context.

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