## The Translation Steps of Warwick Edinburgh Mental Wellbeing Scale – Hindi (WEMWBS-H)

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After obtaining the permission to translate the Warwick Edinburgh Mental Wellbeing Scale (WEMWBS) into Hindi language for our research from Prof. Sarah Stewart-Brown, the following steps recommended by Beaton et al. (2000) for cross-cultural adaptation of scales were followed:

Stage 1: The original scale is independently translated by at least two people who are native speakers in the new language, one of whom knows about the instrument and the concept under investigation and one of whom does not. In order to develop the Hindi translation, two translators fluent in both Hindi and English languages (both written and spoken) were contacted and requested to translate the 14 items of WEMWBS in Hindi independently. The first translator, Dr. Laxmi D. Mishra, is an independent researcher in the area of education. She had no knowledge of WEMWBS and its purpose at the time of translation. The second translator, Dr. Ritu Modi, is an Assistant Professor in Psychology at the University of Allahabad, Prayagraj (India). She was familiar with the scale being translated and has over fifteen years of research experience in the domain of mental health and well-being. The independent Hindi translations by the two translators resulted in two Hindi versions of the WEMWBS.

**Stage 2: These translations are synthesised by the two translators with a recording observer, using consensus to resolve disagreements.** The Hindi versions from the two bilingual translators were synthesised keeping in mind the conceptual framework, semantic and syntactic issues, content equivalences, lucidity, correctness, and comprehensiveness of each item. During the synthesis, a record observer, Prof. Abha Singh, an expert in the area of psychological research and teaching (with an experience of over 22 years), was present to resolve any disagreements regarding the translations between the two Hindi translators. Disagreement arose between the two Hindi translations with respect to only one item (Item 5 in the original English version): 'I've had time to spare'. The reason for the disagreement was that in Hindi an exact translation for this item was not possible, and it was only possible to capture the intended meaning, which resulted in two different opinions of the Hindi translators and two different translations were done in order to reflect the intended meaning perceived by the translators. Upon discussion with the record observer, a third translation merging the two

translations done by the Hindi translators was finalized. This step generated the final preliminary Hindi version of the WEMWBS.

Stage 3: The agreed translated version (stage 2) is back-translated into the original language by at least two native speakers blind to the original version. The preliminary translated version was backward translated to English by two other independent translators: Dr. Meenakshi Shukla (First back-translator) and Ms. Niti Upadhyay (Second back-translator). The first back-translator is an Assistant Professor of Psychology at the University of Allahabad, Prayagraj (India), while the second back-translator is a Ph.D. student from Banaras Hindu University. Both the translators had fluency in spoken and written English and Hindi languages, but their native language was Hindi. Both the back-translators had previous experiences of developing Hindi language translations of scales in English language. The back-translators were blind to the original English version of the WEMWBS. This step resulted in two back-translated English versions of the WEMWBS.

Stage 4: An expert committee consolidates all versions of the questionnaire and develops a pre-final version for field testing. The expert committee comprised Dr. Ritu Modi, Dr. Meenakshi Shukla, Prof. Abha Singh, Dr. Laxmi D. Mishra, and Dr. Shashidhar Gupta. Dr. Shashidhar Gupta is an Assistant Professor of Psychology at S. N. Sinha College, Jehanabad (India). The instruction, items and response format for the Hindi version were compared by the expert committee. First, the expert team, in consultation with the second back-translator, resolved any discrepancies in the two back-translated English versions. Minor variations in the two versions emerged for a couple of items where the two back-translators had used different synonyms for the Hindi word. For instance, for the original English item: 'I've been dealing with problems well', the two back-translations were: 'I have been handling problems competently' and 'I have been handling problems efficiently.' To resolve such minor variations, the synonym agreed upon unanimously by the expert committee was retained. No major differences between the back-translations were noted. Thus, a pre-final, unanimously agreed-upon Hindi and back-translated English versions were finalized by the expert committee for field testing.

Stage 5: A small sample (30-40) of participants in the target setting completes the pre-final version of the questionnaire, and is subsequently interviewed to assess question comprehension and interpretation (cognitive testing). The pre-final Hindi version was pilot tested individually on 30 native Hindi-speaking participants (age range: 19-49 years) to evaluate the instruction, response format and the items of the Hindi items of WEMWBS for

identifying and clarifying any language-related difficulties. The data was collected online through Google Forms and an additional space was provided for the participants to mention any problems/issues that they faced while answering the scale. One participant reported that the item-wording in Hindi for Item 2: 'I have been feeling useful' was unclear. Another participant mentioned the same issue with Item 2 as well as Item 5: 'I've had time to spare'. Telephonic interview with these two participants revealed the nature of their difficulty and taking these into account the two items were revised in the Hindi version and the changes were reviewed by the expert committee. The revised Hindi version was again piloted on a sample of 22 participants, where 20 new participants were chosen and the two participants from the initial sample who reported issues with understanding Items 2 and 5 were included. This was done to ensure their issues with the item-wording were resolved and they could clearly understand the items after revision. The second pilot testing revealed that none of the 22 participants (age range: 19-48 years) reported any issues with any of the items or instructions in the Hindi version. Thus, the two back-translators also revised their back-translations of Items 2 and 5 to reflect the change in the Hindi version. These new translations were synthesized by the expert committee and the final back-translated Hindi version was sent and approved by the corresponding author for the original WEMWBS, Prof. Sarah Stewart-Brown, who approved of the back-translated version.

Stage 6: Undertaking the psychometric testing on the new language version: To establish the reliability and validity of the newly-developed Hindi version of the WEMWBS, data was collected from 604 participants. Data from six participants was removed as important demographic or responses on one or more items of the WEMWBS were missing and data from one participant was removed as an outlier in terms of age. The final sample comprised 597 participants (316 males [Age range= 18-68 years; Mean age= 28.14 years, SD= 11.33 years]; 281 females [Age range= 18-62 years; Mean age= 27.01 years, SD= 10.42 years]). The data was subjected to reliability analysis and the internal consistency reliability (Cronbach's alpha) was found to be .863. The split-half reliability (with Spearman-Brown correction) and the Guttman split-half coefficient of the Hindi version of WEMWBS were both .852. Thus, the reliability of the Hindi version of the WEMWBS was found adequate.

Construct validity of the test was assessed by correlating the total scores obtained by the participants on the Hindi version of the WEMWBS and the positive affect score (10 items) of the Hindi version of Positive And Negative Affect Schedule (PANAS; Pandey & Srivastava, 2008) since higher scores on well-being would likely associate with higher positive affect. A

significant (at *p*<.001) positive correlation of .677 was obtained, providing evidence for the construct validity (convergent validity) of the Hindi version of the WEMWBS.

## References

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