Validation of Malay versions of salutogenic determinants questionnaires for assessing mental well-being in the elderly: A psychometric study in Sarawak, Malaysia

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ABSTRACT

Introduction: Accurate and culturally appropriate measurement tools are essential for assessing determinants of mental well-being in the elderly. However, widely used salutogenic questionnaires — such as the Brief Sense of Community Scale (BSCS), Santa Clara Strength of Religious Faith Questionnaire–Short Form (SCSORF-5), Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS), Social Provisions Scale (SPS-5), and Sense of Coherence-13 (SOC-13) — have not been validated or translated into Malay for older Malaysians. This study aimed to adapt and validate these instruments for elderly use in Sarawak. **Materials and Methods:** Internationally recognized guidelines for cross-cultural adaptation (Beaton et al., 2000; Tsang et al., 2017) were followed through a three-phase validation process. The first phase involved translation and cultural adaptation, with two independent forward translations and expert back-translation to ensure both semantic and conceptual equivalence. In the second phase, thirty elderly subjects from diverse sociodemographic backgrounds participated in pre-testing and cognitive interviews to evaluate clarity, relevance, and cultural appropriateness. Their feedback informed further refinements. The third phase included integrated content and face validation by eight experts from psychiatry, public health, family medicine, and counseling, who rated each item for relevance, clarity, simplicity, and ambiguity. Quantitative metrics such as Item-Level Content Validity Index (I-CVI), Scale-Level Content Validity Index (S-CVI/Ave and S-CVI/UA), and Content Validity Ratio (CVR) were applied. A pilot field test followed, involving 205 elderly community members in Sarawak (mean age = 67.85 years). Construct validity was assessed via Exploratory Factor Analysis (EFA), with robust thresholds (KMO > 0.78; Bartlett's $p < 0.001$), and reliability determined by Cronbach's alpha. **Results:** Content validity analysis confirmed strong item relevance and clarity, with all items achieving I-CVI ≥ 0.75. Except for the Personal Sense of Coherence section, other domains attained a perfect S-CVI/UA for relevance and clarity, and every item's CVR exceeded the acceptable threshold, establishing item essentiality. EFA displayed clear factor structures across all domains. The Social Provision scale (5 items) loaded onto a single factor (eigenvalue = 2.78, TVE = 45.3%, $\alpha = 0.80$); the Sense of Community (8 items) yielded one factor (eigenvalue = 5.26, TVE = 60.9%, $\alpha = 0.93$); the Religiosity scale (5 items) formed a single factor (eigenvalue = 3.65, TVE = 66.4%, $\alpha = 0.91$); the Mental Well-Being scale (7 items) formed a factor (eigenvalue = 3.65, TVE = 52.1%, $\alpha = 0.88$). Sense of Coherence (13 items) generated one factor (eigenvalue = 4.21, TVE = 33.0%, $\alpha = 0.83$), improving to $\alpha = 0.87$ after removing items 1 and 7. All factor loadings were above 0.50 except for SoC1 and SoC7, with SoC7 (<0.10) recommended for removal. Descriptive statistics showed appropriate score variability in all domains. **Conclusion:** The adapted Malay versions of the BSCS, SCSORF-5, SWEMWBS, SPS-5, and SOC-13 scales show strong content validity, internal consistency, and construct validity for assessing salutogenic determinants of elderly mental well-being in Sarawak. These tools are suitable for research and practice in the local context.

Keywords: Scale adaptation, content validity, factor analysis, elderly