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Measuring mental well-being: validation of the Polish version of the Short Warwick Edinburgh Mental Wellbeing Scale (SWEMWBS)

Pomiar dobrostanu psychicznego: walidacja polskiej wersji krótkiej skali dobrostanu psychicznego (the Short Warwick Edinburgh Mental Wellbeing Scale SWEMWBS)

Aim. The purpose of the conducted research was to adapt and evaluate the psychometric properties of the Polish version of the SWEMWBS.
Method. To assess the structure of the tool and its internal consistency, data were used from 557 individuals between the ages of 25 and 63 years. To assess the validity of the SWEMWBS, 277 individuals between aged 20 to 46 years took participation.
Results. Validation studies conducted on the Polish version of the SWEMWBS show that the scale is a reliable and accurate tool for measuring mental well-being. The results of confirmatory factor analysis confirmed the scale's one-factor structure. The reliability of the scale calculated using Cronbach's

alpha α = 0.84, McDonald's omega ω = 0.83, and Guttman's lambda λ = 0.83 was good. The study also confirmed the validity of the scale. The SWEMWBS was moderately positively correlated with resilience and health behaviours. We observed moderate negative correlations between well-being and depressiveness.

Conclusions. The study showed that the SWEMWBS is a brief tool for measuring mental well-being with good psychometric properties.

Keywords: mental wellbeing, hedonic wellbeing, eudaimonic wellbeing, polish adaptation.

Introduction

Researchers considered mental health in a narrow and broader sense. The former only involves the absence of negative aspects of mental health. The last also assumes the presence of positive outcomes (Winzer et al., 2014). There are several indicators of mental health, and one of them is mental well-being. Over the past decade, interest in the concept of mental well-being has increased with the recognition of its significant effect on health from a holistic perspective (Kessler et al., 2010). This model is based on the assumption that the individual's body and the various spheres of human life are a unified whole, and treatment involves restoring harmony in all areas of life, as well as securing physical and mental well-being. According to Stewart-Brown (Stewart-Brown, 2013; Stewart-Brown et al., 2009), mental well-being is a concept that includes hedonic (i.e., positive feelings, affect, emotions) and eudaimonic (positive functioning, thinking and relationships) dimensions. This type of concept is finding a systematically increasing recognition in the research community as well as in medical and psychosocial practice (Fat et al., 2017; Koenig, 2020; Konaszewski et al., 2021). In line with the above distinction, the concepts of hedonistic well-being as well as eudaimonistic well-being are framed as separate theoretical constructs, and with different philosophical roots, although empirically they have been shown to be related (Hicks et al., 2012; Lightsey Jr & Boyraz, 2011). The hedonistic approach focuses on well-being, which refers to the categories of happiness, pleasant emotions, and satisfaction with life. The eudaimonic approach, on the other hand, typically emphasizes meaning and purpose, self-actualization, and human potential and functioning (Di Fabio and Palazzeschi, 2015; Freire et al., 2018; Ryan and Deci, 2001; Ryff and Keyes, 1995). Theoretical solutions and research indicate that mental well-being is probably best viewed as a multidimensional phenomenon encompassing aspects of both hedonic and

eudaimonic concepts (Compton et al., 1996; King & Napa, 1998; McGregor & Little, 1998). This state of affairs is generating interest in the construct among researchers and practitioners, resulting in the need to develop comprehensive measures of mental well-being.

In view of this general approach to mental well-being, Stewart-Brown and colleagues designed a 14-item survey instrument to measure two aspects of well-being, namely the Warwick Edinburgh Mental Wellbeing Scale (WEMWBS) (Tennant et al., 2007). The WEMWBS assesses both hedonic and eudaimonic well-being. The scale enables monitoring of mental well-being in the general population and different groups, including adolescents and clinical samples. WEMWBS also makes it possible to capture and assess changes in mental well-being in particular groups. Effective public health policy demands a valid tool to estimate positive aspects of mental health. Measurement and monitoring of mental well-being play a crucial role in evaluation projects, programs, and policies aimed at improving mental well-being. It enables practitioners and educators who provide health education and mental health promotion to youth and adults to assess and evaluate programs using a widely used measure of mental well-being. The WEMWBS is also a tool for conducting research on individual and sociodemographic predictors of mental well-being to inform experts and stakeholders relevant to national and international public health education policy (Stewart-Brown et al., 2009; Tennant et al., 2007).

In subsequent years, an abbreviated version of the tool including seven statements (Short Warwick Edinburgh Mental Wellbeing Scale; SWEMWBS) was developed (Stewart-Brown et al., 2009). The SWEMWBS, like the full version of the tool, includes aspects of both well-being (hedonic) and well-functioning (eudemonia). Unlike the original, the items in the WEMWBS address functioning rather than feelings, and thus offer a slightly different perspective of mental well-being. An additional advantage of the SWEMWBS is that, as a more economical version of the scale, it can be used in broader projects where large numbers of data need to be collected, as well as by practitioners on hospital wards where rapid (daily) reporting of patient well-being levels is necessary. As in the full version, respondents are asked to describe their experiences over the past two weeks. The short version of the mental well-being scale consists of seven items, and respondents provide answers using a five-point Likert scale, where 1 means never and 5 always.

In other countries, the SWEMWBS has been validated in Scottish and Norwegian adolescents aged 15-21 (McKay & Andretta, 2017; Ringdal et al., 2018), in the English general population (Ng Fat et al., 2017), and in

some clinical populations, e.g. psychiatric hospital patients (Vaingankar et al., 2017). Findings show that the SWEMWBS scale is strongly positively correlated with quality of life (WHO-5) in the Danish adult population (Koushede et al., 2019), as well as with measures related to life satisfaction and physical and mental health in the UK general population (Ng Fat et al., 2017) and Danish (Koushede et al., 2019), Swedish, and Norwegian adult populations (Haver et al., 2015). The scale was also negatively associated with health indicators, including strongly with stress and depression and moderately with pain and negative affect (Haver et al., 2015; Koushede et al., 2019). Thus, it can be concluded that the SWEMWBS is a brief and interesting tool for measuring mental well-being that can be applied to different populations. The purpose of the conducted research was to adapt and evaluate the psychometric properties including validity and reliability of the Polish version of the SWEMWBS.

Participants and procedure

Participants

To assess the structure of the tool and its internal consistency, data were used from 557 individuals. The sample consists of former and current students of the University of Bialystok, full-time and part-time. Most of the participants were women - 70.9%. Respondents were between the ages of 25 and 63 years (M = 31.29, SD = 18.18). Participants between the ages of 25 and 35 accounted for 76% of the respondents. Those over 35 accounted for 24% of the respondents. Participation in the survey was preceded by informed consent and did not involve any recruitment criteria. Participation in the survey was preceded by informed consent and did not involve any recruitment criteria. The study was conducted in 2021. The invitation to participate was distributed through the University of Bialystok survey platform. Data were collected in Google Form and then exported to a summary sheet. Each person consented to participate in the survey, and was informed of the objectives and procedure. The survey was directed only to adults.

To assess the validity of the SWEMWBS, 277 students (full-time and part-time) of University of Bialystok, aged 20 to 46 years (M = 24.56, SD = 4.51), 70% of whom were female, were surveyed. 70% of the respondents were pedagogy students, 20% law students, 7% economics students and 3% sociology students. Likewise, to study 1, participation in the survey did not involve any recruitment criteria. Students were provided with a link to the online survey after agreeing to participate in the study. The study was

conducted in April 2021 with the approval of the Ethics Committee of University of Bialystok.

Measures

The Patient Health Questionnaire (PHQ-9) by Kroenke et al. (Kroenke et al., 2001) was used to assess the severity of depression (depressiveness). The single-factor scale consists of nine questions on depressive symptoms derived from the DSM-IV diagnostic criteria. The respondent marks answers on a four-point scale according to the frequency of a given symptom over the past two weeks, where 0 means 'Not at all' and 3 means 'Almost every day.' The survey used the Polish version, which shows very good reliability ($\alpha = 0.88$) (Kokoszka et al., 2016).

Brief Resilience Scale (BRS) by Smith et al. (Smith et al., 2008) was used to measure resilience, understood as the ability to recover from stress. The single-factor scale consists of six items with a five-point Likert response scale, where 1 means 'Strongly disagree' and 5 means 'Strongly agree.' The Polish version of the BRS has a good internal consistency score ($\alpha = 0.88$) (Konaszewski et al., 2020).

Health behaviours were assessed with the Health Behaviour Inventory (HBI) by Juczynski. The scale consists of 24 statements. The participant expresses his or her attitude toward each statement on a five-point scale, where 1 means 'Never or almost never' and 5 means 'Almost always or always.' The reliability of the scale is $\alpha = 0.85$ (Juczyński, 2012).

The process of translating and statistical analysis

After obtaining permission from the authors of the SWEMWBS scale for adaptation, the scale was translated. This process was carried out by two independent translators, and the resulting versions of the scales were compared and, in the next step, analysed by a specialist in health psychology terminology. All adaptation procedures were carried out based on WHO guidelines for the use of validation studies, which include: (1) forward-translation, (2) expert panel back-translation, (3) pre-testing and (4) final version. Then, the reliability and validity of the SWEMWBS were calculated. Scale reliability was calculated using Cronbach's alpha (α), McDonald's omega (ω), and Guttman's lambda (λ). Scale structure was verified by using confirmatory factor analysis (CFA) with diagonally weighted least squares (DWLS) estimation. The following goodness of fit indices were used: the goodness of fit index (GFI), the Tucker-Lewis Index (TLI), the confirmatory fit index (CFI), required value: ratio > 0.90; the root mean square error of approximation

(RMSEA), required value: ratio < 0.08 (Brown, 2015; Kline, 2015); and the chi-squared (χ^2)/degrees of freedom (df), required value: ratio < 5 (Feehan et al., 1994; Marsh & Hocevar, 1985). The validity of the scale was estimated based on the values of the Pearson correlation coefficients to determine the relationships between well-being, resilience, health behaviours, and depression. The sample size was calculated using the G*Power 3.1. program. The sample was calculated for Pearson correlation analysis, assuming: two-sided test, moderate effect size in the population ($\rho = 0.3$), α value = 0.05, power (1-β) = 0.95. The study sample should have at least 138 participants. The level of significance was set at $p \leq 0.050$. Statistical analysis of the data was performed using IBM SPSS Statistics 27 and JASP.

Results

Table 1 shows distribution of scores on SWEMWBS. The values of skewness and kurtosis indicate that the distribution of scores does not deviate from normal. In addition, gender did not differentiate the results in a statistically significant way (t =0.08; $p > 0.05$; women: M = 25.48, SD = 4.39; men: M = 25.44, SD = 5.44). In contrast, age was significantly associated with higher levels of mental well-being in the study group ($r = 0.08$, $p < 0.05$), but the relationship between variables was very weak.

Table 1. Distribution of scores on the short version of the mental well-being scale (N = 557)

	Min.	Max.	M	SD	Skewness	Kurtosis
SWEMWBS	7	35	25.47	4.72	-0.58	0.67

To verify the internal structure of the scale, a confirmatory factor analysis was conducted using the DWLS method (Table 2). The model including one first-order factor obtained goodness-of-fit indices: $X^2_{(14)} = 43.57$, $p < 0.001$; $X^2/df = 3.11$; TLI = 0.970; GFI = 0.988; CFI = 0.980, and RMSEA = 0.062 (0.041, 0.083; 90% CI).

Table 2. Factor loadings of SWEMWBS (N = 557)

				95% CI	
	Estimate	SE	p	Lower	Upper
Item 1	0.68	0.036	< .001	0.58	0.72
Item 2	0.64	0.040	< .001	0.54	0.70
Item 3	0.48	0.039	< .001	0.40	0.55
Item 4	0.74	0.038	< .001	0.68	0.83
Item 5	0.60	0.034	< .001	0.56	0.69
Item 6	0.66	0.042	< .001	0.54	0.71
Item 7	0.52	0.036	< .001	0.48	0.62

The value of Cronbach's alpha coefficient indicates good reliability of the SWEMWBS scale with Cronbach's alpha $\alpha = 0.84$, McDonald's omega $\omega = 0.83$ and Guttman's lambda $\lambda = 0.83$.

Convergent validity was assessed by evaluating correlation coefficient values with the PHQ-9, BRS, and HBI scores. Mental well-being as measured by the SWEMWBS was moderately positively correlated with resilience (r= 0.47; p = 0.01) and health behaviours (r= 0.44; p = 0.01). In addition, we observed moderate negative correlations between mental well-being and depressiveness (r= -0.41; p = 0.01).

Discussion

Mental well-being is an important component of health in the holistic model, as well as a positive indicator in the broader construct definition. Research by Crawford and colleagues shows that patients prefer tools based on positive indicators of health, rather than assessing the severity of stress or depression, and importantly, these measures show similar convergence in assessing psychosocial functioning (Crawford et al., 2011). Undoubtedly, the WEMWBS allows for the assessment of the positive dimensions of mental health, taking into account the hedonic (positive emotions, happiness, joy, interest, and satisfaction) and eudaimonic (psychological functioning related to personal growth, autonomy, self-acceptance, self-control, positive relationships with others, and a sense of purpose in life) areas (Tennant et al., 2007). The WEMWBS has very good psychometric properties as confirmed by numerous validations (Bartram et al., 2011; Fung, 2019; Gremigni

& Stewart-Brown, 2011; Ringdal et al., 2018; Trousselard et al., 2016) including the Polish one (Konaszewski et al., 2021).

Currently, a shorter, seven-item SWEMWBS (Stewart-Brown et al., 2009) is also available to researchers and practitioners. Validation studies conducted on the Polish version of the SWEMWBS show that the scale is a reliable and accurate tool for measuring mental well-being. The results of confirmatory factor analysis confirmed the scale's one-factor structure. The reliability of the scale calculated using Cronbach's alpha, McDonald's omega, and Gutmann's lambda was good. The study also confirmed the validity of the scale. SWEMWBS scores were moderately positively related to resilience and health behaviour and moderately negatively related to depression. The study found no significant role for gender, meaning that average levels of mental well-being were similar among men and women. Similar gender-neutrality was also reported for the British (Ng Fat et al., 2017) and Norwegian and Swedish populations (Haver et al., 2015). Age was significantly related to the level of psychological well-being in the study group, as the older a person was, the higher his or her level of well-being, which is in line with previous studies (López Ulloa et al., 2013; Stone et al., 2020).

In terms of practical implications, it can be stated that SWEMWBS can be used for psychological interventions (Shah et al., 2021) as well as in the context of educational interventions (Kulawska, 2019). In addition, research shows that factors significant to human development, including family relationships and interactions, quality of care, and a supportive learning environment, are crucial to well-being (Anthony et al., 2022). Promoting well-being through robust program intervention is important because well-being is both an indicator of later onset of more serious mental health problems and an opportunity for early intervention to break the trajectory leading to full-blown disorder (Gunawardena et al., 2023; Hong et al., 2023). Therefore, we can conclude that measuring well-being with a validated measurement tool (SWEMWBS) can provide a reliable assessment of the onset of more serious mental health disorders, as well as the possibility of early intervention.

In summary, the study showed that the SWEMWBS is a brief tool for measuring mental well-being with good psychometric properties. The scale can be used to diagnose one of the components of the positive dimension of mental health. It can be used in epidemiological studies to evaluate educational activities and in intervention programs.

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