

SYSTEMATIC REVIEW

Open Access



A scoping review of well-being measures: conceptualisation and scales for overall well-being

Wei Zhang^{1*}, Kieran Balloo^{1,2}, Anesa Hosein¹ and Emma Medland¹

Abstract

This study aims to identify the conceptualisation of overall well-being used for well-being assessment through a review of the characteristics and key components and/or dimensions of well-being scales as presented in current literature. Scopus and Web of Science were searched, and thematic analysis was conducted inductively to analyse the identified components within scales, as well as the types of well-being these scales measure. 107 peer-reviewed articles from 2003 to 2022 were included, and 69 well-being scales were identified covering nine areas of well-being. Four final themes were identified as the foundational dimensions of overall well-being: hedonic; eudaimonic; physical health; and generic happiness. Notably, these 69 scales are mainly validated and adopted in the Western context. '4 + N' frameworks of overall well-being are recommended for assessing overall well-being. This review provides researchers with a synthesis of what types of well-being have been measured and which measures have been used to assess these types of well-being for which research participants. Non-Western-based well-being research is called for that incorporates a broader range of research participants and cultural contexts in contributing to a more inclusive understanding of well-being.

Keywords Hedonic, Eudaimonic, Physical health, Generic happiness, Well-being, Thematic analysis

Introduction

Internationally, there is increasing attention paid to well-being by people in different domains, such as schools, workplaces, and hospitals [1, 2]. Studies have found that higher levels of well-being and life satisfaction lead to desirable outcomes, such as greater engagement in school, better performance at work, enhanced productivity, better friendships and physical condition [2–4]. However, well-being is multi-dimensional with numerous domains [5], and there is no consensus on what dimensions it consists of. It is quite broad ranging in its

meaning and covers areas such as subjective, psychological, mental, and spiritual well-being, and hence, existing scales incorporate a diverse range of components and/or dimensions. Thus far, a variety of scales have been developed and validated to measure and document levels and changes in an individual's well-being, covering different cultures and targeting different populations. In addition, researchers sometimes combine several single measurements to assess an individual's well-being [6]. The presence of multiple scales of well-being makes it necessary and vital to review and compare these scales [7, 8] in order to develop a clearer conceptualisation of well-being assessment. For novice researchers in the field of well-being, this wide variety of types/domains of well-being creates an additional screening burden as they will need to understand the most appropriate scale to select for a specified area of research. Further, in the Global South,

*Correspondence:

Wei Zhang
wz00391@surrey.ac.uk

¹ Surrey Institute of Education, University of Surrey, Guildford, UK

² UniSQ College, University of Southern Queensland, Springfield, Australia



© The Author(s) 2024. **Open Access** This article is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License, which permits any non-commercial use, sharing, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if you modified the licensed material. You do not have permission under this licence to share adapted material derived from this article or parts of it. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by-nc-nd/4.0/>.

such as 'Africa, Central and Latin America, the Pacific and Caribbean islands, and most of Asia', where there is increasing attention on well-being [9, 10], these researchers have limited resources to access published well-being scales [11]. Hence, some direction on the most appropriate scales for overall well-being can aid these researchers in their decision-making.

History of well-being measures

Well-being scales have been developed to measure a range of sub-components and/or dimensions. About 40 years ago, Diener [12] proposed that subjective well-being consists of affective and cognitive components, and from that developed the Satisfaction With Life Scale as a measure of subjective well-being [13]. Subsequent to this, a 30-item well-being scale was developed and validated in university students to measure an individual's mental, physical, and spiritual well-being. Vellabrodrick and Allen [14] claimed that the utilisation of these three dimensions to assess well-being is congruent with the holistic idea of developing a balanced lifestyle and taking care of one's health, mind, and spirit. Ryff and Singer [15] then conceptualised psychological well-being as including six key dimensions (i.e., self-acceptance, positive relationships with others, autonomy, environmental mastery, purpose in life, and personal growth), and they developed a scale with twenty self-descriptive items to assess each dimension, later revisiting it from a eudaimonic perspective [16]. Soon after, a new Well-Being Manifestations Measure Scale was created and validated to measure the psychological well-being of a general population [17]. Diener proposed that both positive and negative emotions are components of subjective well-being, which encouraged consideration of well-being as not only about the absence of ill-being [3]. Subsequently, a brief 8-item psychological well-being measure was developed covering individuals' relationships, self-esteem, purpose, optimism, engagement, social contribution, and competence [18].

In more recent times, Seligman has advocated that well-being comprises five separate and interrelated elements of flourishing: positive emotion, engagement, relationship, meaning, and accomplishment (PERMA) [19]. Notably, PERMA was a development from authentic happiness, which was introduced by Seligman [20] with three components: positive emotion, engagement, and meaning. Based on the PERMA model, the PERMA profiler was developed with fifteen questions (three items per PERMA domain) and eight additional filler items to assess overall well-being, negative emotion, loneliness, and physical health [2]. A further scale containing ten features of positive well-being (competence, emotional stability, engagement, meaning, etc.) was developed by

Huppert and So [21], and another containing five components (attention and awareness, comprehension and coping, emotions, etc.) was also developed [22–26]. Other well-being scales have been developed and validated for certain populations, including children, patients, teachers, students, and workers [22–26].

Previous reviews of well-being measures

As a consequence of this broad range of well-being scales being available, since 2014 there has been a gradual rise in the number of well-being review studies clarifying conceptualisations of well-being and/or associated scales. For example, Hone et al. [7] reviewed four conceptual and operational definitions of well-being: Keyes [27]; Huppert and So [21]; Diener et al. [28]; and Seligman [19] and highlighted their commonalities and areas of difference. Although more published research supports the Keyes [27] model than the other three models, it has been nearly a decade since this review, so a contemporary exploration is now needed. In 2015, a systematic review was conducted to evaluate the effectiveness of available scales of health and well-being used in community-based interventions [29]. Although five scales (the Community Wellbeing Index, the Health-Related Quality of Life Scale, Quality of Life Scale, the WHO Quality of Life-Brief, and Personal Wellbeing Index) were found to be more suitable for the assessment of community interventions, there was no clarification about the well-being definitions used or the components/dimensions of scales. Cooke et al. [30] comprehensively examined well-being scales and categorised these into four conceptualisations of well-being: hedonic, eudaimonic, quality of life, and wellness. However, one of the limitations of this conceptualisation is that these well-being scales were only evaluated from a psychological perspective, meaning that spiritual, social, economic, and physical well-being were excluded. A subsequent systematic review focusing on scales for mental health problems and mental well-being paid particular attention to measures for people with profound intellectual disabilities [31]. In the same year, a scoping review mapped financial well-being definitions and constructs [32]. A scoping review also assessed the availability of well-being scales for people with dementia, and six domains (Feeling Positive, Life Having Meaning, Keeping Going and Being Active, Good Relationships, and Feeling Well) were identified in the scales [33]. In another two scoping reviews only focusing on students' well-being, the first study found that previous studies on university students' well-being in the UK lacked consistency in defining and measuring the construct, and these studies placed emphasis on the subjective experiences of students. Notably, the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) was identified as a popular

choice for assessing students' well-being as it was applied to more studies [34]. In the second scoping study, eight domains of student well-being were identified, which were Positive emotion, (lack of) Negative emotion, Relationships, Engagement, Accomplishment, Purpose at school, Intrapersonal/Internal factors, and Contextual/External factors [35]. More recent scoping reviews have either focused on a specific group, e.g., medical students who are at risk of developing mental health illnesses; Haykal et al. [36], or have concentrated on more specific types of well-being, such as digital well-being [37]. Most recently, an umbrella review of well-being scales highlighted the imperative of future research exploring the feasibility of, and need for, clearer definitions and conceptualisations of well-being terms [38]. However, these authors noted that one of the limitations of their review was that only well-being scales designed for adults were included, and those scales designed and validated in samples of children and adolescents only were excluded.

To sum up, there is no consensus on the dimensions of well-being, and scales have been developed for the different dimensions and for diverse population groups in particular contexts. However, not all well-being scales are relevant for all contexts. For novice researchers in the field of well-being, finding and selecting the appropriate well-being scale can be time-consuming and confusing, especially when determining which scale(s) is most applicable to their particular context. In addition, more clarification of overall well-being is needed in terms of its disparate components and/or dimensions, because a clear conceptualisation of overall well-being will, in turn, facilitate the valid measurement of overall well-being.

The current study

This study aims to identify components of available well-being scales in the last two decades (2003–2022). This time period was chosen because in studies prior to 2000, researchers were only beginning to explore different types of well-being scales or definitions, such as subjective well-being [3, 12], psychological well-being [15], and hedonic enjoyment [39]. After that period, researchers tended to acknowledge that well-being is not the absence of ill-being and should be conceptualised as multi-dimensional [19, 40]. Furthermore, in 2001, Ryan and Deci [41] reviewed and proposed that well-being is a complex construct that consists of hedonic (known as subjective well-being) and eudaimonic (known as psychological well-being) aspects. Therefore, after this period, the current review represents a comprehensive compilation and synthesis of research spanning from 2003 to 2022.

The current study conducted a scoping review of well-being measures in order to organise these scales by scope, clarify key concepts/definitions of well-being in

the literature, and identify key characteristics or factors related to well-being scales. Different research questions demand different types of psychometric assessment [7]. Hence, this study's priority was not to review the scales' psychometric properties, because individual contexts vary so significantly that these statistics would be rendered meaningless with different populations. Instead, the aim was to organise the general characteristics of scales (e.g., scale name, research participants, research context, and dimensions/components). Most importantly, the study intended to identify which aspects of overall well-being were being assessed in the general population. The research questions were as follows:

- What are the characteristics of well-being scales validated in previous studies?
- In which areas of well-being are these scales primarily focused?
- What are the main constructs of overall well-being that are assessed?

Methods

Scoping reviews are 'a type of evidence synthesis that aims to systematically identify and map the breadth of evidence available on a particular topic, field, concept, or issue' [42]. The methodological framework proposed by Arksey and O'Malley [43] was utilised in this scoping review, and the selection flow and reasons for the exclusion of literature followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines [44].

Search strategy and eligibility criteria

The primary literature was identified using Scopus and Web of Science. Search strings (see Appendix 1 in supplementary material) were used in these databases focused on well-being scales and validation of the scales. For example, one of the search strings in Scopus was:

```
(( TITLE ( well-being ) AND KEY ( validation ) )
OR ( TITLE ( wellbeing ) AND KEY ( validation ) )
) AND PUBYEAR > 2002 AND PUBYEAR > 2001
AND ( LIMIT-TO ( OA , "all" ) ) AND ( LIMIT-TO
( PUBSTAGE , "final" ) ) AND ( LIMIT-TO ( DOC-
TYPE , "ar" ) ) AND ( LIMIT-TO ( LANGUAGE ,
"English" ) )
```

In order to obtain more precise search results and reduce extraneous literature, the search process employed the following selection criteria: 1) journal articles; 2) available in English; 3) published during 2003–2022; 4) open access; 5) the study focuses on the validation of well-being scales, including the components and/or dimensions of well-being; 6) focuses on the

development and clarification of a quantitative scale of an individual’s well-being. We, particularly, focused on open-access scales to ensure that they will be accessible to researchers in the Global South. Additionally, studies that only assessed a single component of well-being (i.e., engagement [45]), rather than the whole components of the scale, were excluded. Studies that aimed to analyse the relationship between well-being and other variables using measurement only for data collection were excluded (e.g., the association between accomplishment, positive relationships, and well-being [46]). Studies that used more than one well-being scale for comparison were included.

Study selection

Figure 1 shows the PRISMA-ScR flowcharts for literature searches. The preliminary search resulted in 194 articles from Scopus and 68 articles from Web of Science. However, 63 articles were excluded because of duplication, and 92 articles were excluded for the following reasons:

the full articles were not accessible in English; the studies focused on the relationship between well-being and other variables, and clarification of components and/or dimensions of scales was not provided in studies; the well-being scales used in studies collected qualitative data rather than quantitative data. In total, 107 papers were included in this study.

From the studies that were included in this review, a total of 107 papers were entered into ATLAS.ti 9 for further analysis [47], and then all the papers were automatically organised by author, periodical, publisher, and year of publication. A thematic analysis was then conducted on these papers. According to Clarke and Braun [48], thematic analysis is a process of coding the data, constructing themes over a thorough reading of the subject, and interpreting themes. Therefore, guided by the first two research questions, the well-being scales used in 107 selected papers, the areas of well-being they measured, the research participants, research contexts, internal reliability, language used in the scale, and the components

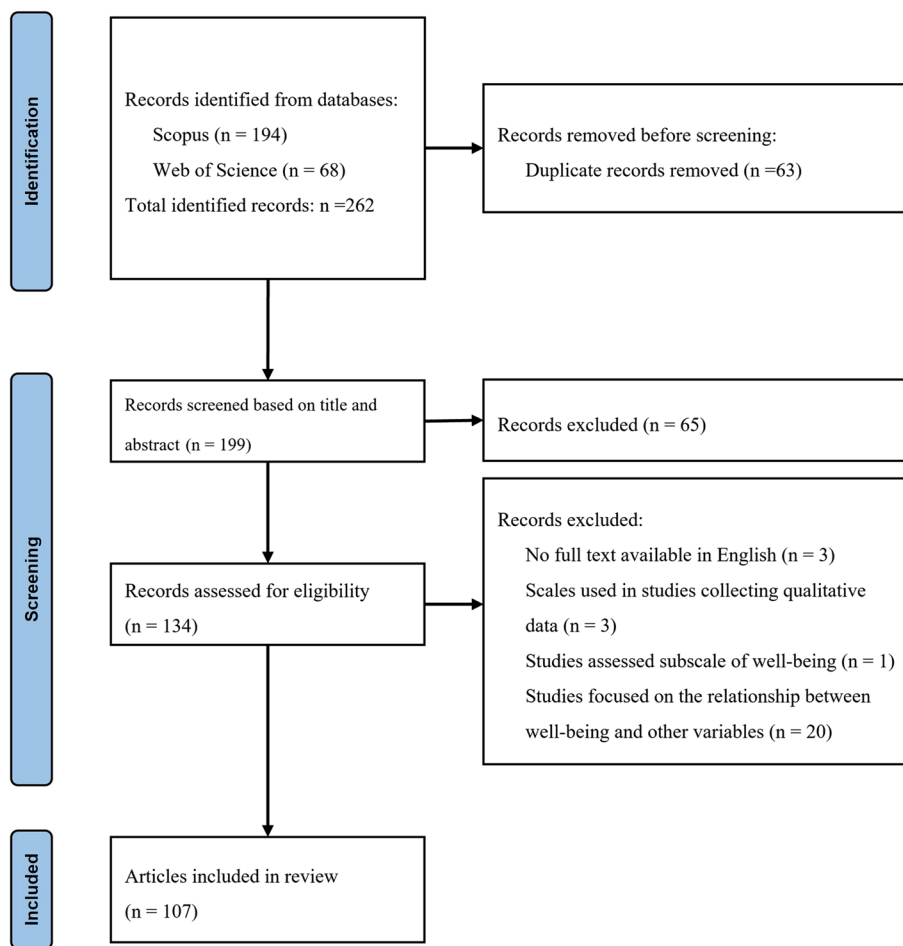


Fig. 1 Flow chart of study selection following PRISMA-ScR guidance

and/or dimensions of identified scales were coded in the initial round of coding. Subsequently, all the codes relating to the areas of well-being were grouped into nine themes (see Fig. 3) based on the description of scales clarified in 107 selected articles. Finally, guided by the third research question, the last round of coding concentrated on the codes related to overall well-being in the previous round of coding, and four themes (see Fig. 3) were developed inductively as the assessed foundational dimensions of overall well-being. Further explanation and discussion is shown in the next section.

Results

What are the characteristics of well-being scales validated in previous studies?

Table 1 summarises the characteristics of these 69 different well-being scales within the 107 selected papers, which includes a wide range of scale names, number of items, research contexts, internal reliability (mainly Cronbach's alpha), language used in the scale, research participants, components and/or dimensions, and types of well-being they are assessing. Notably, the research context of these 69 well-being scales (see Fig. 2) covered 47 countries in total, 29 of which were Western countries and 18 of which were non-Western countries. It seems the number of Western and non-Western countries these 69 well-being scales cover was roughly equivalent. However, the 29 Western countries were studied a total of 127 times, with the UK being the highest (21 times), followed by the United States (12 times), then Spain (11 times). Only 18 non-Western countries were included in studies (42 times in total), with China (9 times), India (6 times), and Japan (5 times) being the top three countries. Although non-Western research appears to be emerging and growing, more research is still needed in non-Western contexts since conceptualisations of well-being are likely to differ across cultural contexts [8, 49, 50].

Among these 69 well-being scales, the three most common languages used in the scales were English (47), Spanish (12), and German (11), and the other 15 languages were Dutch (9), Portuguese (7), Italian (7), Chinese (6), Japanese (5), Norwegian (4), French (4), Thai (3), Polish (3), Hindi (2), Arabic (1), Croatian (1), Persian (1), Slovak (1), Lithuanian (1). Furthermore, as can be seen in Table 1, four different indices were used to report the internal consistency reliability of scales within 107 selected articles; almost all included studies used Cronbach's alpha, and several studies used the Person Separation Index [54, 109], McDonald's Omega [64, 88, 89], and Composite Reliability [75, 76], and 12 studies did not report internal consistency of the scales.

In addition, Table 1 presents that among these 69 identified well-being scales from 107 selected papers, the top

three broadly used and validated scales are described below.

- (1) WEMWBS (Warwick-Edinburgh Mental Well-being Scale)

WEMWBS was identified in 15 out of 107 articles. This scale was first developed and validated on a student and representative Scottish population sample in the UK by Tennant et al. [111]. It is a 14-item measure of mental well-being consisting of positive affect (feelings of optimism, cheerfulness, relaxation), satisfying interpersonal relationships, and positive functioning (energy, clear thinking, self-acceptance, personal development, competence, and autonomy). Stewart-Brown et al. [109] adapted WEMWBS into a unidimensional 7-item scale: SWEMWBS (Short Warwick-Edinburgh Mental Well-being Scale), which was validated for a range of populations, including secondary school students, deaf people, people with schizophrenia, and people experiencing depression and anxiety spectrum disorders [104, 105, 107, 112]. In addition, there are 10 languages available for this scale within these 15 articles (see Table 1). WEMWBS has proved particularly popular for assessing students' mental well-being according to their subjective experiences [34].

- (2) World Health Organization (WHO) 5-item well-being index

WHO 5-item well-being index was identified in 10 out of 107 articles. This scale was originally proposed by Stockholm [148] at a World Health Organisation (WHO) meeting in 1998 to assess patients' well-being. It has since been utilised in research related to primary healthcare, which largely focuses on evaluating health-related quality of life. This scale has been translated into 10 languages within these 10 articles (see Table 1). Additionally, due to the COVID-19 pandemic, there has been a marked increase in the utilisation of this scale to measure individual well-being [144, 145]. However, over time this instrument has been employed by researchers to investigate three types of well-being: subjective psychological well-being [149], mental well-being [143], and psychological well-being [150].

- (3) The PERMA-Profiler

The PERMA-Profiler was identified in 5 out of 107 articles. This scale has attracted researchers' attention due to the high level of acceptance towards the PERMA theory of well-being. This has resulted in it being translated and validated under different cul-

Table 1 Characteristics of available well-being scales

Scale name	No. of articles	Types of well-being	Research Context	Cronbach's Alpha	Language used in scale	References	Research participants	Components and/or dimensions of scales
HR- SWB (Health-Related Subjective Well-Being)	1	Subjective well-being	Netherlands	-	Dutch	(De Vries et al., 2016) [51]	General sample of Dutch population	Physical independence; Positive affect/happiness; Negative affect/feeling lost and lonely; Autonomy; Personal growth
SPANE (Scale of Positive and Negative Experience)	2	Subjective well-being	Spain	0.82–0.88	Spanish	(Prado-Gasco et al., 2020) [52]	Spanish Adolescents	Positive experience; Negative experience
CWI (The Community Wellbeing Index)	1	Subjective well-being	Arab	0.79–0.87	Arabic	(Yaouqib et al., 2022) [53]	General population from Arab Gulf region	Community services; Community attachment; Physical and social environment
DESO (Daily Experience Sampling Questionnaire)	1	Subjective well-being	Spain	Person separation index (similar to Cronbach's α) 0.82–0.85	Spanish	(Forjaz et al., 2011) [54]	Older adults	Single good-bad-dimension
GHQ-12 (General Health Questionnaire)	1	Subjective well-being	Germany	-	German	(Blome et al., 2020) [55]	Patients with psoriasis and healthy subjects in Germany	Community services; Community attachment; Physical and social environment
The Personal Wellbeing Index	1	Subjective well-being	Netherlands	0.85	Dutch	(Kuipers et al., 2019) [56]	Pregnant women	Anxiety & depression; Coping; Implications/effect on life
CSSWQ (College Student Subjective Wellbeing Questionnaire)	1	Subjective well-being	India	0.89 (7-item) 0.88 (8-item)	English	(Michtyre et al., 2020) [57]	Indian adults	Achieving in life; Future security; Standard of living; Health; Personal relationships; Part of your community; Safe you feel; Spirituality or religion (optional domain)
The EORTC QOL-SWB32 measure (European Organization Research and Treatment of Cancer Quality of Life Questionnaire-Spiritual Well-Being)	2	Spiritual well-being	China	0.91	Chinese	(Zhang & Carciolo, 2021) [26]	Chinese university students	Academic satisfaction; Academic efficacy; School connectedness; College gratitude
SWBS (Spiritual Well-being Scale)	2	Spiritual well-being	Croatia	0.62–0.76	Croatian	(Dabo et al., 2021) [58]	Cancer patients in Croatia	Relationship with Others; Relationship with Self;
SHALOM (Spiritual Health And Life-Orientation Measure)	2	Spiritual well-being	Australia; Austria; Chile; China; France; Iran; Italy; Japan; Mexico; Netherlands; Norway; Singapore; Spain; UK	0.68 – 0.84	English; Spanish; Chinese; French; Persian; Italian; Japanese; Norwegian; Dutch; German	(Vivari et al., 2017) [59]	People receiving palliative care for cancer	Relationship with Someone or Something Greater; Existential; Relationship with God; Global-SWB
MI-RSMB12 (Multidimensional Inventory for Religious/Spiritual Well-Being Short Version)	1	Spiritual well-being	India	0.65–0.83	Hindi/English (20-item)	(Grover & Dua, 2021) [60]	Healthy subjects	Religious well-being; Existential well-being
FACIT-Sp-12 (the Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being Scale)	1	Spiritual well-being	Slovakia	0.86	Slovak (10-item)	(Tavel et al., 2022) [61]	Adult Slovak citizens	Personal; Communal; Environmental; Transcendental
			Lithuania	0.91 (Ideals) 0.89 (Lived Experience)	Lithuanian	(Rikikiene et al., 2018) [62]	Patients in nursing and supportive treatment units	
			Portugal	0.74–0.89	Portuguese	(Romeiro et al., 2022) [63]	People undergoing assisted reproductive techniques	
			Germany	McDonald's Omega (similar to Cronbach's α) 0.77	German	(Fuchshuber & Unterauner, 2021) [64]	German-speaking adults	General religiosity; Connectedness; Forgiveness; Hope
			Brazil	0.89	Portuguese	(Alvarenga et al., 2022) [65]	Brazilian adolescents with chronic health conditions	One-dimensionality

Table 1 (continued)

Scale name	No. of articles	Types of well-being	Research Context	Cronbach's Alpha	Language used in scale	References	Research participants	Components and/or dimensions of scales
SWELL-CE (Sexual Well-being after Cervical or Endometrial Cancer)	1	Sexual well-being	UK	-	English	(White et al., 2020) [66]	Female with sexual difficulties after cervical or endometrial cancer treatment	Sexual and relationship concerns; Physical sexual function; Sexual desire and sexual self-esteem
SSWBS (Short Sexual Well-Being Scale)	1	Sexual well-being	Poland	0.80 (4-point scale), 0.83 (7-point scale)	Polish	(Gerymski, 2021) [67]	Transgender and cisgender people	Frequency of sexual relations; Sexual distress; Physical sexual satisfaction; Emotional sexual fulfillment; Sexuality in social sphere
PWB5-42 (Psychological well-being scale)	1	Psychological well-being	Japan	0.57—0.78	Japanese	(Sasaki et al., 2020) [68]	General population	Autonomy; Environmental mastery; Personal growth; Positive relations with others; Purpose in life; Self-acceptance
PPWWM (psychological practitioner workplace well-being measure)	1	Psychological well-being	UK	0.92	English	(Summers et al., 2020) [69]	Psychological practitioners	Professional and organizational satisfaction; Support and flexibility; Professional role; Physical environment; Clinical supervision; External personal
A rapid psychosocial well-being screening tool (MBC-Psy-Soc-Well-being)	1	Psychological well-being	Thailand	0.69	Thai	(Thanasansomboon et al., 2022) [70]	Patients with metastatic breast cancer	Being curious and active in information seeking; Enthusiasm to return to a normal life; Adjusting to positive lifestyle
BSPWB (Brief Psychological Well-Being scale)	1	Psychological well-being	Spain	-	Spanish	(Viejo et al., 2018) [71]	Andalusian adolescents	Self-acceptance; Positive interpersonal relationships; Autonomy; Life development
PWB-c (Psychological Well-Being Scale for Children)	1	Psychological well-being	Netherlands	Wave 1: 0.81 (24-item), 0.70 (12-item), 0.47 (6-item); Wave 2: 0.83 (24-item), 0.72 (12-item), 0.50 (6-item);	Dutch	(Opree et al., 2018) [72]	Children aged 8–12 years	Environmental mastery; Personal growth; Purpose in life; Self-acceptance; Autonomy; Positive relations with Others
Short-Form PWB5 (Short-Form Ryff's Psychological Well-Being Scale)	1	Psychological well-being	Taiwan province of China	0.88	Taiwanese	(Lee et al., 2019) [73]	Clinical nurses	Environmental mastery; Personal growth; Purpose in life; Self-acceptance; Autonomy; Positive relations with Others
SVS (Subjective Vitality Scale)	1	Psychological well-being	UK	0.93	English	(Rouse et al., 2015) [74]	People with rheumatoid arthritis	One-dimensionality
the ICOPE scale (Overall, Interpersonal, Community, Occupation, Physical, Psychological, and Economic well-being)	2	Overall well-being / Subjective well-being	Italy United States; Argentina; Italy	Composite Reliability 0.70—0.86 Composite Reliability Values of CR are all higher than 0.70 in three samples	Italian Italian; Spanish; English	(Di Martino et al., 2018) [75] (Esposito et al., 2022) [76]	General population	Interpersonal well-being; Community well-being; Occupational well-being; Physical well-being; Psychological well-being; Economic well-being; Overall well-being

Table 1 (continued)

Scale name	No. of articles	Types of well-being	Research Context	Cronbach's Alpha	Language used in scale	References	Research participants	Components and/or dimensions of scales
The PERMA-Profil	5	Overall well-being	Korea Australia Malaysia Austria; Germany; Switzerland	0.70—0.95 0.68—0.92 0.71—0.95 -	Korean English English German	(Choi et al., 2019) [77] (Kern et al., 2015) [78] (Shanmugam & Hidayat, 2022) [79] (Wagner et al., 2020) [80]	Korea workers Students ESL teachers General population	Positive emotion; Engagement; Relationships; Meaning; Accomplishment; Overall happiness; Negative emotion; Loneliness; Physical health
Pitt Wellness Scale	1	Overall well-being	Japan United states	0.75—0.96 0.71—0.93	Japanese English	(Watanabe et al., 2018) [81] (Zhou & Parmanto, 2020) [82]	Japanese workers People in the university environment	Physical; Mental; Social; Financial; Spiritual; Occupational; Intellectual
The WBS (The Well-Being 5)	2	Overall well-being	United states	- 0.75—0.90 (Sample 1) 0.71—0.89 (Sample 2) 0.74—0.91 (Sample 3)	English English	(Kraatz et al., 2016) [83] (Sears et al., 2014) [84]	General population Working and nonworking participants	Purpose; Social; Financial; Physical; Community
W-BQ 2 (The Well-being Questionnaire)	1	Psychological well-being	Japan	0.69—0.80	Japanese	(Riazi et al., 2006) [85]	Patients	Negative Well-being; Energy; Positive Well-being
SMWQ (Short Multidimensional Well-being Questionnaire)	1	Overall well-being	France	0.70—0.76	French	(Bigot et al., 2017) [86]	Students	Perceived physical value; Self-esteem and self-efficacy; Socialization; Emotional reactions
PHI (The Pemberton Happiness Index)	1	Overall well-being	Germany; India; Japan; Mexico; Russia; Spain; Sweden; Turkey; United states	0.82—0.93 (11-item) 0.84—0.93 (11 + 1 items)	English; German; Japanese; Russian; Spanish; Turkish; Swedish	(Hervas & Vazquez, 2013) [87]	General population	General; Hedonic; Eudaimonic; Social
14-Item SGWB (the scales of General Well-Being)	2	Overall well-being	United States North American	McDonald's Omega 0.86 McDonald's Omega 0.81—0.91 (Study 2) 0.82—0.92 (Study 3)	English English	(Longo et al., 2018) [88] (Longo et al., 2017) [89]	US residents Adults	Happiness; Vitality; Calmness; Optimism; Involvement; Self-awareness; Self-acceptance; Self-worth; Competence; Development; Purpose; Significance; Self-congruence; Connection
ACHWM (Aboriginal Children's Health and Well-Being Measure)	1	Overall well-being	Canada	-	English	(Young et al., 2015) [90]	First Nations children and youth	Spiritual; Emotional; Physical; Mental
MDI (The Middle Years Development Instrument)	1	Overall well-being	Canada	0.65—0.87	English	(Schonert-Reichi et al., 2013) [91]	Students	Social and emotional development; Connectedness; School experiences; Physical health and well-being; Constructive use of time after school

Table 1 (continued)

Scale name	No. of articles	Types of well-being	Research Context	Cronbach's Alpha	Language used in scale	References	Research participants	Components and/or dimensions of scales
IWB (Inner Well-being scale)	1	Overall well-being	India	0.43 – 0.70	English	(White et al., 2014) [92]	General population	Economic confidence; Agency and participation; Social connections; Close relationships; Physical and mental health; Competence and self-worth; Values and meaning
IWS (Indonesian Well-being Scale)	1	Overall well-being	Indonesia	0.89	Indonesian; English	(Maulana et al., 2019) [85]	Adults	Basic needs; Social relation; Acceptance; Spirituality
HIFAMS ('How I Feel About My School')	2	Subjective well-being	UK	0.62 – 0.67	English	(Allen et al., 2018) [65]	Children aged 4–8 years	One-dimensionality
Recreational Sport Well-Being Scale	1	Others	Taiwan Province of China	0.92	Swedish Taiwanese	(Rad et al., 2021) [93] (Pi et al., 2022) [94]	Children aged 4 to 12 years Taiwanese over 20 years old and participated in recreational sports	Life satisfaction; Physical and mental health; Family flourishing; Positive feelings
FEW16 questionnaire (Physical well-being)	1	Others	Germany	0.87 – 0.95	German	(Tahirovic et al., 2015) [95]	Patients with heart failure	Resilience; Ability to enjoy; Vitality; Inner peace
TechnoWES (The Techno-Work Engagement Scale)	1	Others	Finland	0.94 (9-item) 0.81 (3-item)	Finnish	(Mäkinieni et al., 2020) [85]	Finnish employees	Vigor; Absorption; Dedication
WIRWI (The Water Ingestion-Related Wellbeing Instrument)	1	Others	Mexico	0.86 – 0.87	Spanish	(Espinoza-Montero et al., 2016) [96]	Mexican adults	Physical; Mental
WRWB (Work-Related Well-Being)	1	Others	UK	0.74 – 0.87	English	(Juniper et al., 2010) [97]	Officers and staff within a police force	Advancement; Facilities; Home work interface; Job; Physical health; Psychological health; Relationships; Organizational; Workload
Short-version work-related well-being questionnaire	1	Others	Finland	0.74 – 0.94	English	(Orsila et al., 2011) [98]	Employees in Tampere region	Organizational; Intrinsic
Social Well-Being at School	1	Others	Spain	0.91	English	(Moliner et al., 2021) [99]	Primary education students	Achievement; Cooperation; Cohesion; Coexistence; Attitude towards diversity; Attitude towards diversity; Solidarity

Table 1 (continued)

Scale name	No. of articles	Types of well-being	Research Context	Cronbach's Alpha	Language used in scale	References	Research participants	Components and/or dimensions of scales
WEMWBS (Warwick-Edinburgh Mental Well-being Scale) / SWEWMBBS (short version WEMWBS)	15	Mental well-being	Slovenia	0.91	Slovenian	(Cilar et al., 2020) [100]	Nursing students	One-dimensionality
			UK	0.87	English	(Clarke et al., 2011) [33]	Teenage school students aged 13 to 16 years	
			China	0.95	Chinese	(Dong et al., 2019) [101]	Patients with chronic heart failure	
			Brazil	0.89	Portuguese	(dos Santos et al., 2015) [102]	Brazilian general population	
			China	0.93 (WEMWBS) 0.88 (SWEWMBBS)	Chinese	(Fung, 2019) [103]	University students	
			India	0.92	Hindi/English	(Grover & Dua, 2021) [60]	Healthy subjects	
			Denmark	0.94 (WEMWBS) 0.88 (SWEWMBBS)	Danish	(Koushede et al., 2019) [104]	General population in Danish	
			UK	-	English	(Melendez-Torres et al., 2019) [105]	Secondary school students in Wales	
			Sri Lanka	0.91 (WEMWBS) 0.84 (SWEWMBBS)	Sinhala	(Perera et al., 2022) [106]	General population in Sri Lanka	
			UK	0.83 (Time 1) 0.85 (Time 2)	British Sign Language	(Rogers et al., 2018) [107]	Deaf population	
			Norway	0.91 (WEMWBS) 0.83 (SWEWMBBS)	Norwegian	(Smith et al., 2017) [108]	Patients in Norway	
			UK	Person Separation Index 0.84–0.91	English	(Stewart-Brown et al., 2009) [109]	General population in Scottish	
			Pakistan;	0.92 (Chinese) 0.91 (Pakistan)	English	(Taggart et al., 2013) [110]	Minority ethnic groups living in the UK (self-identified as Chinese or Pakistani)	
			UK	0.89 (student sample) 0.91 (population sample)	English	(Tennant et al., 2007) [111]	Undergraduate and post-graduate students, representative of Scottish population	
			Singapore	0.87–0.91	English	(Vaingankar et al., 2017) [112]	Service users with schizophrenia, depression and anxiety spectrum disorders	
Thailand	0.91	Mental well-being	(Pimthong et al., 2022) [113]	Thai citizens	Positive emotion and thinking; Positive relationship; Positive functioning			
UK	0.83–0.90	Mental well-being	(Siek et al., 2022) [114]	General population	Calmness; Connection; Coping; Happiness; Health; Fulfilment; Sleep			

Table 1 (continued)

Scale name	No. of articles	Types of well-being	Research Context	Cronbach's Alpha	Language used in scale	References	Research participants	Components and/or dimensions of scales
PoWBI (Psychological General Well-Being Index)	2	Psychological well-being	Italy	0.80—0.92	Italian	(Grossi et al., 2006) [115]	General population, student, patient	Anxiety, Depressed mood; Vitality; Positive well-being; Self-control; General health
MHQ (Multiple happiness questionnaire)	1	Overall well-being	Portugal China	0.51—0.86 0.96	Portuguese Chinese	(Leite et al., 2019) [116] (Xing et al., 2019) [117]	General population New-generation migrant workers	Life satisfaction; Positive affect; Negative affect; Health concern; Subjective vitality; Self-worth; Person growth; Positive relation; Altruism commitment
AIOS (Arizona Integrative Outcomes Scale)	1	Overall well-being	United States	-	English	(Bell et al., 2004) [118]	Undergraduate students	Spiritual; Social; Mental; Emotional; Physical
The OxCAP-WH capabilities questionnaire	1	Mental well-being	Austria	0.85	German	(Lazewska et al., 2019) [119]	Patients with diagnosed mental disorder receiving socio-psychiatric services	Contextual; Sociophysical
MHC-SF (The Mental Health Continuum-Short Form)	1	Mental well-being	Netherlands	0.92	Dutch	(Franken et al., 2018) [101]	Outpatient population	Emotional well-being; Psychological well-being; Social well-being
SEYH-WBI (the St. Elizabeth Youngstown hospital well-being inventory) / SEYH-NBI (non-burnout inventory)	1	Subjective well-being	United States	0.76—0.83 (WBI) 0.76—0.79 (NBI)	English	(Dunham et al., 2019) [120]	Physician and nurse	Positive affect; Negative affect
KIDSCREEN-52	1	Overall well-being	Austria; Czech Republic; France; Germany; Greece; Hungary; Ireland; Poland; Spain; Sweden; Switzerland; Netherlands; UK	0.77—0.89 (52-item) 0.80—0.84 (27-item) 0.82 (10-item)	German; Czech; French; Greek; Hungarian; English; Polish; Spanish; Swedish; Italian; Romanish; Dutch	(Ravens-Sieberer et al., 2014) [121] (Ravens-Sieberer et al., 2010) [122]	School children and chronically ill children; Children and adolescents aged 8–18	Psychological well-being; Physical well-being; Family; Peer; School well-being
KIDSCREEN-27								
KIDSCREEN-10								
KIDS-CAT (a new computerized adaptive test based on KIDSCREEN)	1	Overall well-being	Northern Spain	0.80	German; Czech; French; Greek; Hungarian; English; Polish; Spanish; Swedish; Italian; Romanish; Dutch	(Ravens-Sieberer et al., 2014) [121]	School children and chronically ill children	One-dimensionality
WCL (Well-Being of Children in Lockdown)	1	Overall well-being	Northern Spain	0.80	Spanish	(Berasategi et al., 2020) [123]	Children in lockdown	Emotions; Playful and creative activities; Education; Addictions; Routine; Physical activity

Table 1 (continued)

Scale name	No. of articles	Types of well-being	Research Context	Cronbach's Alpha	Language used in scale	References	Research participants	Components and/or dimensions of scales
PWS (Personal Wellbeing Score)	1	Subjective well-being	UK	0.90	English	(Benson et al., 2019) [124]	Patient	One-dimensionality
ORWELL 97-TR (Obesity-Related Well-Being Questionnaire)	1	Overall well-being	Turkey	0.91	Turkish	(Usta et al., 2022) [125]	Overweight patient	Psychological; Social relations; sexuality
Short Form of the WHO-QOL-HIV (World Health Organisation Quality of Life)	1	Overall well-being	Australia; Brazil; India; Bangalore; Thailand; Zimbabwe; Italy; Ukraine	0.65—0.82	English; Portuguese; Kannada; Thai; Italian; Ukrainian	(O'Connell & Skevington, 2012) [126]	HIV-Positive adults	Physical; Psychological; Independence; Social relationships; Environment; Spirituality, religion and personal beliefs
WE-CARE (Well-being and Satisfaction of CAREgivers of Children with Diabetes Questionnaire)	1	Overall well-being	United States	0.84—0.95	English	(Cappelleri et al., 2008) [127]	Parents or caregivers of children with type 1 diabetes aged 6 to 11 years	Psychosocial well-being; Ease of Insulin use; Treatment satisfaction; Acceptance of Insulin administration
PROMIS Well-Being (Patient-Reported Outcome Measurement Information System)	1	Overall well-being	United States	0.70—0.95	English	(Blackwell et al., 2022) [128]	Children aged 3–5 years	Positive affect; Engagement; Self-regulation
ICECAP (ICECopp CAPability)	3	Overall well-being	Hungary	0.86 (ICECAP-A) 0.86 (ICECAP-O)	Hungarian	(Baji et al., 2020) [129]	Hungarian adult general population	Stability; Attachment; Autonomy; Achievement; Enjoyment
WIP (The Well-being in Pregnancy)	1	Subjective well-being	UK	-	English	(Goranitis et al., 2016) [130]	Women with irritative lower urinary tract symptoms	
LWG-GER (Laurens Well-being Inventory for Gerontopsychiatry)	1	Overall well-being	Germany; UK	0.74—0.86	English; German	(Linton et al., 2020) [131]	Participants with a variety of health conditions	
The pregnancy and postnatal well-being in transition questionnaires	1	Overall well-being	UK	0.83	English	(Kelly et al., 2022) [132]	Pregnant women	Concerns over support after birth; Positive pregnancy; Confidence about motherhood
CFPB Financial Well-being scale (Consumer Financial Protection Bureau Financial Well-Being scale)	1	Overall well-being	Germany	0.84	German	(Schott et al., 2021)	Long-term nursing home residents	Psychological well-being; Social well-being; Physical well-being
MSFWBS (The Multidimensional Subjective Financial Well-being Scale)	1	Overall well-being	Australia	-	English	(Rasmussen et al., 2013) [98]	Women with type 1 diabetes	Psychological well-being; social environment; Physical (maternal and fetal) well-being
		Financial well-being	Brazil	0.89	Portuguese	(Howat-Rodrigues et al., 2021) [133]	People on the online mailing list of the Brazilian Securities and Exchange Commission	One-dimensionality
		Financial well-being	Canada	0.86—0.94	English	(Aubrey et al., 2022) [134]	French-Canadian adults	Having money; Peer comparison; General subjective financial well-being; Money management; Financial future

Table 1 (continued)

Scale name	No. of articles	Types of well-being	Research Context	Cronbach's Alpha	Language used in scale	References	Research participants	Components and/or dimensions of scales
Eudaimonic Well-Being Questionnaire	1	Eudaimonic well-being	Spain	0.81—0.88	Spanish	(Trigueros et al., 2021) [135]	Athletes	Sense of meaning and purpose; Contribution and social competence; Personal development and self-acceptance; Autonomy; Personal expressiveness; Sense of belonging
Flourishing Scale	1	Eudaimonic well-being	Netherlands	0.86	Dutch	(Schootanus-Dijkstra et al., 2016) [136]	People with suboptimal levels of mental well-being	One-dimensionality
EWWS (the eudaimonic workplace well-being scale)	1	Eudaimonic well-being	United States	0.87—0.90	English	(Bartels et al., 2019) [137]	General population	interpersonal; intrapersonal
The BBC well-being scale	2	Overall well-being / Subjective well-being	UK	0.94	English	(Kinderman et al., 2011) [138]	General population	Psychological well-being; Physical health and well-being; Relationships
WHO 5-item well-being index	10	Mental well-being / Psychological well-being	Kenya	0.86—0.88	English	(Pontin et al., 2013) [139]	Adults living with HIV and epilepsy	One-dimensionality
			Iran	0.91	Iranian	(Chongwo et al., 2018) [140]	Psychiatric outpatients	
			Brazil	0.83	Portuguese	(de Souza & Hidalgo, 2012) [141]	German immigrant descendants	
			Netherlands	0.82	Dutch	(De Wit et al., 2007) [142]	Adolescents With Type 1 Diabete	
			China	0.86 (Study 1) 0.86 (Study 2)	Chinese	(Fung et al., 2022) [143]	University students	
			Spain; Chile; Norway	0.81—0.90	Spanish; Norwegian	(Lara-Cabrera et al., 2022) [144]	Nurses	
			Norway	0.88	Norwegian	(Nylén-Eriksen et al., 2022) [145]	Caregivers of children diagnosed with Attention-Deficit/Hyperactivity Disorder (ADHD)	
			Sri Lanka	0.85	Sinhala	(Perera et al., 2020) [79]	Sinhala speaking participants	
			Denmark	0.89	Danish	(Schougaard et al., 2018) [146]	Outpatients with epilepsy	
			Malaysia	0.91	Malay	(Suhaimi et al., 2022) [147]	Type 2 Diabetes Mellitus Patients	

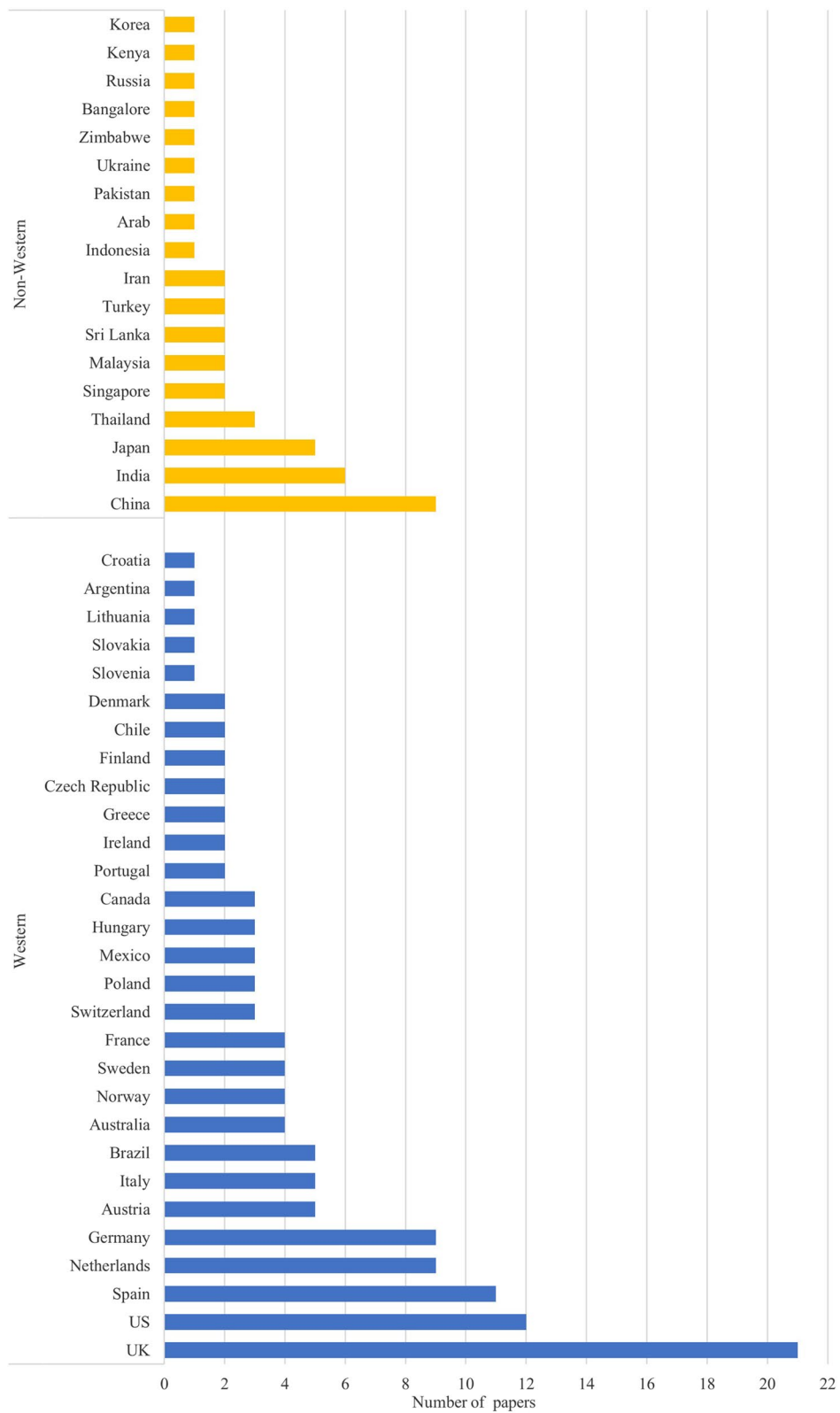


Fig. 2 Research context of 69 identified well-being scales

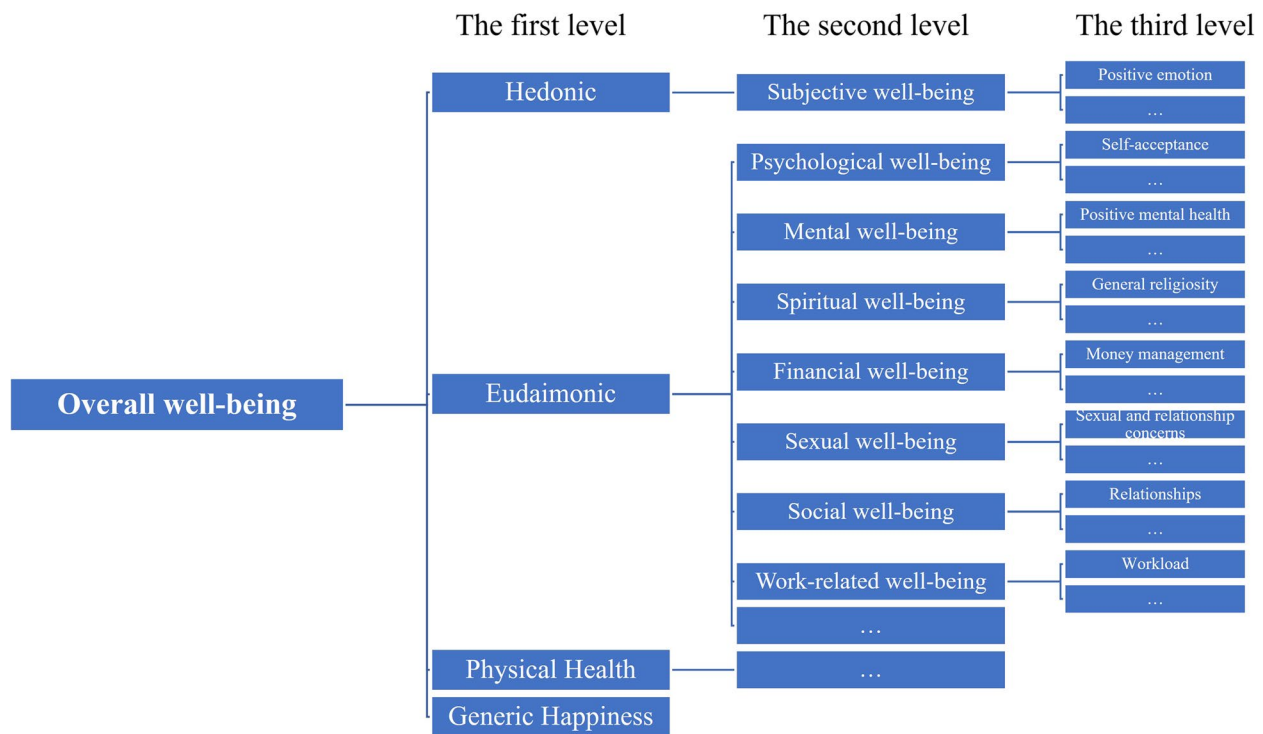


Fig. 3 ‘4+N’ framework of Overall well-being (Note. “...” indicates “N” flexible components, which can be included or excluded in the measurement of overall well-being with the development of its conceptualisation)

tural contexts, such as Korea, Japan, Turkey, Greece, etc. [77, 81, 151, 152], and Table 1 shows that there are 4 languages available for this scale within these 5 articles. As mentioned previously, the PERMA-Profiler was developed by Butler and Kern [2], with 23 items covering a broad spectrum of well-being.

In which areas of well-being are these scales primarily focused?

The identified 69 well-being scales were used to explore different types of well-being, and some of the same scales were used for the assessment of different well-being types. All 69 well-being scales were analysed based on their aims in 107 selected articles, and those with similar purposes were grouped to form a given theme (see Table 1). Nine themes were raised relating to different well-being areas: Overall well-being, Mental well-being, Psychological well-being, Subjective well-being, Spiritual well-being, Eudaimonic well-being, Financial well-being, Sexual well-being, and Other well-being areas. Each type of well-being is presented below:

- (1) Overall well-being is known as well-being, multi-dimensional well-being, global well-being, or general well-being, and is the overall construct with all other areas of well-being falling under it (see Fig. 3).

Overall well-being refers to satisfaction with life as a whole and with crucial domains, such as physical health, mental health, relationship, etc. [84, 153]. However, there is no consensus on which specific domains should be included to evaluate individual well-being. In the current study, overall well-being, as the most popular explored well-being area, was identified in 32 articles and adopted twenty-four different scales covering one to fourteen components and/or dimensions. Notably, 10 of these 24 scales (see Appendix 2 in supplementary material) focused on the assessment of overall well-being in a specific group of patients with various symptoms (i.e., diabetes, cancer, HIV) and mainly aimed to assess the quality of a patient’s life.

- (2) Mental well-being is the opposite of mental illness or mental disorders [100] and seems to be used interchangeably with positive mental health, which comprises emotional and psychological aspects [111]. There were six different scales identified in 22 articles that specifically focused on mental well-being.
- (3) Psychological well-being is considered a multidimensional concept including positive psychological and social functioning [116], as well as physical health [154]. Psychological well-being is sometimes

used interchangeably with eudaimonic well-being [16] or as an essential aspect of eudaimonic well-being [68, 71]. There were ten different scales identified in 17 articles focusing on psychological well-being.

- (4) Subjective well-being encompasses life satisfaction, positive emotion, and negative emotion [3]. In concurrence with this definition, the authors largely agreed and applied this definition in their studies [57, 60]. There were thirteen different scales identified in 15 articles focusing on subjective well-being.
- (5) Spiritual well-being refers to the interrelationship between spirituality and well-being, containing religious well-being (assessing individual relationship with God) and existential well-being (assessing individual sense of life meaning) [60, 61]. Furthermore, spiritual well-being was identified as a significant predictor of health-related quality of life [58, 59]. There were five different scales identified in eight articles focusing on spiritual well-being.
- (6) Eudaimonic well-being focuses on an individual's development and meaning in life, which is always mentioned together with hedonic well-being. Both eudaimonic and hedonic well-being are considered complementary parts of overall well-being [137]. There were three different scales identified in three articles focusing on eudaimonic well-being.
- (7) Financial well-being is used synonymously with economic well-being, which refers to a sound financial condition in two aspects: material resources (objective aspect), experience and evaluation (subjective aspect) [32]. There were two different scales identified in two articles focusing on financial well-being.
- (8) Sexual well-being refers to the assessment of human sexuality, cognitively and emotionally, and a newly revised definition that aligned with the WHO's sexual health definition was raised by Gerymski [67]. This included five components: frequency of sexual relations, sexual distress, physical sexual satisfaction, emotional sexual fulfilment, and sexuality in the social sphere, which includes both positive and negative aspects of sexuality. There were two different scales identified in two articles assessing an individual's sexual well-being.
- (9) Other: The remaining seven different scales do not fall into any of the above categories and all have only one relevant study (i.e., physical well-being, social well-being, and work-related well-being), which were classified as other well-being areas. Physical well-being focuses on the positive framing of an individual's physical health rather than on the absence of disease or pain [95]. Social well-being

refers to the sense of belonging and social inclusion in the environment [99]. Work-related well-being is supposed to contribute to an employee's overall well-being and is mainly determined by the employee's satisfaction with work [97].

Nine distinct areas of well-being were defined based on the researcher's objectives of the well-being they intended to assess. It is unsurprising that eight out of nine areas of well-being contribute to overall well-being [5, 134] with varying degrees of overlap. This has resulted in some confusion because some researchers reported these well-being areas as 'overall well-being' in studies but did not provide an accurate picture of overall well-being. For example, White et al. [92] proposed inner well-being to capture people's thinking and feeling about what they are able to be and do. This scale presents four dimensions (Basic needs, Social relation, Acceptance, and Spirituality) to assess inner well-being. However, the four dimensions tended to evaluate an individual's eudaimonic well-being and failed to evaluate hedonic and other aspects of well-being. Another example was published by Bartels et al. [137], who conceptualised hedonic and eudaimonic well-being together as overall workplace well-being. However, they used a eudaimonic well-being scale and eudaimonic well-being conceptualisation instead of overall well-being. The BBC well-being scale with three dimensions (Psychological well-being; Physical health and well-being; Relationships) was developed by Kinderman et al. [138] to evaluate an individual's overall well-being. However, two years later, this scale with the same dimensions and items was revised to assess an individual's subjective well-being [139]. Therefore, it is important to note that viewing any single sub-component of well-being as a complete representation of overall well-being is inappropriate.

Table 2 shows the cross-tabulation analysis according to the well-being areas to present the pattern from 2003 to 2022. As can be seen in Table 2, the number of studies on well-being was largely stable from 2003 to 2017, showing a sharp increase since 2018. In addition, overall well-being and mental well-being were the most commonly explored areas of well-being within 32 (i.e., Overall well-being) and 22 (i.e., Mental well-being) articles respectively. Psychological well-being and Subjective well-being were identified in 17 and 15 articles respectively, and the remaining five areas of well-being had a smaller number of studies, all under 10.

What are the main constructs of overall well-being that are assessed?

Guided by the third research question: What are the main constructs of overall well-being that are assessed?

Table 2 Cross-tabulation analysis types of well-being from 2003–2022

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Overall well-being	-	1	-	-	-	1	-	1	1	1	3	3	2	2	2	2	3	5	1	4	32
Mental well-being	-	-	-	-	1	-	1	-	1	-	1	-	1	-	2	3	5	2	1	4	22
Psychological well-being	-	-	-	2	1	-	-	-	-	1	-	-	1	-	-	4	2	2	-	4	17
Subjective well-being	-	-	-	-	-	-	-	-	1	-	1	-	-	1	-	2	3	3	2	2	15
Spiritual well-being	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	3	3	8
Others	-	-	-	-	-	-	-	1	1	-	-	-	1	1	-	-	-	1	1	1	7
Eudaimonic well-being	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	1	-	3
Financial well-being	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2
Sexual well-being	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	2
Total	0	1	0	2	2	1	1	2	4	2	5	3	5	5	5	12	14	14	11	19	108

The next round of coding concentrated on the codes related to how overall well-being was classified in the first round of coding. Out of the 69 scales that were obtained from the articles, 24 of them covered overall well-being; therefore, only these 24 scales were examined further. The components and/or dimensions of the identified overall well-being scales were systematically coded. Each component and/or dimension was analysed based on its description, and those with similar characteristics were grouped together to form a given theme. Ultimately, four themes were identified inductively as the assessed foundational dimensions of overall well-being: Hedonic, Eudaimonic, Physical health, and Generic happiness.

A total of 126 codes emerged from 24 overall well-being scales (see Appendix 2 in supplementary material). However, some codes shared the same name but expressed different meanings, while others used different coding names but described similar meanings in different scales and articles. For example, ‘psychological well-being’ as a dimension in ‘the I COPPE scale’ [76] and ‘KIDS-CAT’ [121] refers to positive emotion and satisfaction with life, which appear to have the same focus as subjective well-being. ‘Basic needs’ in the ‘Indonesian Well-being Scale (IWS)’ refers to having sufficient income to afford housing, education, and other basic needs in life, which has a similar meaning to ‘Financial’ well-being [82] or ‘Economic confidence’ [92]. Therefore, 126 codes were categorised into four themes according to their description rather than the coding name itself. These themes excluded four codes highlighted in grey (see Appendix 2 in supplementary material): ‘School experiences’, ‘Constructive use of time after school’, ‘Ease of Insulin use’, and ‘Acceptance of Insulin administration’, because these four codes are arguably influencing factors rather than components of well-being and are only applicable to specific research participants (school children, parents, or caregivers of children with type 1 diabetes aged 6 to 11 years). Based on the thematic analysis of the classification of the codes, the below discussion focuses on the following themes: 1) Hedonic; 2) Eudaimonic; 3) Physical health; and 4) Generic happiness.

Hedonic

Table 3 shows that there are 22 codes grouped into the ‘hedonic’ dimension. The Hedonic dimension was described as enjoyment and feelings of positive emotion along with the satisfaction of life [8, 39, 87]. Historically, almost all researchers tended to regard subjective well-being and affective well-being as hedonic well-being, and these concepts have often been used interchangeably [116, 136, 137]. The scales were used to assess an individual’s hedonic well-being, comprising at least two aspects (i.e., positive and negative emotion), with

several researchers including happiness and life satisfaction as well [12]. Vitality, calmness, and optimism were also identified as relevant to hedonic well-being because of their emotional characteristics. For example, vitality refers to high-arousal happy feelings, whereas calmness refers to low-arousal happy feelings, and optimism means a positive attitude toward the future [89]. Therefore, as one dimension of overall well-being, hedonic well-being stresses feeling good, whether related to pleasant experiences taking place in the past, present, or future.

Eudaimonic

As can be seen in Table 3, there are 81 codes categorised into the ‘Eudaimonic’ dimension. The expression ‘Eudaimonic’ alludes to the potential that lies inside individuals, the realisation of which would bring them the greatest happiness in life, which relates to self-realisation [8, 39]. After two decades of development, ‘Eudaimonic’ was presented with core essentials: ‘know yourself, then become yourself’ [16], and appeared to be used interchangeably with psychological well-being and psychological flourishing [116, 137]. Therefore, as a dimension of overall well-being, the ‘Eudaimonic’ dimension represents an individual’s positive psychological functioning and self-fulfilment [155]. Additionally, four financial-related components (i.e., i. ‘Financial’ in ‘Pitt Wellness Scale’ and ‘The WB5’; ii. ‘Economic well-being’ in ‘the I COPPE scale’; iii. ‘Economic confidence’ in ‘IWS’; iv. ‘Basic needs’ in ‘IWS’) were categorised into the ‘Eudaimonic’ dimension as well, because these components refer to a positive psychological state and ability to manage one’s finance [133, 156] and have been validated in the general population. Therefore, ‘financial’ could be a flexible component in the ‘Eudaimonic’ dimension, which can be added or removed depending on the researcher’s focus.

Physical health

Studies have confirmed that better physical health is associated with higher overall well-being [16, 86, 118, 132]. Sixty-seven percent (16/24) of scales covered the physical health component, highlighting a preference for more generic views of physical health as opposed to a focus on specific ‘diseases’. For example, one item in ‘the BBC Well-being Scale’ states: ‘Are you satisfied with your physical health?’ [138]. In the current study, physical health as a dimension of overall well-being aligns with the Prilleltensky et al. [153] definition that focuses on the overall satisfaction of health-related quality of life, including but not limited to the quality of sleep and health status.

Table 3 Comparison of 24 overall well-being scales

Scales	No. of items	No. of components	Classification process of components				Dimensions			
			Hedonic	Eudaimonic	Physical health	General happiness	Hedonic	Eudaimonic	Physical health	General happiness
the I COPPE scale	21/14	7	Psychological well-being	Interpersonal well-being; Community well-being; Occupational well-being; Economic well-being	Physical well-being	Overall well-being	✓	✓	✓	✓
The PERMA-Profiler	23	9	Positive emotion; Negative emotion; Loneliness	Engagement; Relationships; Meaning; Accomplishment	Physical health	Overall happiness	✓	✓	✓	✓
Pitt Wellness Scale	44	7	—	Mental; Social; Financial; Spiritual; Occupational; Intellectual	Physical	—	×	✓	✓	×
The WB5(The Well-Being 5)	5	5	—	Purpose; Social; Financial; Community	Physical	—	×	✓	✓	×
SMWQ (Short Multidimensional Well-Being Questionnaire)	23	4	Emotional reactions	Self-esteem and self-efficacy; Socialization	Perceived physical value	—	✓	✓	✓	×
PHI (The Pemberton Happiness Index)	21	4	Hedonic	Eudaimonic; Social	—	General	✓	✓	×	✓
14-item SGWB (the scales of General Well-Being)	14/65	14	Happiness; Vitality; Calmness; Optimism	Involvement; Self-awareness; Self-acceptance; Self-worth; Competence; Development; Purpose; Significance; Self-congruence; Connection	—	—	✓	✓	×	×
ACHWM (Aboriginal Children's Health and Well-Being Measure)	60	4	Emotional	Spiritual; Mental	Physical	—	✓	✓	✓	×
MDI(The Middle Years Development Instrument)	71	5	—	Social and emotional development; Connectedness	Physical health and well-being	—	×	✓	✓	×
IWB (Inner Well-being scale)	35	7	—	Economic confidence; Agency and participation; Social connections; Close relationships; Competence and self-worth; Values and meaning	Physical and mental health	—	×	✓	✓	×

Table 3 (continued)

Scales	No. of items	No. of components	Classification process of components				Dimensions				
			Hedonic	Eudaimonic	Physical health	General happiness	Hedonic	Eudaimonic	Physical health	General happiness	
IWS (Indonesian Well-being Scale)	20	4	---	Social relation; Acceptance; Spirituality; Basic needs	---	---	---	×	√	×	×
MHQ (Multiple happiness questionnaire)	50	9	Life satisfaction; Positive affect; Negative affect	Subjective vitality; Self-worth; Person growth; Positive relation; Altruism commitment	Health concern	---	---	√	√	√	×
AIOS (Arizona Integrative Outcomes Scale)	1	5	Emotional	Spiritual; Social; Mental	Physical	---	---	√	√	√	×
KIDS-CAT (a new computerized adaptive test based on KIDSCREEN)	155	5	Psychological well-being	Family; Peer; School well-being	Physical well-being	---	---	√	√	√	×
KIDSCREEN-10	10	1	---	---	---	---	---	-	-	-	-
WCL (Well-Being of Children in Lockdown)	22	6	Emotions	Playful and creative activities; Education; Addictions; Routine	Physical activity	---	---	√	√	√	×
ORWELL 97-TR (Obesity-Related Well-Being Questionnaire)	15	3	---	Psychological; Social relations; sexuality	---	---	---	×	√	×	×
Short Form of the WHOQOL-HIV	31	6	---	Psychological; Independence; Social relationships; Environment; Spirituality, Religion and personal beliefs	Physical	---	---	×	√	√	×
WE-CARE (Well-being and Satisfaction of CAREgivers of Children with Diabetes Questionnaire)	37	4	Treatment satisfaction	Psychosocial well-being	---	---	---	√	√	×	×
PROMIS Well-Being (Patient-Reported Outcome Measurement Information System)	36	3	Positive affect	Engagement; Self-regulation	---	---	---	√	√	×	×
ICECAP (ICECpop CAPability)	5	5	Enjoyment	Stability; Attachment; Autonomy; Achievement	---	---	---	√	√	×	×

Table 3 (continued)

Scales	No. of items	No. of components	Classification process of components				Dimensions			
			Hedonic	Eudaimonic	Physical health	General happiness	Hedonic	Eudaimonic	Physical health	General happiness
LWIG-GER (Laurens Well-being Inventory for Gerontopsychiatry)	19	3	Psychological well-being	Social well-being	Physical well-being	---	√	√	√	×
The pregnancy and postnatal well-being in transition questionnaires	45/49	3	Psychological well-being	social environment	Physical (maternal and fetal) well-being	---	√	√	√	×
The BBC well-being scale	24	3	---	Psychological well-being; Relationships	Physical health and well-being	---	×	√	√	×

Generic happiness

The dimension of generic happiness was presented in three scales: the PERMA-Profiler, the ICOPPE scale, and PHI. Within these three scales, this dimension provides a general indication of hedonic and eudaimonic constructs through the inclusion of one to two broad scale items, which, therefore, overlaps with hedonic and eudaimonic dimensions. For example, the PHI contains two items (e.g., 'I am very satisfied with my life'; 'I have the energy to accomplish my daily tasks') [87], whereas the PERMA-profiler contains only one (i.e., 'Taking all things together, how happy would you say you are?') [2], as does the ICOPPE scale, which assesses overall life satisfaction now at two time points: a year ago and a year from now (i.e., 'When it comes to the best possible life for you, on which number do you think you will stand?' [153]). In the current study, generic happiness as a dimension of overall well-being is consistent with the argument within these three scales that, in addition to other domains of overall well-being, the generic happiness dimension allows individuals to give a comprehensive assessment of their well-being status from a global level [2, 153].

To sum up, after comparison and analysis of 24 overall well-being scales' components and/or dimensions, a '4+N' framework of overall well-being was conceptualised (see Fig. 3): '4' means foundational dimensions of overall well-being with Hedonic, Eudaimonic, Physical health, and Generic happiness, which are the identified dimensions within the literature of overall well-being at the first level (see Fig. 3); and 'N' refers to flexible components within four foundational dimensions of overall well-being, which are other types of well-being identified in 107 articles used as the components of foundational dimensions and are placed at the second level (see Fig. 3). For example, subjective well-being is the component of 'Hedonic'; psychological well-being, mental well-being, financial well-being, spiritual well-being, and sexual well-being are the components of 'Eudaimonic'. Then the specific codes identified within the 69 scales are placed on the third level (see Fig. 3) as the parts of the second level (types of well-being). For instance, 'self-worth', 'purpose', and 'self-regulation' belong to psychological well-being, and 'money management' belongs to financial well-being. These components can be included based on particular research purposes. To date, 'the ICOPPE scale' and 'the PERMA-profiler' seem to have broad coverage of four foundational dimensions recommended in this study; however, further studies are required to examine their applicability across diverse cultural contexts. Notably, as mentioned, psychological well-being in 'the ICOPPE scale' was regarded as a component of the 'Hedonic' dimension instead of the 'Eudaimonic' dimension because it measured subjective well-being. Hence, to

prevent potential ambiguity arising from psychological well-being used as subjective well-being, it is imperative for forthcoming research to establish clear differentiations within their studies when using the ICOPPE scale.

Conclusion and future studies

This paper set out to determine the dominant dimensions of overall well-being that are currently assessed in open-access published research to aid researchers new to this field in navigating the different measurements of well-being. In particular, through this research we were able to identify four main well-being dimensions that are assessed in the literature for overall well-being. More researchers are delving into well-being as it becomes part of cross-disciplinary research. Hence, through this study, these researchers are now guided into which areas of well-being they may want to concentrate on, as well as what measures are available to measure these dimensions. These dimensions become a starting point for their cross-disciplinary research into well-being and form the connective knowledge, or 'about-knowledge' [157], to understand the scope of research they can conduct. Further, our study shows that Western researchers appear to dominate in the publication of open-access research on well-being. This may be because well-being is now becoming a focus for these researchers or the lack of access to validated scales that Global South researchers can use because of financial constraints [11]. Hence, via this study, Global South researchers are more readily able to identify open-access scales that they can use in their research and measure overall well-being.

One of the limitations of this research is the selection of open-access scales only, which means that some common or popular scales may not be listed. This study was aimed at Global South researchers, and it was necessary to only include scales that they can access. As open-access research can promote a more level playing field for researchers in the Global South [158], where health inequalities may be more exacerbated, focusing on open-access scales can aid Global South researchers in decreasing the gap in the well-being research between the Global North and the Global South, as well as illuminate further the determinants of health inequalities in these research areas [159].

We identified numerous well-being centred scales, terms, and classifications that reflect the complexity of well-being; for example, subjective well-being focused on subjective feelings, psychological well-being stressed psychological functioning, and mental well-being focused on an individual's mental health. However, although these different components of the numerous scales mentioned above focus on various aspects of well-being, they are all considered to contribute (although are insufficient on

their own) to an individual's overall well-being. Therefore, it is not appropriate to make assumptions about an individual's overall well-being by examining only one single area of it.

Having discussed the complexity of the well-being construct, it is also important to acknowledge the complexity related to measuring overall well-being comprehensively. Most research tends to focus on conceptualising overall wellbeing along the eudaimonic or hedonic dimensions [41, 160]. It is worth noting that although the distinction between these two dimensions has been well-accepted among well-being researchers [160], these two dimensions overlap conceptually [41, 160]. Therefore, we suggest, based on how overall well-being is conceptualised and measured in the published studies, that overall well-being should be measured across four main dimensions (i.e., Hedonic, Eudaimonic, Physical health, and Generic happiness); however, these are by no means exclusive.

The contribution of this study has been to identify and unify the construct of overall well-being used in measures for researchers new to the field of well-being, which can be summarised as a '4+N' framework (see Fig. 3). '4' means identified dimensions of overall well-being with Hedonic, Eudaimonic, Physical health, and Generic happiness, and 'N' refers to flexible components within four foundational dimensions of overall well-being. These findings provide important insights into the various dimensions of overall well-being that can inform the development of well-being. Moreover, the study provides clarification of different areas of well-being and provides insight into their relationship with overall well-being; either one is only a component within a dimension of overall well-being and is not sufficient to represent overall well-being because a single area of well-being could not represent the overall well-being but contributes to it. The findings will benefit future researchers by enabling them to more efficiently determine the appropriate well-being measure for their particular research question(s). We do want to stress that this model is based on the published literature, and there is scope for this framework to be expanded on as well-being is further researched and conceptualised.

In summary, to assess an individual's overall well-being, this scoping review indicates that a scale constructed with four key dimensions (i.e., Hedonic, Eudaimonic, Physical health, and Generic happiness) will provide a comprehensive and integrated picture of what is intended to be measured to date. Hedonic emphasises feeling good; Eudaimonic stresses functioning well; Physical health highlights global satisfaction of life concerning health; and the Generic happiness dimension underpins an individual's overall sense of well-being. Researchers may want to use our list provided to identify a scale

from each of these dimensions when conducting their research.

Future research may include some new recommended dimensions (e.g., mindset, environment, and economic security) to develop the building blocks of overall well-being [161]. Additionally, there is a need to review various areas of well-being to strengthen distinctions among different dimensions. Future research efforts should also focus on non-Western contexts to encompass a broader range of populations and ensure that well-being research findings are more representative of a range of cultural contexts [51–53, 55, 56, 62, 63, 65, 66, 69, 70, 72–74, 78–80, 83, 85, 90, 91, 93, 94, 96, 98, 101–103, 106, 108, 110, 113–115, 117, 119, 120, 122–131, 135, 140–142, 146, 147, 162–193].

Abbreviations

OWB	Overall well-being
SWB	Subjective well-being
PWB	Psychological well-being
HR- SWB	Health-Related Subjective Well-Being
SPANE	Scale of Positive and Negative Experience
CWI	The Community Wellbeing Index
DESQ	Daily Experience Sampling Questionnaire
GHQ-12	General Health Questionnaire
CSSWQ	College Student Subjective Wellbeing Questionnaire
EORTC	European Organisation Research and Treatment of Cancer
QLG	Quality of Life Group
SWBS	Spiritual Well-being Scale
SHALOM	Spiritual Health And Life-Orientation Measure
MI-RSWB12	Multidimensional Inventory for Religious/Spiritual Well-Being
FACIT-Sp-12	The Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being
SWELL-CE	Sexual Well-being after Cervical or Endometrial Cancer
SSWBS	Short Sexual Well-Being Scale
PPWWM	Psychological practitioner workplace well-being measure
MBC	Metastatic breast cancer
BSPWB	Brief Psychological Well-Being
SVS	Subjective Vitality Scale
I COPPE	Overall, Interpersonal, Community, Occupation, Physical, Psychological, and Economic well-being
PERMA	Positive emotion; Engagement; Relationships; Meaning; Accomplishment
Pitt	University of Pittsburgh
W-BQ	Well-being Questionnaire
SMWQ	Short Multidimensional Well-being Questionnaire
PHI	The Pemberton Happiness Index
SGWB	The scales of General Well-Being
ACHWM	Aboriginal Children's Health and Well-Being Measure
MDI	The Middle Years Development Instrument
IWB	Inner Well-being
IWS	Indonesian Well-being Scale
HIFAMS	How I Feel About My School
FEW	Physical well-being
TechnoWES	The Techno-Work Engagement Scale
WIRWI	The Water Ingestion-Related Wellbeing Instrument
WRWB	Work-Related Well-Being
WEMWBS	Warwick-Edinburgh Mental Well-being Scale
SWEMWBS	Short version Warwick-Edinburgh Mental Well-being Scale
PGWBI	Psychological General Well-Being Index
MHQ	Multiple happiness questionnaire
AIOS	Arizona Integrative Outcomes Scale
OxCAP-MH	Oxford CAPabilities questionnaire-Mental Health
MHC-SF	The Mental Health Continuum-Short Form
SEYH-WBI	The St. Elizabeth Youngstown hospital wellbeing inventory
SEYH-NBI	The St. Elizabeth Youngstown hospital non-burnout inventory

KIDSCREEN	The European KIDSCREEN Group
KIDS-CAT	Kids computer-adaptive test
WCL	Well-Being of Children in Lockdown
ORWELL	Obesity-Related Well-Being
WHO	World Health Organisation
WHOQOL	WHO quality of life
WE-CARE	WEll-being and Satisfaction of CAREgivers of Children with Diabetes
PROMIS	Patient-Reported Outcome Measurement Information System
ICECAP	ICEpop1 CAPability: ICEPOP was a UK MRC-funded Health Services Research laboration programme on Investigating Choice Experiments for Preferences of Older People; it was the research programme in which the first ICECAP measure was developed
WiP	the Well-being in Pregnancy
LWIG-GER	Laurens Well-being Inventory for Gerontopsychiatry
CFPB	Consumer Financial Protection Bureau
MSFWBS	the Multidimensional Subjective Financial Well-being Scale
EWWS	the eudaimonic workplace well-being scale

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s40359-024-02074-0>.

Supplementary Material 1.

Acknowledgements

Not applicable.

Authors' contributions

W.Z.: Screening and data analysis, writing original draft. K.B.: Supervision, review and editing. A.H.: Supervision, review and editing. E.M.: Supervision, review and editing. All authors agreed the final version of the manuscript.

Funding

No funds, grants, or other support was received.

Data availability

No datasets were generated or analysed during the current study.

Declarations

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Received: 9 December 2023 Accepted: 10 October 2024

Published online: 23 October 2024

References

- Ryan J, et al. Psychometric properties of the PERMA Profiler for measuring wellbeing in Australian adults. *Plos One*. 2019;14(12):e0225932.
- Butler J, Kern ML. The PERMA-Profiler: A brief multidimensional measure of flourishing. *International Journal of Wellbeing*. 2016;6(3):1–48. <https://doi.org/10.5502/ijw.v6i3.526>.
- Diener E. Subjective well-being - The science of happiness and a proposal for a national index. *Am Psychol*. 2000;55(1):34–43.
- Forshaw EK, Woods, Student participation in the development of whole-school wellbeing strategies: a systematic review of the literature. *Pastoral Care in Education*. 2022;41(4):430–48. <https://doi.org/10.1080/02643944.2022.2148175>.
- Junça Silva A, Dias R. The role of financial status attitudes behaviours and knowledge for overall well-being in Portugal: the mediating role of financial well-being. *Int J Organ Anal*. 2023;1(7):3668–85.
- van der Auwera M, Debacker M, Hubloue I. Monitoring the mental well-being of caregivers during the Haiti-earthquake. *PLoS Currents*. 2012;4:e4fc33066f1947. <https://doi.org/10.1371/4fc33066f1947>.
- Hone LC, et al. Measuring flourishing: The impact of operational definitions on the prevalence of high levels of wellbeing. 2014;4(1):62–90. <https://doi.org/10.5502/ijw.v4i1.4>.
- Lambert L, et al. Towards a greater global understanding of wellbeing: A proposal for a more inclusive measure. *International Journal of Wellbeing*. 2020;10(2):1–18.
- Sambajee P, Scholarios D. Migrant worker well-being as a struggle for meaningful work: Evidence from Bangladeshi migrants in a developing country. *Organization*. 2023;30(3):528–50.
- Cowden RG, et al. Associations of dispositional forgivingness with facets of well-being among Colombian adults: A longitudinal <sc>outcome-wide</sc> analysis. *Int J Psychol*. 2023;58(2):153–63.
- Confraria H, Godinho MM, Wang L. Determinants of citation impact: A comparative analysis of the Global South versus the Global North. *Res Policy*. 2017;46(1):265–79.
- Diener E. Subjective well-being. *Psychol Bull*. 1984;95(3):542–75.
- Diener E, et al. The satisfaction with life scale. *J Pers Assess*. 1985;49(1):71–5.
- Vellabrodrick DA, Allen FCL. Development and Psychometric Validation of the Mental, Physical, and Spiritual Well-Being Scale. *Psychol Rep*. 1995;77(2):659–74.
- Ryff CD, Singer B. Psychological well-being: Meaning, measurement, and implications for psychotherapy research. *Psychother Psychosom*. 1996;65(1):14–23.
- Ryff CD. Psychological well-being revisited: advances in the science and practice of eudaimonia. *Psychother Psychosom*. 2014;83(1):10–28.
- Masse R, et al. Development and validation of instrument for measuring psychological wellbeing: The EMMBEP. *Canadian Journal of Public Health-Revue Canadienne De Sante Publique*. 1998;89(5):352–7.
- Diener E, et al. New Well-being Measures: Short Scales to Assess Flourishing and Positive and Negative Feelings. *Soc Indic Res*. 2010;97(2):143–56.
- Seligman ME. Flourish: A visionary new understanding of happiness and well-being. Simon and Schuster; 2011.
- Seligman ME. Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment. Simon and Schuster; 2002.
- Huppert FA, So TTC. Flourishing Across Europe: Application of a New Conceptual Framework for Defining Well-Being. *Soc Indic Res*. 2013;110(3):837–61.
- Cappelleri J, et al. Development and validation of the Children with Diabetes Questionnaire - A questionnaire to assess treatment satisfaction and well-being. *Diabetes*. 2003;52:A561–2.
- Kobayashi K, et al. Validation of the care notebook for measuring physical, mental and life well-being of patients with cancer. *Qual Life Res*. 2005;14(4):1035–43.
- Catalan AA, et al. Spanish validation of the Basic Psychological Needs at Work Scale: A measure to predict teachers' well-being in the workplace. *Int J Educ Vocat Guidance*. 2018;18(2):127–48.
- Khatri P, Gupta P. Development and validation of employee wellbeing scale - a formative measurement model. *Int J Workplace Health Manag*. 2019;12(5):352–68.
- Zhang Y, Carciofo R. Assessing the wellbeing of Chinese university students: validation of a Chinese version of the college student subjective wellbeing questionnaire. *Bmc Psychology*. 2021;9(1):69.
- Keyes CLM. The Mental Health Continuum: From Languishing to Flourishing in Life. *J Health Soc Behav*. 2002;43(2):207–22.
- Diener E, Helliwell JF, Kahneman D. *International differences in well-being*. Series in positive psychology. USA: Oxford University Press; 2010.
- Dronavalli M, Thompson SC. A systematic review of measurement tools of health and well-being for evaluating community-based interventions. *J Epidemiol Community Health*. 2015;69(8):805–15.

30. Cooke PJ, Melchert TP, Connor K. Measuring Well-Being: A Review of Instruments. *Couns Psychol.* 2016;44(5):730–57.
31. Flynn S, et al. Measurement tools for mental health problems and mental well-being in people with severe or profound intellectual disabilities: A systematic review. *Clin Psychol Rev.* 2017;57:32–44.
32. Sorgente A, Lanz M. Emerging Adults' Financial Well-being: A Scoping Review. *Adolescent Research Review.* 2017;2(4):255–92.
33. Clarke C, et al. Measuring the well-being of people with dementia: a conceptual scoping review. *Health Qual Life Outcomes.* 2020;8(1):249.
34. Dodd AL, et al. University student well-being in the United Kingdom: a scoping review of its conceptualisation and measurement. *J Ment Health.* 2021;30(3):375–87.
35. Hossain S, O'Neill S, Strnadová I. What Constitutes Student Well-Being: A Scoping Review Of Students' Perspectives. *Child Indicators Research.* 2022;6(2):447–83. <https://doi.org/10.1007/s12187-022-09990-w>.
36. Haykal K-A, et al. Medical student wellness assessment beyond anxiety and depression: A scoping review. *PLoS ONE.* 2022;17(10): e0276894.
37. Cao S, Li H. A Scoping Review of Digital Well-Being in Early Childhood: Definitions, Measurements, Contributors, and Interventions. *Int J Environ Res Public Health.* 2023;20(4):3510.
38. Iasiello M, et al. What's the difference between measures of wellbeing, quality of life, resilience, and coping? An umbrella review and concept map of 155 measures of positive mental health. 2023;14(2):3621,1–25. <https://doi.org/10.5502/ijw.v14i2.3621>.
39. Waterman AS. Two Conceptions of Happiness: Contrasts of Personal Expressiveness (Eudaimonia) and Hedonic Enjoyment. *J Pers Soc Psychol.* 1993;64(4):678–91.
40. Bech P, et al. Measuring well-being rather than the absence of distress symptoms: A comparison of the SF-36 mental health subscale and the WHO-five well-being scale. *Int J Methods Psychiatr Res.* 2003;12(2):85–91.
41. Ryan RM, Deci EL. On happiness and human potentials: a review of research on hedonic and eudaimonic well-being. *Annu Rev Psychol.* 2001;52(1):141–66.
42. Munn Z, et al. What are scoping reviews? Providing a formal definition of scoping reviews as a type of evidence synthesis. *JBI evidence synthesis.* 2022;20(4):950–2.
43. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol.* 2005;8(1):19–32.
44. Page MJ, The PRISMA, et al. statement: an updated guideline for reporting systematic reviews. *BMJ.* 2020;2021: n71.
45. Gusy B, Lesener T, Wolter C. Measuring Well-Being With the Utrecht Work Engagement Scale - Student Form Validation of a 9-and a 3-Item Measure of Student Engagement. *European Journal of Health Psychology.* 2019;26(2):31–8.
46. Gander F, Proyer RT, Ruch W. The Subjective Assessment of Accomplishment and Positive Relationships: Initial Validation and Correlative and Experimental Evidence for Their Association with Well-Being. *J Happiness Stud.* 2017;18(3):743–64.
47. Zairul M. A thematic review on student-centred learning in the studio education. *Journal of Critical Reviews.* 2020;7(2):504–11.
48. Clarke V, Braun V. Thematic analysis. *J Posit Psychol.* 2017;12(3):297–8.
49. Goh PS, et al. Be happy to be successful: A mediational model of PERMA variables. *Asia Pacific Journal of Human Resources.* 2022;60(3):632–57.
50. Christopher JC, Hickinbottom S. Positive Psychology, Ethnocentrism, and the Disguised Ideology of Individualism. *Theory Psychol.* 2008;18(5):563–89.
51. De Vries M, Emons WHM, Plantinga A, Pietersma S, Van Den Hout WB, Stiggelbout AM, Van Den Akker-Van E, Marle M. Comprehensively Measuring Health-Related Subjective Well-Being: Dimensionality Analysis for Improved Outcome Assessment in Health Economics [Article]. *Value in Health.* 2016;19(2):167–75. <https://doi.org/10.1016/j.jval.2015.11.010>.
52. Prado-Gascó, V., Romero-Reignier, V., Mesa-Gresa, P., Belén Górriz, A. Subjective well-being in Spanish adolescents: Psychometric properties of the scale of positive and negative experiences [Article]. *Sustainability (Switzerland).* 2020;12(10):4011. <https://doi.org/10.3390/SU12104011>
53. Yaaqeib, S., Lambert, L., Hadjisolomou, S., Al-Fazari, M., Selim, H., Haque, A. Validation study of a wellbeing scale (SPANe) in the Arab Gulf region: A multicountry study. *PLoS One.* 2022;17(5 May):e0268027. <https://doi.org/10.1371/journal.pone.0268027>
54. Forjaz MJ, et al. Measurement properties of the Community Wellbeing Index in older adults. *Qual Life Res.* 2011;20(5):733–43. <https://doi.org/10.1007/s11136-010-9794-2>
55. Blome C, Kirsten N, Nergiz I, Schiffner U, Otten M, Augustin M. New method of measuring subjective well-being: prospective validation study of the "Daily Experience Sampling Questionnaire" (DESEQ) in patients with psoriasis and healthy subjects in Germany. *Bmj Open.* 2020;10(12):e039227. <https://doi.org/10.1136/bmjopen-2020-039227>.
56. Kuipers Y, Jomeen J, Dilles T, Van Rompaey B. The general health questionnaire as a measure of emotional wellbeing in pregnant women [Article]. *Journal of Mental Health Training, Education and Practice.* 2019;14(6):447–56. <https://doi.org/10.1108/JMHTEP-05-2019-0028>.
57. McIntyre E, Saliba A, McKenzie K. Subjective wellbeing in the Indian general population: a validation study of the Personal Wellbeing Index. *Qual Life Res.* 2020;29(4):1073–81. <https://doi.org/10.1007/s11136-019-02375-7>.
58. Dabo I, et al. Spiritual Well-Being for Croatian Cancer Patients: Validation and Applicability of the Croatian Version of the EORTC QLQ-SWB32. *Int J Environ Res Public Health.* 2021;18(22):15.
59. Vivat, B., et al., The international phase 4 validation study of the EORTC QLQ-SWB32: A stand-alone measure of spiritual well-being for people receiving palliative care for cancer. *European Journal of Cancer Care,* 2017;26(6).
60. Grover S, Dua D. Hindi Translation and Validation of Scales for Subjective Well-being, Locus of Control and Spiritual Well-being. *Indian J Psychol Med.* 2021;43(6):508–15. <https://doi.org/10.1177/0253717620956443>
61. Tavel P, et al. Psychometric Analysis of the Shortened Version of the Spiritual Well-Being Scale on the Slovak Population (SWBS-SK). *Int J Environ Res Public Health.* 2022;19(1):511.
62. Riklikiene O, Kaseliene S, Fisher J. Translation and Validation of Spiritual Well-Being Questionnaire SHALOM in Lithuanian Language. *Culture and Health Care Practice Religions.* 2018;9(5):156. <https://doi.org/10.3390/rel9050156>.
63. Romeiro J, Nogueira PJ, Fisher J, Caldeira S. Portuguese Version of the Spiritual Well-Being Questionnaire: Validation Study in People under Assisted Reproductive Techniques. *Religions.* 2022;13(5):400. <https://doi.org/10.3390/rel13050400>.
64. Fuchshuber J, Unterrainer HF. "Test Your Spirituality in One Minute or Less" Structural Validity of the Multidimensional Inventory for Religious/Spiritual Well-Being Short Version (MI-RSWB 12). *Front Psychol.* 2021;12:11.
65. Alvarenga, W. D., Nascimento, L. C., Rebutini, F., dos Santos, C. B., Muehlan, H., Schmidt, S., Bullinger, M., Liberato, F. M. G., Vieira, M. Evidence of validity of internal structure of the Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being Scale (FACIT-Sp-12) in Brazilian adolescents with chronic health conditions [Article]. *Frontiers in Psychology.* 2022;13:10:991771. <https://doi.org/10.3389/fpsyg.2022.991771>
66. White ID, Tennant A, Taylor C. Sexual Morbidity Assessment in Gynecology Follow-Up: Development of the Sexual Well-Being After Cervical or Endometrial Cancer (SWELL-CE) Patient-Reported Outcome Measure [Article]. *Journal of Sexual Medicine.* 2020;17(10):2005–15. <https://doi.org/10.1016/j.jsxm.2020.06.019>.
67. Gerymski R. Short Sexual Well-Being Scale - a cross-sectional validation among transgender and cisgender people. *Health Psychology Report.* 2021;9(3):276–87. <https://doi.org/10.5114/hpr.2021.102349>.
68. Sasaki N, et al. Japanese version of the 42-item psychological well-being scale (PWBS-42): A validation study. *BMC Psychology.* 2020;8(1):75.
69. Summers EMA, Morris RC, Bhutani GE. A measure to assess the workplace well-being of psychological practitioners [Article]. *Clin Psychol Psychother.* 2020;27(1):11–23. <https://doi.org/10.1002/cpp.2401>.
70. Thanasansomboon B, Choemprayong S, Parinyanitkul N, Tanlamai U, Wisessathorn M, Patarapongsant Y. Development and validation of a rapid psychosocial well-being screening tool in patients with metastatic breast cancer [Article]. *International Journal of Nursing Sciences.* 2022;9(3):303–12. <https://doi.org/10.1016/j.ijnss.2022.06.002>.
71. Viejo C, Gomez-Lopez M, Ortega-Ruiz R. Adolescents' Psychological Well-Being: A Multidimensional Measure. *Int J Environ Res Public Health.* 2018;15(10):2325. <https://doi.org/10.3390/ijerph15102325>.

72. Oprea SJ, Buijzen M, van Reijmersdal EA. Development and Validation of the Psychological Well-Being Scale for Children (PWB-c). *Societies*. 2018;8(1):18. <https://doi.org/10.3390/soc8010018>.
73. Lee T, Sun HF, Chiang HH. Development and validation of the short-form Ryff's psychological well-being scale for clinical nurses in Taiwan [Article]. *Journal of Medical Sciences (Taiwan)*. 2019;39(4):157–62. https://doi.org/10.4103/jmedsci.jmedsci_191_18.
74. Rouse PC, Van Zanten JJCSV, Ntoumanis N, Metsios GS, Yu CA, Kitas GD, Duda JL. Measuring the positive psychological wellbeing of people with rheumatoid arthritis: a cross-sectional validation of the subjective vitality scale. *Arthritis Research and Therapy*. 2015;17:312. <https://doi.org/10.1186/s13075-015-0827-7>.
75. Di Martino S, et al. Measuring subjective well-being from a multidimensional and temporal perspective: Italian adaptation of the I COPPE scale. *Health Qual Life Outcomes*. 2018;16(1):88.
76. Esposito C, et al. The I COPPE Scale Short Form for measuring multidimensional well-being: Construct validity and reliability from US, Argentinian, and Italian large samples. *J Community Psychol*. 2022;50(2):696–711. <https://doi.org/10.1002/jcop.22659>
77. Choi SP, et al. Korean translation and validation of the Workplace Positive emotion, Engagement, Relationships, Meaning, and Accomplishment (PERMA)-Profiler. *Ann Occup Environ Med*. 2019;31: e17.
78. Kern ML, Waters LE, Adler A, White MA. A multidimensional approach to measuring well-being in students: Application of the PERMA framework. *Journal of Positive Psychology*. 2015;10(3):262–71. <https://doi.org/10.1080/17439760.2014.936962>.
79. Shanmugam, P., & Hidayat, R. ASSESSING GRIT AND WELL-BEING OF MALAYSIAN ESL TEACHERS: APPLICATION OF THE PERMA MODEL [Article]. *Malaysian Journal of Learning & Instruction*. 2022;19(2), 153–181. <https://doi.org/10.32890/mjli2022.19.2.6>
80. Wagner L, Gander F, Proyer RT, Ruch W. Character Strengths and PERMA: Investigating the Relationships of Character Strengths with a Multidimensional Framework of Well-Being [Article]. *Appl Res Qual Life*. 2020;15(2):307–28. <https://doi.org/10.1007/s11482-018-9695-z>.
81. Watanabe K, et al. The Japanese Workplace PERMA-Profiler: A validation study among Japanese workers. *J Occup Health*. 2018;60(5):383–93. <https://doi.org/10.1539/joh.2018-0050-OA>.
82. Zhou L, Parmanto B. Development and validation of a comprehensive well-being scale for people in the university environment (pitt wellness scale) using a crowdsourcing approach: Cross-sectional study. *J Med Internet Res*. 2020;22(4):e15075.
83. Kraatz M, Sears LE, Coberley CR, Pope JE. Adaptive Measurement of Well-Being: Maximizing Efficiency and Optimizing User Experience during Individual Assessment [Article]. *Popul Health Manag*. 2016;19(4):284–90. <https://doi.org/10.1089/pop.2015.0101>.
84. Sears LE, et al. The well-being 5: Development and validation of a diagnostic instrument to improve population well-being. *Popul Health Manag*. 2014;17(6):357–65. <https://doi.org/10.1089/pop.2013.0119>.
85. Riazi A, Bradley C, Barendse S, Ishii H. Development of the Well-being questionnaire short-form in Japanese: The W-BQ12. *Health and Quality of Life Outcomes*. 2006;4:40. <https://doi.org/10.1186/1477-7525-4-40>.
86. Bigot L, et al. Development and validation of the short multidimensional well-being questionnaire (SMWQ). *Open Public Health Journal*. 2017;10:25–31.
87. Hervas G, Vazquez C. Construction and validation of a measure of integrative well-being in seven languages: The Pemberton Happiness Index. *Health Qual Life Outcomes*. 2013;11:66.
88. Longo Y, Coyne I, Joseph S. Development of the short version of the Scales of General Well-Being: The 14-item SGWB. *Personality Individ Differ*. 2018;124:31–34. <https://doi.org/10.1016/j.paid.2017.11.042>.
89. Longo Y, Coyne I, Joseph S. The scales of general well-being (SGWB). *Personality Individ Differ*. 2017;109:148–59. <https://doi.org/10.1016/j.paid.2017.01.005>.
90. Young, N. L., Wabano, M. J., Usuba, K., Pangowish, B., Trottier, M., Jacko, D., Burke, T. A., Corbiere, R. G. Validity of the Aboriginal Children's Health and Well-being Measure: Aaniish Naa Gegii? [Article]. *Health and Quality of Life Outcomes*. 2015;13(1):148. <https://doi.org/10.1186/s12955-015-0351-0>
91. Schonert-Reichl KA, Guhn M, Gadermann AM, Hymel S, Swiss L, Hertzman C. Development and Validation of the Middle Years Development Instrument (MDI): Assessing Children's Well-Being and Assets across Multiple Contexts [Article]. *Soc Indic Res*. 2013;114(2):345–69. <https://doi.org/10.1007/s11205-012-0149-y>.
92. White SC, Gaines SO, Jha S. Inner Wellbeing: Concept and Validation of a New Approach to Subjective Perceptions of Wellbeing-India. *Soc Indic Res*. 2014;119(2):723–46. <https://doi.org/10.1007/s11205-013-0504-7>.
93. Tennant R, Hiller L, Fishwick R, Platt S, Joseph S, Weich S, Parkinson J, Secker J, Stewart-Brown S. The Warwick-Edinburgh mental well-being scale (WEMWBS): Development and UK validation [Article]. *Health and Quality of Life Outcomes*. 2007;5:63. <https://doi.org/10.1186/1477-7525-5-63>.
94. Pi LL, Chang CM, Lin HH. Development and Validation of Recreational Sport Well-Being Scale. *International Journal of Environmental Research and Public Health*. 2022;19(14):8764. <https://doi.org/10.3390/ijerph19148764>.
95. Tahirovic E, et al. Validation of the FEW16 questionnaire for the assessment of physical well-being in patients with heart failure with reduced ejection fraction: results from the CIBIS-ELD study. *Esc Heart Failure*. 2015;2(3):194–203. <https://doi.org/10.1002/ehf2.12045>.
96. Fung, S. F., Kong, C. Y. W., Liu, Y. M., Huang, Q., Xiong, Z., Jiang, Z., Zhu, F., Chen, Z., Sun, K., Zhao, H., Yu, P. Validity and Psychometric Evaluation of the Chinese Version of the 5-Item WHO Well-Being Index. *Frontiers in Public Health*. 2022;10:872436. <https://doi.org/10.3389/fpubh.2022.872436>
97. Juniper B, White N, Bellamy P. A new approach to evaluating the well-being of police. *Occup Med*. 2010;60(7):560–5. <https://doi.org/10.1093/occmed/kqq130>.
98. Schott N, Johnen B, Klotzbier TJ. Assessing the well-being of residents in nursing facilities Translation and validation of the German version of the Laurens Well-being Inventory for Gerontopsychiatry (LWIG-GER) [Article]. *German Journal of Exercise and Sport Research*. 2021;51(4):474–86. <https://doi.org/10.1007/s12662-021-00776-w>.
99. Moliner, L., et al., Social Well-Being at School: Development and Validation of a Scale for Primary Education Students. *Frontiers in Education*, 2021;6.
100. Cilar L, Pajnkhar M, Stiglic G. Validation of the Warwick-Edinburgh Mental Well-being Scale among nursing students in Slovenia. *J Nurs Manag*. 2020;28(6):1335–46. <https://doi.org/10.1111/jonm.13087>.
101. Franken K, Lamers SMA, Ten Klooster PM, Bohlmeijer ET, Westerhof GJ. Validation of the Mental Health Continuum-Short Form and the dual continua model of well-being and psychopathology in an adult mental health setting [Article]. *J Clin Psychol*. 2018;74(12):2187–202. <https://doi.org/10.1002/jclp.22659>.
102. dos Santos JJA, da Costa TA, Guilherme JH, da Silva WC, Abentroth LRL, Krebs JA, Sotoriva P. Adaptation and cross-cultural validation of the Brazilian version of the Warwick-Edinburgh mental well-being scale. *Rev Assoc Med Bras*. 2015;61(3):209–14. <https://doi.org/10.1590/1806-9282.61.03.209>.
103. Fung, S. F. Psychometric evaluation of the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) with Chinese University Students. *Health and Quality of Life Outcomes*. 2019;17:9-46. <https://doi.org/10.1186/s12955-019-1113-1>
104. Koushede V, et al. Measuring mental well-being in Denmark: Validation of the original and short version of the Warwick-Edinburgh mental well-being scale (WEMWBS and SWEMWBS) and cross-cultural comparison across four European settings. *Psychiatry Res*. 2019;271:502–9. <https://doi.org/10.1016/j.psychres.2018.12.003>.
105. Melendez-Torres GJ, et al. Measurement invariance properties and external construct validity of the short Warwick-Edinburgh mental well-being scale in a large national sample of secondary school students in Wales. *Health Qual Life Outcomes*. 2019;17(1):139.
106. Perera BPR, Caldera A, Godamunne P, Stewart-Brown S, Wickremasinghe AR, Jayasuriya R. Measuring mental well-being in Sri Lanka: validation of the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) in a Sinhala speaking community. *Bmc Psychiatry*. 2022;22(1):569. <https://doi.org/10.1186/s12888-022-04211-8>.
107. Rogers KD, et al. The validation of the Short Warwick-Edinburgh Mental Well-Being Scale (SWEMWBS) with deaf British sign language users in the UK. *Health Qual Life Outcomes*. 2018;16:145.
108. Smith ORF, Alves DE, Knapstad M, Haug E, Aaro LE. Measuring mental well-being in Norway: validation of the Warwick-Edinburgh

- Mental Well-being Scale (WEMWBS). *Bmc Psychiatry*. 2017;17(1):182–191. <https://doi.org/10.1186/s12888-017-1343-x>.
109. Stewart-Brown S, et al. Internal construct validity of the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS): A Rasch analysis using data from the Scottish Health Education Population Survey. *Health Qual Life Outcomes*. 2009;7:15.
 110. Taggart F, Friede T, Weich S, Clarke A, Johnson M, Stewart-Brown S. Cross cultural evaluation of the Warwick-Edinburgh mental well-being scale (WEMWBS) -a mixed methods study [Article]. *Health and Quality of Life Outcomes*. 2013;11(12):27. <https://doi.org/10.1186/1477-7525-11-27>.
 111. Tennant R, et al. The Warwick-Dinburgh mental well-being scale (WEMWBS): Development and UK validation. *Health Qual of Life Outcomes*. 2007;5:63.
 112. Vaingankar JA, et al. Psychometric properties of the short Warwick Edinburgh mental well-being scale (SWEMWBS) in service users with schizophrenia, depression and anxiety spectrum disorders. *Health Qual Life Outcomes*. 2017;15(1):153.
 113. Pimthong S, Suwanwong C, Surakarn A, Chiangkhong A, Sumalrot T, Khunakorncharatphong A. Development and validation of the Thai mental well-being scale. *Heliyon*. 2022;8(4):e09296. <https://doi.org/10.1016/j.heliyon.2022.e09296>.
 114. Sierk, A., Travers, E., Economides, M., Loe, B. S., Sun, L., Bolton, H. A New Digital Assessment of Mental Health and Well-being in the Workplace: Development and Validation of the Unmind Index. *JMIR Mental Health*. 2022;9(1)e34103. <https://doi.org/10.2196/34103>
 115. Grossi, E., Groth, N., Mosconi, P., Cerutti, R., Pace, F., Compare, A., Apolone, G. Development and validation of the short version of the Psychological General Well-Being Index (PGWB-S). *Health and Quality of Life Outcomes*. 2006;4:88. <https://doi.org/10.1186/1477-7525-4-88>
 116. Leite Â, et al. Psychological well-being and health perception: Predictors for past, present and future. *Revista de Psiquiatria Clinica*. 2019;46(3):53–60. <https://doi.org/10.1590/0101-60830000000194>
 117. Xing, H., Yu, W., Chen, W., Cheng, X. Well-being and health-related quality of life in new-generation migrant workers in Zhejiang province, China [Article]. *Health and Quality of Life Outcomes*. 2019;17(1)119. <https://doi.org/10.1186/s12955-019-1193-y>
 118. Bell, I.R., et al., Development and validation of a new global well-being outcomes rating scale for integrative medicine research. *BMC Complementary and Alternative Medicine*, 2004;4. <https://doi.org/10.47626/2237-6089-2020-0034>
 119. Laszewska A, Schwab M, Leutner E, Oberrauter M, Spiel G, Simon J. Measuring broader wellbeing in mental health services: validity of the German language OxCAP-MH capability instrument [Article]. *Qual Life Res*. 2019;28(8):2311–23. <https://doi.org/10.1007/s11136-019-02187-9>.
 120. Dunham, C. M., Burger, A. L., Hileman, B. M., & Chance, E. A. Psychometric properties of the St. Elizabeth Youngstown hospital wellbeing inventory and non-burnout inventory for physicians and nurses. *Bmc Psychology*. 2019;7(1):8–36. <https://doi.org/10.1186/s40359-019-0316-x>
 121. Ravens-Sieberer U, et al. The European KIDSCREEN approach to measure quality of life and well-being in children: Development, current application, and future advances. *Qual Life Res*. 2014;23(3):791–803. <https://doi.org/10.1007/s11136-013-0428-3>.
 122. Ravens-Sieberer U, Erhart M, Rajmil L, Herdman M, Auquier P, Bruil J, Power M, Duer W, Abel T, Czemy L, Mazur J, Czimbalmas A, Tountas Y, Hagquist C, Kilroe J. Reliability, construct and criterion validity of the KIDSCREEN-10 score: A short measure for children and adolescents' well-being and health-related quality of life [Article]. *Qual Life Res*. 2010;19(10):1487–500. <https://doi.org/10.1007/s11136-010-9706-5>.
 123. Berasategi N, laga N, Dositl M, Eiguren A. Design and Validation of a Scale for Measuring Well-Being of Children in Lockdown (WCL). *Frontiers in Psychology*. 2020;11:2225. <https://doi.org/10.3389/fpsyg.2020.02225>.
 124. Benson, T., Sladen, J., Liles, A., Potts, H. W. W. Personal Wellbeing Score (PWS) - A short version of ONS4: Development and validation in social prescribing [Article]. *BMJ Open Quality*. 2019;8(2):e000394. <https://doi.org/10.1136/bmjopen-2018-000394>
 125. Usta E, Bozdemir H, Sen S. Validity and reliability of the Turkish version of the Obesity-Related Well-Being Questionnaire (ORWELL 97-TR) [Article]. *Perspect Psychiatr Care*. 2022;58(4):1991–2002. <https://doi.org/10.1111/ppc.13021>.
 126. O'Connell KA, Skevington SM. An international quality of life instrument to assess wellbeing in adults who are HIV-positive: A short form of the WHOQOL-HIV (31 items) [Article]. *AIDS Behav*. 2012;16(2):452–60. <https://doi.org/10.1007/s10461-010-9863-0>.
 127. Cappelleri, J. C., Gerber, R. A., Quattrin, T., Deutschmann, R., Luo, X., Arbuckle, R., Abetz, L. Development and validation of the Well-being and Satisfaction of CAREgivers of children with diabetes questionnaire (WE-CARE) [Article]. *Health and Quality of Life Outcomes*. 2008;6:3. <https://doi.org/10.1186/1477-7525-6-3>
 128. Blackwell CK, Kallen MA, Lai JS, Bevans KB, Wakschlag LS, Cella D. Measuring PROMIS (R) Well-Being in Early Childhood [Article]. *J Pediatr Psychol*. 2022;47(5):559–72. <https://doi.org/10.1093/jpepsy/jsac030>.
 129. Baji P, Farkas M, Dobos A, Zrubka Z, Gulacsi L, Brodsky V, Rencz F, Pentek M. Capability of well-being: validation of the Hungarian version of the ICECAP-A and ICECAP-O questionnaires and population normative data. *Qual Life Res*. 2020;29(10):2863–74. <https://doi.org/10.1007/s11136-020-02542-1>.
 130. Goranitis I, Coast J, Al-Janabi H, Latthe P, Roberts TE. The validity and responsiveness of the ICECAP-A capability-well-being measure in women with irritative lower urinary tract symptoms [Article]. *Qual Life Res*. 2016;25(8):2063–75. <https://doi.org/10.1007/s11136-015-1225-y>.
 131. Linton MJ, Mitchell PM, Al-Janabi H, Schlander M, Richardson J, Iezzi A, Ubels J, Coast J. Comparing the German Translation of the ICECAP-A Capability Wellbeing Measure to the Original English Version: Psychometric Properties across Healthy Samples and Seven Health Condition Groups [Article]. *Appl Res Qual Life*. 2020;15(3):651–73. <https://doi.org/10.1007/s11482-018-9681-5>.
 132. Kelly, L., et al., Refinement of the Well-being in Pregnancy (WiP) questionnaire: cognitive interviews with women and healthcare professionals and a validation survey. *BMC Pregnancy and Childbirth*, 2022. 22(1). <https://doi.org/10.2174/1874944501710010025>
 133. Howat-Rodrigues ABC, Laks J, Marinho V. Translation, cross-cultural adaptation, and psychometric properties of the Brazilian Portuguese version of the Consumer Financial Protection Bureau Financial Well-Being scale. *Trends in Psychiatry and Psychotherapy*. 2021;43(2):134–40.
 134. Aubrey M, et al. Financial well-being: Capturing an elusive construct with an optimized measure. *Frontiers in Psychology*. 2022;13:935284.
 135. Trigueros R, Perez-Jimenez JM, Garcia-Mas A, Aguilar-Parra JM, Fernandez-Batanero JM, de la Rosa AL, Manzano-Leon A, Navarro N. Adaptation and Validation of the Eudaimonic Well-Being Questionnaire to the Spanish Sport Context. *International Journal of Environmental Research and Public Health*. 2021;18(7):3609. <https://doi.org/10.3390/ijerph18073609>.
 136. Schotanus-Dijkstra M, et al., Validation of the Flourishing Scale in a sample of people with suboptimal levels of mental well-being. *BMC Psychology*. 2016;4(1):12.
 137. Bartels AL, Peterson SJ, Reina CS. Understanding well-being at work: Development and validation of the eudaimonic workplace well-being scale. *Plos One*. 2019;14(4):e0215957.
 138. Kinderman P, et al. The development and validation of a general measure of well-being: The BBC well-being scale. *Qual Life Res*. 2011;20(7):1035–42. <https://doi.org/10.1007/s11136-010-9841-z>.
 139. Pontin E, et al. A UK validation of a general measure of subjective well-being: The modified BBC subjective well-being scale (BBC-SWB). *Health and Quality of Life Outcomes*. 2013;11(1):150. <https://doi.org/10.1186/1477-7525-11-150>.
 140. Chongwo E, Ssewanyana D, Nasambu C, Mwangala PN, Mwangi PM, Nyongesa MK, Newton CR, Abubakar A. Validation of a Swahili version of the World Health Organization 5-item well-being index among adults living with HIV and epilepsy in rural coastal Kenya [Article]. *Global Health Research and Policy*. 2018;3(1):7. <https://doi.org/10.1186/s41256-018-0081-z>.
 141. Dadfar M, Momeni Safarabad N, Asgharnejad Farid AA, Nemati Shirzy M, Abarghouie GP, F. Reliability, validity, and factorial structure of the world health organization-5 well-being index (WHO-5) in iranian psychiatric outpatients [Article]. *Trends in Psychiatry and Psychotherapy*. 2018;40(2):79–84. <https://doi.org/10.1590/2237-6089-2017-0044>.
 142. De Wit M, Pouwer F, Gemke RJJ, Delemarre-Van De Waal HA, Snoek FJ. Validation of the WHO-5 well-being index in adolescents with type 1 diabetes [Article]. *Diabetes Care*. 2007;30(8):2003–6. <https://doi.org/10.2337/dc07-0447>.

143. Fung SF, et al. Validity and Psychometric Evaluation of the Chinese Version of the 5-Item WHO Well-Being Index. *Front Public Health*. 2022;10:872436.
144. Lara-Cabrera ML, et al. Psychometric Properties of the WHO-5 Well-Being Index among Nurses during the COVID-19 Pandemic: A Cross-Sectional Study in Three Countries. *Int J Environ Res Public Health*. 2022;19(16):10106.
145. Nylén-Eriksen M, et al. Validating the Five-Item World Health Organization Well-Being Index. *International Journal of Environmental Research and Public Health*. 2022;19(18):11489. <https://doi.org/10.3390/ijerph191811489>.
146. Schougaard LMV, de Thurah A, Bech P, Hjøllund NH, Christiansen DH. Test-retest reliability and measurement error of the Danish WHO-5 Well-being Index in outpatients with epilepsy [Article]. *Health and Quality of Life Outcomes*. 2018;16(6):175. <https://doi.org/10.1186/s12955-018-1001-0>.
147. Suhaimi AF, Makki SM, Tan KA, Silim UA, Ibrahim N. Translation and Validation of the Malay Version of the WHO-5 Well-Being Index: Reliability and Validity Evidence from a Sample of Type 2 Diabetes Mellitus Patients [Article]. *Int J Environ Res Public Health*. 2022;19(7):4415. <https://doi.org/10.3390/ijerph19074415>.
148. World Health Organization. Regional Office for Europe, Wellbeing measures in primary health care/the DepCare Project: report on a WHO meeting: Stockholm, Sweden, 12–13 February 1998. 1998, World Health Organization. Regional Office for Europe: Copenhagen.
149. Lara-Cabrera ML, et al. Psychometric Properties of the WHO-5 Well-Being Index among Nurses during the COVID-19 Pandemic: A Cross-Sectional Study in Three Countries. *Int J Environ Res Public Health*. 2022;19(16):13.
150. de Souza CM, Hidalgo MPL. World Health Organization 5-item well-being index: validation of the Brazilian Portuguese version. *Eur Arch Psychiatry Clin Neurosci*. 2012;262(3):239–44. <https://doi.org/10.1007/s00406-011-0255-x>.
151. Eliusuk, A., Perma Adaptation of Well Being Measure to Turkish: Work of Validity and Reliability. Proceedings of the 3rd Teaching & Education Conference. 2016;99–103.
152. Pezirkianidis C, et al. Validating a multidimensional measure of well-being in Greece: Translation, factor structure, and measurement invariance of the PERMA Profiler. *Curr Psychol*. 2021;40(6):3030–47.
153. Prilleltensky I, et al. Assessing Multidimensional Well-Being: Development and Validation of the I Coppe Scale. *J Community Psychol*. 2015;43(2):199–226.
154. Taylor RM, Gibson F, Franck LS. A concept analysis of health-related quality of life in young people with chronic illness. *J Clin Nurs*. 2008;17(14):1823–33.
155. Keyes CL, Shmotkin D, Ryff CD. Optimizing well-being: the empirical encounter of two traditions. *J Pers Soc Psychol*. 2002;82(6):1007.
156. Aubrey M, et al. Financial well-being: Capturing an elusive construct with an optimized measure. *Front Psychol*. 2022;13:18.
157. Priaulx N, Weinel M. Connective knowledge: what we need to know about other fields to 'envision' cross-disciplinary collaboration. *European Journal of Futures Research*. 2018;6(1):1–18.
158. Tennant JP, et al. The academic, economic and societal impacts of Open Access: an evidence-based review. *F1000Research*. 2016;5:632.
159. Cash-Gibson L, et al. Inequalities in global health inequalities research: A 50-year bibliometric analysis (1966–2015). *PLoS ONE*. 2018;13(1):e0191901.
160. Kashdan TB, Biswas-Diener R, King LA. Reconsidering happiness: the costs of distinguishing between hedonics and eudaimonia. *J Posit Psychol*. 2008;3(4):219–33.
161. Cabrera, V. and S.I. Donaldson, PERMA to PERMA+4 building blocks of well-being: a systematic review of the empirical literature. *The Journal of Positive Psychology*. 2023:1–20.
162. Allen K, Marlow R, Edwards V, Parker C, Rodgers L, Ukoumunne OC, Seem EC, Hayes R, Price A, Ford T. 'How I Feel About My School': The construction and validation of a measure of wellbeing at school for primary school children [Article]. *Clin Child Psychol Psychiatry*. 2018;23(1):25–41. <https://doi.org/10.1177/1359104516687612>.
163. Aubrey, M., Morin, A. J. S., Fernet, C., Carbonneau, N. Financial well-being: Capturing an elusive construct with an optimized measure. *Frontiers in Psychology*. 2022;13(18):935284. <https://doi.org/10.3389/fpsyg.2022.935284>
164. Bartels AL, Peterson SJ, Reina CS. Understanding well-being at work: Development and validation of the eudaimonic workplace well-being scale. *PLoS One*. 2019;14(4):e0215957. <https://doi.org/10.1371/journal.pone.0215957>.
165. Bell, I. R., Cunningham, V., Caspi, O., Meek, P., & Ferro, L. Development and validation of a new global well-being outcomes rating scale for integrative medicine research. *BMC Complementary and Alternative Medicine*. 2007;4:1. <https://doi.org/10.1186/1472-6882-4-1>
166. Choi, S. P., Suh, C., Yang, J. W., Ye, B. J., Lee, C. K., Son, B. C., Choi, M. Korean translation and validation of the Workplace Positive emotion, Engagement, Relationships, Meaning, and Accomplishment (PERMA)-Profiler. *Ann Occup Environ Med*. 2019;31:e17. <https://doi.org/10.35371/aoem.2019.31.e17>
167. Clarke, A., Friede, T., Putz, R., Ashdown, J., Martin, S., Blake, A., Adi, Y., Parkinson, J., Flynn, P., Platt, S., Stewart-Brown, S. Warwick-Edinburgh Mental Well-being Scale (WEMWBS): Validated for teenage school students in England and Scotland. A mixed methods assessment. *BMC Public Health*. 2011;11:487. <https://doi.org/10.1186/1471-2458-11-487>
168. Dabo, I., Skocilic, I., Vivat, B., Belac-Lovasic, I., Sorta-Bilajac, T. I. Spiritual Well-Being for Croatian Cancer Patients: Validation and Applicability of the Croatian Version of the EORTC QLQ-SWB32 [Article]. *International Journal of Environmental Research and Public Health*. 2021;18(22):15-11920. <https://doi.org/10.3390/ijerph18221920>
169. Di Martino, S., Di Napoli, I., Esposito, C., Prilleltensky, I., Arcidiacono, C. Measuring subjective well-being from a multidimensional and temporal perspective: Italian adaptation of the I COPPE scale [Article]. *Health and Quality of Life Outcomes*. 2018;16(1):88. <https://doi.org/10.1186/s12955-018-0916-9>
170. Dong, A., Zhang, X., Zhou, H., Chen, S., Zhao, W., Wu, M., Guo, J., Guo, W. Applicability and cross-cultural validation of the Chinese version of the Warwick-Edinburgh mental well-being scale in patients with chronic heart failure [Article]. *Health and Quality of Life Outcomes*. 2019;17(1):55. <https://doi.org/10.1186/s12955-019-1120-2>
171. Espinosa-Montero, J., Monterrubio-Flores, E. A., Sanchez-Estrada, M., Buendia-Jimenez, I., Lieberman, H. R., Allaert, F. A., Barquera, S. Development and validation of an instrument to evaluate perceived wellbeing associated with the ingestion of water: The Water Ingestion-Related Wellbeing Instrument (WIRWI). *PLoS One*. 2016;11(7):e0158567. <https://doi.org/10.1371/journal.pone.0158567>
172. Fuchshuber, J., Unterrainer, H. F. (2021). "Test Your Spirituality in One Minute or Less" Structural Validity of the Multidimensional Inventory for Religious/Spiritual Well-Being Short Version (MI-RSWB 12). *Frontiers in Psychology*. 2021;12(11):597565. <https://doi.org/10.3389/fpsyg.2021.597565>
173. Hervas G, Vazquez C. Construction and validation of a measure of integrative well-being in seven languages: The Pemberton Happiness Index. *Health and Quality of Life Outcomes*. 2013;11:66. <https://doi.org/10.1186/1477-7525-11-66>.
174. Kelly L, Kurinczuk JJ, Fitzpatrick R, Alderdice F. Refinement of the Well-being in Pregnancy (WiP) questionnaire: cognitive interviews with women and healthcare professionals and a validation survey (vol 22, 325, 2022). *Bmc Pregnancy and Childbirth*. 2022;22(1):403. <https://doi.org/10.1186/s12884-022-04730-y>.
175. Lara-Cabrera, M. L., Betancort, M., Munoz-Rubilar, A., Rodriguez-Novo, N., Bjerkeset, O., De las Cuevas, C. Psychometric Properties of the WHO-5 Well-Being Index among Nurses during the COVID-19 Pandemic: A Cross-Sectional Study in Three Countries. *International Journal of Environmental Research and Public Health*. 2022;19(16):13-10106. <https://doi.org/10.3390/ijerph191610106>
176. Mäkiniemi, J. P., Ahola, S., Joensuu, J. A novel construct to measure employees' technology-related experiences of well-being: Empirical validation of the techno-work engagement scale (technowes). *Scandinavian Journal of Work and Organizational Psychology*. 2020;5(1):1–14. A10. <https://doi.org/10.16993/SJWOP.79>
177. Maulana H, Khawaja N, Obst P. Development and validation of the Indonesian Well-being Scale. *Asian J Soc Psychol*. 2019;22(3):268–80. <https://doi.org/10.1111/ajsp.12366>.
178. Melendez-Torres, G. J., Hewitt, G., Hallingberg, B., Anthony, R., Collishaw, S., Hall, J., Murphy, S., Moore, G. Measurement invariance properties

- and external construct validity of the short Warwick-Edinburgh mental wellbeing scale in a large national sample of secondary school students in Wales [Article]. *Health and Quality of Life Outcomes*. 2019;17(1):139. <https://doi.org/10.1186/s12955-019-1204-z>
179. Moliner L, Alegre F, Cabedo-Mas A, Chiva-Bartoll O. Social Well-Being at School: Development and Validation of a Scale for Primary Education Students. *Frontiers in Education*. 2021;6:800248. <https://doi.org/10.3389/educ.2021.800248>.
 180. Orsila R, Luukkaala T, Luukkaala T, Manka ML, Nygard CH. A new approach to measuring work-related well-being [Article]. *Int J Occup Saf Ergon*. 2011;17(4):341–59. <https://doi.org/10.1080/10803548.2011.11076900>.
 181. Perera, B. P. R., Jayasuriya, R., Caldera, A., Wickremasinghe, A. R. Assessing mental well-being in a Sinhala speaking Sri Lankan population: validation of the WHO-5 well-being index. *Health and Quality of Life Outcomes*. 2020;18(1):9-305. <https://doi.org/10.1186/s12955-020-01532-8>
 182. Rasmussen, B., Dunning, T., Hendrieckx, C., Botti, M., Speight, J. Transition to motherhood in type 1 diabetes: design of the pregnancy and postnatal well-being in transition questionnaires. *Bmc Pregnancy and Childbirth*. 2013;13: 54. <https://doi.org/10.1186/1471-2393-13-54>
 183. Riad R, Allodi MW, Siljehag E, Wikman C, Ford T, Bölte S. How i feel about my school—adaptation and validation of an educational well-being measure among young children in sweden [Article]. *International Journal of Environmental Research and Public Health*. 2021;18(10):5075. <https://doi.org/10.3390/ijerph18105075>.
 184. Rogers KD, Dodds C, Campbell M, Young A. The validation of the Short Warwick-Edinburgh Mental Well-Being Scale (SWEMWBS) with deaf British sign language users in the UK. *Health and Quality of Life Outcomes*. 2018;16:145. <https://doi.org/10.1186/s12955-018-0976-x>.
 185. Sasaki, N., Watanabe, K., Imamura, K., Nishi, D., Karasawa, M., Kan, C., Ryff, C. D., & Kawakami, N. Japanese version of the 42-item psychological well-being scale (PWBS-42): a validation study. *Bmc Psychology*. 2020;8(1):75. <https://doi.org/10.1186/s40359-020-00441-1>
 186. Schotanus-Dijkstra M, ten Klooster PM, Drossaert CHC, Pieterse ME, Bolier L, Walburg JA, Bohlmeijer ET. Validation of the Flourishing Scale in a sample of people with suboptimal levels of mental well-being [Article]. *Bmc Psychology*. 2016;4(1):12. <https://doi.org/10.1186/s40359-016-0116-5>.
 187. Stewart-Brown S, Tennant A, Tennant R, Platt S, Parkinson J, Weich S. Internal construct validity of the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS): A Rasch analysis using data from the Scottish Health Education Population Survey [Article]. *Health and Quality of Life Outcomes*. 2009;7:15. <https://doi.org/10.1186/1477-7525-7-15>.
 188. Tavel, P., Jozefiakova, B., Telicak, P., Furstova, J., Puza, M., Kascakova, N. Psychometric Analysis of the Shortened Version of the Spiritual Well-Being Scale on the Slovak Population (SWBS-Sk) [Article]. *International Journal of Environmental Research and Public Health*. 2022;19(1):12:511. <https://doi.org/10.3390/ijerph19010511>
 189. Vaingankar JA, Abdin E, Chong SA, Sambasivam R, Seow E, Jeyagurunathan A, Picco L, Stewart-Brown S, Subramaniam M. Psychometric properties of the short Warwick Edinburgh mental well-being scale (SWEMWBS) in service users with schizophrenia, depression and anxiety spectrum disorders [Article]. *Health and Quality of Life Outcomes*. 2017;15(1):153. <https://doi.org/10.1186/s12955-017-0728-3>.
 190. Viejo, C., Gomez-Lopez, M., Ortega-Ruiz, R. Adolescents' Psychological Well-Being: A Multidimensional Measure. *International Journal of Environmental Research and Public Health*. 2018;15(10):22:2325. <https://doi.org/10.3390/ijerph151023251>
 191. Vivat, B., Young, T. E., Winstanley, J., Arraras, J. I., Black, K., Boyle, F., Bredart, A., Costantini, A., Guo, J., Irarrazaval, M. E., Kobayashi, K., Kruizinga, R., Navarro, M., Omidvari, S., Rohde, G. E., Serpentine, S., Spry, N., Van Laarhoven, H. W. M., Yang, G. M. The international phase 4 validation study of the EORTC QLQ-SWB32: A stand-alone measure of spiritual well-being for people receiving palliative care for cancer [Article]. *European Journal of Cancer Care*. 2017;26(6):e12697. <https://doi.org/10.1111/ecc.12697>
 192. Zhang, Y., and Carciofo, R. Assessing the wellbeing of Chinese university students: validation of a Chinese version of the college student subjective wellbeing questionnaire. *Bmc Psychology*. 2021;9(1):69. <https://doi.org/10.1186/s40359-021-00569-8>
 193. Zhou, L., and Parmanto, B. Development and validation of a comprehensive well-being scale for people in the university environment (pitt wellness scale) using a crowdsourcing approach: Cross-sectional study [Article]. *Journal of Medical Internet Research*. 2020;22(4):e15075. <https://doi.org/10.2196/15075>

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.