



Psychometric Properties of Children’s Subjective Well-Being Scales: a Multigroup Study Investigating School Type, Gender, Age and Region of Children in the South and Southeast Regions of Brazil

Aline Lopes Moreira¹ · Jorge Castellá Sarriera² ·
Leonardo Fernandes Martins¹ · Lívia Maria Bedin³ ·
Maria Angela Mattar Yunes¹ · Luciana Cassarino Perez⁴ ·
Murilo Ricardo Zibetti⁵

Accepted: 16 December 2021 / Published online: 24 January 2022
© The Author(s), under exclusive licence to Springer Nature B.V. 2021

Abstract

This study is part of the third wave of data collection of the international project “Children’s Worlds” (*Children’s Worlds, the International Survey of Children’s Well-Being – ISCWeB*). The objective was to check the psychometric properties of three child subjective well-being scales—the *Children’s Worlds Subjective Well-Being Scale* (CW-SWBS), the *Children’s Worlds Domain-Based Subjective Well-Being Scale* (CW-DBSWBS), and the *Overall Life Satisfaction* (OLS)—in relation to school type, gender, age, and residential region. The research was conducted in the metropolitan regions of the states of Rio de Janeiro, Rio Grande do Sul, Santa Catarina, Paraná, and São Paulo, Brazil. Participants were 2676 students from three different age groups (8, 10, and 12 years old), 54.05% girls, with 70.74% enrolled in public school. The results found the psychometric properties of the instruments as adequate, and found evidence of convergent validity of both the CW-SBWS and the CW-DBSBWS with the OLS, which provides support for the use of these instruments in Brazil. These results contribute to the canon of research on children’s subjective well-being, in a Latin American context.

Keywords Subjective well-being · Children · Multigroup confirmatory factor analysis · Children’s worlds

✉ Aline Lopes Moreira
alinelopsmoreira@gmail.com

Extended author information available on the last page of the article

1 Introduction

Studies on children's subjective well-being have gained scientific relevance over the past two decades (Cho & Yu, 2020). The international recognition of children as citizens of civil, political, social, economic and cultural rights was introduced at the International Convention on the Rights of the Child (UN, 1989) and represents a milestone for the health and well-being of children. It should be highlighted that these rights are interdependent, universal and inseparable; therefore children's well-being concepts "*must be multidimensional and ecological*" (Ben-Arieh, 2008, p. 5). According to the above mentioned convention a child is defined as an human being aging less than 18 years (Article 1). Many studies use this normative prediction to include sample of children in their investigations (Cho & Yu, 2020). In Brazil the Convention (UNCRC) was ratified in 1990, with the laws imposed by the Statute of the Child and Adolescent – ECA, as per its Portuguese acronym (Lei n. 8.069, 1990), a legal and regulatory milestone that recognizes the rights of Brazilian children and adolescents.

Ben-Arieh (2008) considers the evolution of the Movement on Childhood Indicators to the intertwining of new normative theories and conceptual studies along with methodological advances in the area that took place at the end of the XX century. Among the changes we highlight: (1) UNCRC (1989); (2) studies in the Sociology of Childhood that seek to understand the child as an active subject of rights in the present and not only as a future adult; (3) Ecological Theory of Human Development (Bronfenbrenner & Morris, 1998) which addresses the importance of dynamic and bidirectional processes of interaction between children and their surroundings for their well-being; and (4) the emergence of the subjective perspective of children's well-being. Accordingly, in order to understand a social dynamic, it is necessary to investigate not only the objective indicators, but also the subjective ones, which are of particular importance for the assessment and promotion of a society's well-being (Casas, 2019).

Based on the indicators of well-being in childhood it is possible to design and evaluate public policies that aim to defend the rights that benefit children (Casas, 2019). Therefore, it is possible to plan actions for better living conditions for children either in their micro-contexts (e.g. family, school) or in their macro-contexts (e.g. socioeconomic condition of the country) (Sarriera & Bedin, 2017). Based on this perspective increasing research efforts to analyze children's subjective well-being are made to consider them as participating subjects and not only study objects (Alcantara et al., 2017, 2019; Cho, 2015; Giacomoni et al., 2014; Lawler et al., 2015, 2017; Lee & Yoo, 2015; Newland et al., 2015, 2019; Santos et al., 2019; Sarriera et al., 2018). However, most studies still focus on negative indicators of childhood and the objective perspective (of adults) to the detriment of the subjective (of children) (Amerijckx & Humblet, 2014). Therefore, the importance of studies on the children's well-being from the perspective of health and positive psychological development should be highlighted (Dell'Aglio et al., 2011; Seligman & Csikszentmihalyi, 2000).

In the scope of Positive Psychology, the construct of well-being has been discussed based on two research models: the hedonic and the eudaimonic paradigms (Huta & Ryan, 2010). In the eudaimonic view, well-being is reached through the development of the best potential of oneself and is associated with the perspective of psychological functioning, underpinning the concept of psychological well-being. On the other hand, in the hedonic view, well-being is associated with the pursuit of pleasure, life satisfaction or happiness, comfort and the absence of unpleasant states. This approach focuses on the present and underlies subjective well-being research (SWB). From a hedonic perspective, subjective well-being is studied from top-down and bottom-up approaches. The top-down approach considers the influence of the individual's internal factors (e.g., optimism), where the subjectivity of interpretations (positive or negative) of life experiences is reinforced, which is crucial for the assessment of well-being. In the bottom-up approach, SWB is investigated based on the influence of external factors (e.g., sociodemographic variables) and experiences that can lead to well-being (Diener et al., 1999; Huta & Ryan, 2010; Woyciekoski et al., 2012). Some studies propose well-being models by integrating hedonic and eudaimonic aspects (Strelhow et al., 2020). This study uses a hedonic perspective and encompasses the influence of external and internal factors with a focus on children's SWB.

The measurement of SWB involves people's judgment about their own lives, covering the cognitive and affective dimensions of well-being (Diener et al., 1999). The cognitive component of SWB, called *life satisfaction*, concerns the assessment of overall quality of life (Diener, 2009). Usually, this dimension has been assessed in two ways: (1) from a single item, unidimensional, or (2) from specific domains (e.g., family, friends, health, income, etc.), multidimensional (Sarriera & Bedin, 2017). In turn, the affective component can be measured through the frequency of affects experienced by the individual in a given period, and this answer can be in terms of positive (pleasant) or negative (unpleasant) emotions (Diener et al., 2018). The components of SWB, both cognitive and affective can be analyzed separately but they "*correlate at levels sufficient to say they are part of a higher order construct*" (Diener, 2009, p. 29). As hypothesized, the appropriateness of higher-order adjustment models was shown in a study with data from international surveys of a large sample size (Savahl et al., 2021).

Surveys on SWB in adults are quite numerous and reveal that some sociodemographic factors such as age, gender, income, education and marital status are significantly associated with well-being, although they only explain a small percentage of its variance (5 to 10%) (Goswami, 2014). Other studies conducted with adults have shown that higher levels of SWB are associated with higher levels of creativity, satisfactory social relationships, self-esteem and resilience (Diener et al., 2018). Studies focused on children's SWB are less frequent which restrict the knowledge about children's SWB and the variables associated with it (Gross-Manos et al., 2015; Medeiros & Martins, 2020).

The interest of scientific research in children's subjective well-being has been growing in recent years (Moreira et al., 2021). In an integrative review of publications between 2005 and 2016, Lima and Morais (2018) identified 43 studies

involving the assessment of SWB in this age group. This review reported a great heterogeneity in the concept and in the instruments that assess SWB.

Regarding life satisfaction, Park (2004) draws our attention to the importance of this construct in positive development over the years; in addition, he shows that the association of life satisfaction and positive affect can have a protective effect against adverse life events. It shows that positive affective feelings are influenced by the sociocultural aspects where the child is inserted (Casas et al., 2020); and, thus, analyzing this dimension can bring a more integrative understanding about their lives. Moreover, a low level of SWB in children is associated with contexts of risk and vulnerability (Gross-Manos et al., 2015).

Studies relating the influence of sociodemographic variables (especially gender and age) on the SWB of children and adolescents have shown heterogeneous evidence. Sometimes the relationship between these factors and life satisfaction is considered weak (Rees et al., 2010), sometimes the age-gender interaction is significant to explain the variance of SWB (González-Carrasco et al., 2016). A study with a sample of 14 countries in Africa, Asia, Europe, North America and South America reinforced the relationship of gender and age variables with children's life satisfaction (Newland et al., 2019). Concerning gender, boys seem to have higher levels of well-being than girls (Bradshaw et al., 2011; Lee & Yoo, 2015; Santos et al., 2019). In addition, these differences tend to be accentuated in children aged 12 years (older) compared to younger children (Casas et al., 2020). In this sense, it is suggested that SWB and life satisfaction decrease as children grow (Casas et al., 2020; Goswami, 2014). Finally, the diversity of results on the influence of gender and age on life satisfaction may be related to different ways of measuring the construct in general or in different domains (Montserrat et al., 2015).

Another variable usually associated with children's SWB refers to the type of school (public or private). Children show that they have different experiences in the social context of public and private schools. Santos et al. (2019) researched life satisfaction (in different domains) of Brazilian children and found that students from private schools had greater satisfaction with the school than those from public schools. Nonetheless, the researchers found no significant differences in children's well-being in relation to the school type. In the same direction, Corominas et al. (2020) also reported that the type and location of the school did not seem to be related to the children's general SWB. However, when this relationship is analyzed in domains, other results can be found. For example, Alcantara et al. (2017) identified that students from public schools had lower levels of well-being, social support and satisfaction with the development contexts (school, family, neighborhood) than those from private schools. It should be underlined that school satisfaction is significantly associated with children's well-being (Lawler et al., 2015, 2017; Newland et al., 2015; Sarriera et al., 2018).

This study is part of the context of research on child well-being, particularly in the third wave of data collection of the international project "Children's Worlds" (*Children's Worlds, the International Survey of Children's Well-Being – ISCWeB*). This project was set out to investigate SWB, rights and satisfaction with their life contexts in children aged 8 to 12 from different population groups in over 30 countries. In the first wave of this project (2011–2012), an international database

gathered information collected from about 34,500 children. In the second wave (2013–2014), data were collected from more than 56,000 children. For the third wave, which started in 2016 and is still ongoing in some countries, there is approximately the participation of 128,000 children from more than 30 countries (<https://iscweb.org/the-project/history/>). In this project the survey is considered as the most comprehensive study ever conducted on children's lives from their own perspectives (Ben-Arieh et al., 2017). The participation of countries such as Brazil, Chile and Argentina contributes to the collection of data on the perception of children's well-being in Latin American context. The contribution of investigations in Latin America have a special scientific value as they assess children and adolescents from developing countries whose population lacks social policies and effective actions (Guzmán et al., 2017; Sarriera & Bedin, 2017).

The measurement of children's SWB is a complex task and constant improvement is necessary. Early surveys on child well-being did not consider children's perceptions of their own lives and rely on parents or guardians as sources of information about their children's well-being (Casas, 2019). Nevertheless, Cummins (2014, p. 655) introduces the construction of SWB as being "*reliable, sensitive and valid for children*", but warns of the importance of children's cognitive maturity to offer self-report, predicting the age of 12 years as ideal, and suggesting that further research must be conducted with younger children. That is why it is necessary to qualify the research instruments that measure this construct in children's research and study these measurements to test their applicability, as well as their evidence of validity and reliability in different contexts (Casas et al., 2012). To this end, it is important that such methods are appropriate and capture children's views, thus respecting their right to be heard and considering their voices and competences (Tomás, 2014; Casas, 2019; Fernandes & Caputo, 2021).

International studies have tried to qualify and assess the psychometric properties of SWB-related instruments in children. For example, a study conducted by Casas and González-Carrasco (2021) investigated the comparability among countries of four assessment instruments of SWB used in the third wave of the "Children's Worlds" international survey. The results showed that the latent models of the scales were adjusted to the collected data. However, only one of the SWB scales (the *Children's Worlds Subjective Well-Being Scale – CW-SWBS*) showed invariance among the 30 countries that made up the 10-year sample and the 35 countries that made up the 12-year sample. Despite the minor importance of context in answering the CW-SWBS, one of its six items did not show comparability among countries. Therefore, further understanding in a multinational level is suggested.

In Brazil, some studies have sought to develop, adapt and obtain evidence of validity for the assessment of SWB in children and adolescents. For example, Bedin and Sarriera (2014) conducted a study with 543 adolescents (between 12 and 16 years old) and their parents to assess the psychometric properties of four rating scales of SWB in this age group. Scales that access both cognitive components (*Personal Wellbeing Index – PWI*; *Satisfaction with Life Scale – SWLS*; *Brief Multidimensional Students' Life Satisfaction Scale – BMSLSS*) and affective components (*Core Affects Scale – CAS*) of SWB were investigated. In the sample of adolescents, with the exception of the SWLS scale (Cronbach's $\alpha=0.328$), all scales

and subscales had satisfactory internal consistency indexes (Cronbach's $\alpha > 0.700$) and adequate adjustment indexes in the confirmatory factor analysis (CFI > 0.95 ; RMSEA < 0.07 ; SRMR < 0.05). Furthermore, PWI (Cummins et al., 2003) was applied in a multicenter study conducted in Brazil, Chile and Spain. The data obtained from the adapted version of PWI (plus two questions) show evidence of the validity of the factor structure in the Brazilian sample aged between 12 and 16 years (Casas, 2011).

The proportion of studies that assess children under 11 years of age is notably lower than those conducted with older children or adolescents (Lima & Morais, 2018). One of the largest Brazilian studies investigating the psychometric properties of assessment instruments of SWB including children under 12 was conducted by Sarriera et al. (2020). In these studies, 2280 children aged between 9 and 13 years from the state of Rio Grande do Sul were assessed and the psychometric parameters of the versions adapted to Portuguese of three instruments were investigated: (1) *Student's Life Satisfaction Scale* – SLSS (Huebner, 1991), (2) *Brief Multidimensional Student's Life Satisfaction Scale* – BMSLSS (Seligson et al., 2003) and (3) *Personal Well-being Index - School Children* – PWI-SC (Tomyn & Cummins, 2011). The data showed that the scales presented indexes that were classified between borderline and adequate for internal consistency (Cronbach's α ranging from 0.646 to 0.809), but adequate for other reliability measurements (compound reliability > 0.950). As for the latent structure, the confirmatory factor analyses showed that the adjustment indexes can be considered satisfactory (CFI > 0.950 ; RMSEA < 0.080). However, no invariance through age groups was identified (9–10 years, 11 years, 12–13 years) indicating that comparability is limited. Therefore, statistical differences among these groups should be interpreted with caution. These results reinforce the need to present psychometric data with more reliability before drawing conclusions from the analysis of the studies. Thus, the improvement of psychological measurements is recommended.

Based on the need for further investigation on children's SWB indicators (Ben-Arieh, 2008) the aim of this study was to check the psychometric properties of children's subjective well-being scales considering school type, gender, age and region where children live. The samples were children who participated in the Children's Worlds (ISCWeB) survey in Brazil and attended elementary schools in the capitals of Rio de Janeiro, Rio Grande do Sul, Santa Catarina, Paraná and São Paulo., They all answered questionnaires produced for the third wave of the International Children's World Project in Brazil from March to September 2019.

2 Method

2.1 Participants

The sample of this study is composed of 2676 children distributed among three different age groups according to the school grade in which they were enrolled at the time of collection. The children are elementary school students from schools in the capitals and metropolitan regions of five Brazilian states: Rio de Janeiro (17.45%),

Rio Grande do Sul (23.24%), Santa Catarina (12.41%), Paraná (26.12%) and São Paulo (20.78%). Participants from private schools made up 29.26% of the sample, while those from public schools accounted for 70.74%. The students of the 3rd grade classes (33.22%), answered the 8 years old version of the questionnaire, with a mean age of 8.34 ($SD = 0.78$) from public schools and a mean age of 8.26 ($SD = 0.54$) from private schools, the 5th grade students (33.11%) answered the 10 years old version of the questionnaire, with a mean age of 10.36 ($SD = 0.71$) from public schools and a mean age of 10.22 ($SD = 0.55$) from private schools, and the 7th grade students (33.67%) answered to the 12 years old version of the questionnaire, with a mean age of 12.37 ($SD = 0.82$) from public schools and a mean age of 12.20 ($SD = 0.53$) from private schools. As for gender, 45.8% declared themselves boys and 54.05% girls, while 0.15% did not identify with a gender or did not answer this question.

2.2 Instruments

Regarding the questionnaires developed for the 3rd wave of data collection of the international project “Children’s Worlds”, three versions were developed for different age groups. Therefore, the participating children were included in three age groups of 8, 10 and 12 years old; however, the orientation of these ages does not specifically reflect the actual ages of the children, but the mean age group of the school grade to which they belong. The protocol used in the project consists of different types of questions that were asked to the children. As for the SWB scales used in this study, the following ways were used: (1) about satisfaction with specific areas of their lives (e.g., home, school). Older age groups answered these questions on an 11-point response scale, ranging from 0 (not at all satisfied) to 10 (completely satisfied); while, for younger children, a 5-point scale with emoticons (simple drawings of faces representing how satisfied they felt). This variation makes it impossible to compare the answers for the younger group with the two older groups; (2) on agreement, on 5-point Likert-type scales where children were asked to answer from “I don’t agree” to “I totally agree”. These questions were asked identically for the three age groups, with the questions about the general SWB using a more extensive 11-point response scale for the two older age groups and the 5-point emoticon scale for the younger age group (Rees et al., 2020). The SWB scales to be analyzed in this study are presented below.

2.2.1 CW-SWBS

Children’s Worlds Subjective Well-Being Scale is a measure of SWB developed by Casas and Rees (2015) over the course of the three waves of research and is derived from a scale originally created by Huebner (1991). In the present study, CW-SWBS has adequate internal consistency (Cronbach’s $\alpha=0.916$) and consists of six items aimed at life satisfaction in general (without specific life domains), they are: “I enjoy my life”, “my life is going well”, “I have a good life”, “the things that happen in my life are excellent”, “I like my life” and “I’m happy with my life”. The 10- and

12-year-olds answered an 11-point scale from 0 to 10, with 0 being “Don’t agree” and 10 as “Strongly agree”. In turn, the 8-year-olds answered a 5-point emoticon scale.

2.2.2 CW-DBSWBS

Children’s Worlds Domain-Based Subjective Well-Being Scale is based on a multidimensional student life satisfaction scale developed by Seligson et al. (2003). In the present study, CW-DBSWBS has adequate internal consistency (Cronbach’s $\alpha = 0.664$) and consists of five items that measure domain-based subjective well-being, these are “how satisfied are you with the people you live with?”, “how satisfied are you with your friends?”, “how satisfied are you with your life as a student?”, “how satisfied are you with where you live?” and “how satisfied are you with your appearance?”. The 10- and 12-year-olds answered on an 11-point scale from 0 to 10, with 0 being “Not at all satisfied” and 10 as “Completely satisfied”. In turn, 8-year-olds answered on a 5-point emoticon scale.

2.2.3 Overall Life Satisfaction (OLS)

It consists of a single global life satisfaction item (Campbell, 1976), where participants answer the question: How satisfied are you currently with your whole life, considered on the whole? The scale used is similar to that described in the other instruments, from 0 (totally dissatisfied) to 10 (totally satisfied) for children aged 10 and 12 years; and a 5-point emoticon scale for 8-year-olds.

2.3 Procedures

Data collection was conducted in schools in the capitals and metropolitan regions of five Brazilian states (Rio de Janeiro, Rio Grande do Sul, Santa Catarina, Paraná and São Paulo). In each of the cities, participating schools were selected for convenience of availability, according to proportionality of distribution between public and private schools. The schools that joined the research signed the Institutional Agreement Form (IAF) and their 3rd, 5th and 7th grade students were invited to answer the questionnaire. For this purpose, the research was introduced to the students and the Free and Informed Consent Forms (FICF) were sent to those responsible for the students. Those students whose participation was consented by their parents signed a Free and Informed Assent Form (FIAF) themselves and then answered the questionnaire. The application of the questionnaires took place in the school classrooms, during class time, and lasted approximately 40 to 50 min. The application was held collectively by the authors and collaborators of their respective research groups in sufficient numbers to support any doubts from students in each room (minimum 2).

2.4 Data Analysis

Data analysis was performed through structural equation modeling, using R version 4.0 and RStudio version 1.1.463 software. In order to confirm the structure of

the instruments in the Brazilian context and assess if the configuration and parameters of the instrument are invariant among age groups, gender, school type and state where they live, it was decided to work with multigroup confirmatory factor analysis (MCFA) which is considered a prerequisite to assess any difference among groups (Damásio, 2013). The chi-square, CFI (Comparative Fit Index), RMSEA (Root Mean Square Error of Approximation) and SRMR (Standardized Root Mean Square Residuals) adjustment indexes were considered and assessed according to the Byrne's recommendations (2016) on well-adjusted models. It was considered as satisfactory adjustment criteria the values of CFI close to 0.90, and RMSEA and SRMR close to or less than 0.08. The MCFA was conducted by the Lavaan package, using the Weighted Least Squares Means and Variances (WLSMV) estimation method and the treatment of missing cases of the pairwise type, taking into account the ordinal level of measurement of the items for the case of 8-year-olds' answers and the characteristic asymmetric standard of the answers.

The Robust Maximum Likelihood (RML) model was used in the invariance analyses in which it was not possible to estimate the models due to the absence of response frequency at any of the response levels along with the treatment of missing cases by the *Full Information Maximum Likelihood*. The invariance levels were all calculated using Theta parameterization, using the semTools package. The groups were compared based on the configural, metric (equal factor loadings across groups), scalar (equal factor loadings and thresholds across groups) and latent mean invariance models; considering the reductions in the *Delta CFI* (ΔCFI) values for analysis, since the large sample size increases the chance that the chi-square will reveal significant differences. Finally, the partial invariance was proposed by releasing some of the parameters of one of the model items when the invariance was not reached. When the invariance of latent means was not reached, the scale invariance model was used to estimate the latent difference among groups, fixing all tested parameters for invariance minus the latent variable intercepts, setting one of these to zero as a reference for comparison using the partial invariance algorithm, through the semTools package (Sinval et al., 2018). In order to calculate the reliability of the scales, the alpha ordinal and the Omega were used and considered satisfactory when >0.70 (Green & Yang, 2009; Zumbo et al., 2007). The discriminant validity was examined following Rönkkö and Cho's approach (Rönkkö & Cho, 2020) and convergent validity checking the standardized variance between CW-SWBS, CW-DBSWBS and OLS.

3 Results

The first step was to conduct the confirmatory factor analysis of the CW-SWBS and CW-DBSWBS scales for each age group, including a group formed by joining the observations made among children aged 10 and 12 years old. Table 1 shows the psychometric indicators of the CW-SWBS scale, highlighting that the factor loadings of the items ranged from 0.68 to 0.96 and all models with CFI values >0.95 , SRMR <0.03 . Nevertheless, only the 8-year-old age group model had an RMSEA value <0.05 . Alpha values ranged from 0.93 to 0.96 and Omega from 0.88 to 0.94.

Table 1 Confirmatory Factor Analysis of the CW-SWBS scale using the WLSMV estimator

CW-SWBS	8 years old	10 years old	12 years old	10–12 years old
Standard Factor Loadings*				
Enjoy Life	0.68	0.73	0.81	0.79
Life Going Well	0.85	0.91	0.93	0.93
Have Good Life	0.88	0.92	0.89	0.91
Things Life Excellent	0.74	0.73	0.85	0.81
Like My Life	0.93	0.91	0.95	0.94
Happy With My Life	0.90	0.92	0.96	0.95
Adjustment Indexes				
$\chi^2(\text{gl}); p$	29.848(9); $p < 0.001$	108.173(9); $p < 0.001$	224.363(9); $p < 0.001$	313.429(9); $p < 0.001$
CFI	0.997	0.991	0.993	0.993
SRMR	0.018	0.023	0.019	0.018
RMSEA CI 90% (Inf - Sup)	0.03 (0.05–0.07)	0.09 (0.11–0.13)	0.14 (0.16–0.18)	0.12 (0.13–0.15)
Reliability				
Ordinal alpha	0.93	0.94	0.96	0.96
Omega	0.88	0.90	0.95	0.94

*All factor loadings showed statistical significance with $p < 0.001$

Table 2 shows the psychometric indicators of the CW-DBSWBS scale, highlighting that the factor loadings of the items range between 0.40 and 0.70 and all models have CFI values > 0.95 , SRMR < 0.04 , and, RMSEA < 0.07 . Alpha values ranged from 0.70 to 0.76 and Omega from 0.58 to 0.70.

Considering the joint analysis of data from children aged 10 to 12 years old, Table 3 shows the results of the invariance analysis by indicating that both scales have configural, metric and scalar invariance with delta CFI < 0.01 when comparing the groups. It should be noted that in the CW-DSWBS scale partial invariance of thresholds were obtained by releasing the Thresholds of the item “Satisfied with Friends”. As expected, the invariance of latent means was not observed, thus indicating differences between the means of the groups, as a tendency of the group of older children (12 years old) to show lower levels of well-being, both through the CW-SWBS scale ($M = -0.71$) and in relation to the measurement made through the CW-DBSWBS scale ($M = -0.75$).

Once scalar invariance was observed for the 10- and 12-year-old groups, subsequent invariance analyses were performed by grouping these two age groups into one. The invariance analysis for gender, school type and state with respect to the CW-SWBS scale for both 8-year-old group and 10–12-year-old group pointed to invariance at all levels, even with respect to the latent means with CFI delta < 0.01 as shown in Table 4. As for the analyses considering gender only two categories were used (boys and girls) taking into account that the two represent 99.85% of the sample, and 0.15% did not respond with one gender or did not answer this question.

Table 2 Confirmatory Factor Analysis of the CW-DBSWBS scale using the WLSMV estimator

CW-DBSWBS:	8 years old	10 years old	12 year sold	10–12 years old
Standard Factor Loadings				
Satisfied People Live With	0.63	0.64	0.67	0.65
Satisfied Friends	0.40	0.53	0.53	0.55
Satisfied Life As Student	0.66	0.63	0.65	0.67
Satisfied Local Area	0.58	0.53	0.52	0.54
Satisfied Appearance	0.57	0.70	0.64	0.70
Adjustment Indexes				
$\chi^2(\text{gl}); p$	17.452(5); $p=0.004$	19.169(5); $p=0.002$	14.58(5); $p=0.012$	10.106(5); $p=0.720$
CFI	0.973	0.984	0.992	0.998
SRMR	0.041	0.030	0.023	0.014
RMSEA CI 90% (Inf - Sup)	0.05 (0.03–0.08)	0.06(0.03–0.08)	0.05(0.02–0.07)	0.02(0.00–0.04)
Reliability				
Ordinal alpha	0.70	0.74	0.74	0.76
Omega	0.58	0.66	0.68	0.70

Table 3 Invariance Analysis comparing the versions of the scales between the 10-years old and 12-years old groups using WLSMV as an estimator and theta parameterization

10-years old and 12-years old groups	Invariance Model	CFI	ΔCFI
CW-SWBS*	Configural	0.993	–
	Loadings	0.996	0.002
	Thresholds	0.995	0.001
	Means	0.972	0.023
CW-DSWBS**	Configural	0.989	–
	Loadings	0.992	0.004
	Thresholds ***	0.985	0.007
	Means	0.438	0.533

*Mean difference between 12 and 10 years old for CW-SWBS $M=-0.71$

**Mean difference between 12 and 10 years old for CW-DSWBS $M=-0.75$

***Partial invariance reached by releasing the Thresholds of the item *Satisfied with Friends*

Regarding the CW-DBSWBS scale, the instrument showed invariance up to the latent mean for gender in the group aged 10 to 12 years with $\text{CFI}<0.01$ (Table 5). A similar result was observed for the 8-year-old group in relation to gender when the item *Satisfied with local area* was freely estimated in each group. Regarding the school type, configural, metric and scalar invariance was observed for both groups, except for the latent mean invariance observed only in the 8-year-old group. With regard to the States, configural, metric and scalar invariance was observed for both

Table 4 Invariance Analysis comparing gender, school and State of the CW-SWBS scale between the 8-year-old group and the group made up of children aged 10 and 12 years old using WLSMV estimator and theta parameterization

Instrument	Group	Invariance	Group 8 years old	Groups 10 and 12 years old		
			CFI	Δ CFI	CFI	Δ CFI
CW-SWBS	Gender	Configural	0.994	–	0.994	–
		Loadings	0.995	0.002	0.995	0.002
		Thresholds	0.995	0.001	0.996	0.001
		Means	0.996	–0.001	0.994	0.002
	School	Configural	0.995	–	0.994	–
		Loadings	0.996	0.002	0.996	0.003
		Thresholds	0.996	0.001	0.997	< 0.001
		Means	0.997	–0.001	0.997	< 0.001
	State	Configural	0.997	–	0.993	–
		Loadings	0.997	< 0.001	0.995	0.002
		Thresholds	0.995	0.003	0.997	0.002
		Means	0.991	0.004	0.996	<0.001

Table 5 Invariance Analysis comparing gender, school and State of the CW-SWBS scale between the 8-year-old group and the group formed by children aged 10 and 12 years old using WLSMV estimator and theta parameterization for Gender, and MLR estimator for School and State for convergence of model

Variable	Group	Invariance	Group 8 years old		Groups 10 and 12 years old	
			CFI	Δ CFI	CFI	Δ CFI
CW-DBSWBS	Gender	Configural	0.950	–	0.998	–
		Loadings	0.960	0.012	0.999	0.002
		Thresholds	0.946**	0.014	0.992	0.008
		Means	0.939	0.007	0.989	0.003
	School*	Configural	0.964	–	0.991	–
		Loadings	0.962	0.002	0.991	<0.001
		Intercept	0.959	0.003	0.981	0.011
		Means	0.959	<0.001	0.946	0.034
	State*	Configural	0.949	–	0.982	–
		Loadings	0.951	0.002	0.973	0.008
		Intercept	0.949***	–0.002	0.961***	0.012
		Means	0.866	0.083	0.882	0.079

*Models estimated with MRL as an estimator;

**Partial invariance reached by leaving the Thresholds of the item *Satisfied with Local Area* free;

***Partial invariance reached by leaving the Thresholds of the item *Satisfied with Local Area* free;

groups provided that the scalar invariance model was estimated with the item *Satisfied with local area* left free. In respect to the latent means of the States, it was noted a difference in the latent mean between them.

Table 6 shows the correlation among OLS, CW-SWBS and CW-DBSWBS. Among age groups, the correlation of OLS with both instruments was high, ranging from 0.576 to 0.818, with CW-SWBS; while with CW-DBSWBS, it ranged from 0.739 to 0.820. High correlations were also found between both scales, ranging from 0.73 to 0.93, with discriminant validity being observed between the scales with $p < 0.05$ only for the groups of children aged 8 and 10 years. The results described can also be observed in Figs. 1, 2, 3 and 4.

In addition to the data already exposed, Tables A1, A2 and A3 are also available as supplementary material and contain the matrix of correlations between all items of the two scales and the OLS scale. All correlations are significant. One point that calls attention is the high correlations between the items *I'm happy with my life* and *I like my life* from the CW-SWBS scale reaching 0.903 for the 12-year-old group.

4 Discussion

The objective of this study was to check the psychometric properties of the rating scales of SWB used at the third wave of the "Children's Worlds" and applied to children participating at the project in Brazil (<https://isciweb.org/the-project/history/>). The analyses of the CW-SWBS and CW-DBSWBS scales were held separately considering age groups of the sample (8, 10 and 12 years), gender and the state where children live. Since the 10- and 12-year-old scales showed similarity in the response process and invariance (Configural and Loading) much of these analyses were performed by grouping these age groups together.

The AFC models showed that the CW-SWBS items have high factor loadings (greater than 0.6) at all ages. In turn, the adjustment indexes could be considered satisfactory in the analysis of the 8-year-old group and, with the exception of the residual (RMSEA) (between 0.09 and 0.14), the CFI factor was also suitable for the age groups of children aged 10 and 12 years analyzed either separately and together. In respect to analyses with few degrees of freedom some authors support that there

Table 6 Convergent and Discriminant Validity of the CW-SWBS and CW-DBSWBS scales with the single item OLS

		Correlation			
		8 years old	10 years old	12 years old	10–12 years old
CW-SWBS	OLS	0.576*	0.708*	0.818*	0.781*
CW-DBSWBS	OLS	0.771*	0.739*	0.820*	0.793*
CW-DBSWBS	CW-SWBS	0.730*	0.838*	0.926*	0.899*
Discriminant	Validity	$\chi^2 = 27.357^*$	$\chi^2 = 7.837^*$	$\chi^2 = < 0.001; p = 0.999$	$\chi^2 = 0.013; p = 0.91$

* $p < 0.001$

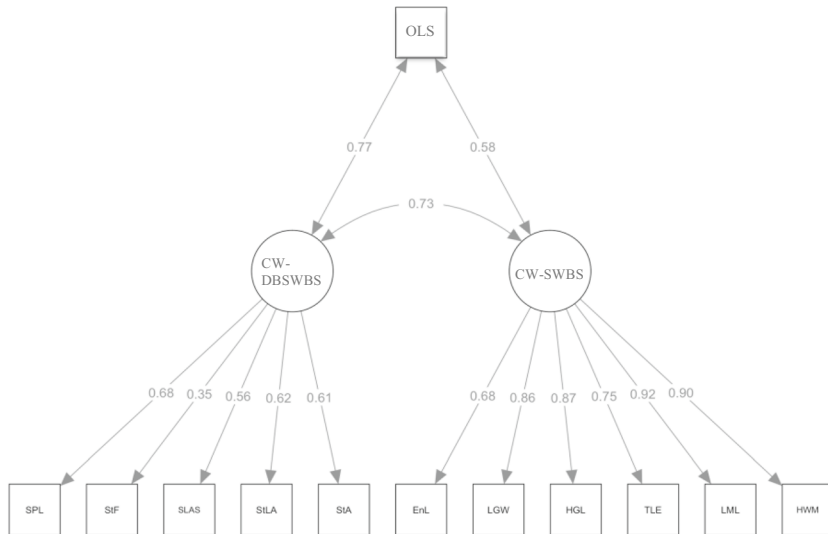


Fig. 1 Measurement model of the CW-SWBS and CW-DBSWBS scales and OLS for the 8-year-old group. Notes: SPL= “satisfied people live with”, StF= “satisfied friends”, SLAS= “satisfied life as a student”, StLA= “satisfied local area”, StA= “satisfied appearance”, EnL= “enjoy life”, LGW= “life going well”, HGL= “have good life”, TLE= “things life excellent”, LML= “like my life” and HWM= “happy with my life”

is a tendency for the RMSEA values to be inflated (Green & Yang, 2009; Zumbo et al., 2007).

Nevertheless, in the CW-SWBS analysis study by Casas and González-Carrasco (2021) with a sample of children from 35 countries, the authors point out that “... this scale displayed problems with the RMSEA when including the six original items. Without item 5 (*I like my life*), the model displayed an excellent fit” (p. 11). Considering that the data from Brazil indicate a high correlation between the items *I’m happy with my life* and *I like my life* of the CW-SWBS (reaching $r=0.903$ for the 12-year sample, – see Table A3 in supplementary materials) it can be understood that the high result of residuals in the models may be due to the possible multicollinearity between these two items. The study by Casas and González-Carrasco (2021) also shows that when excluding the item *I like my life* the adjustment indexes are excellent. In this sense, it is possible to suggest future studies removing the item *I’m happy with my life* instead of the item *I like my life* in order to verify between the two models which one would reveal better adjustment indexes. The meaning of the item *I’m happy with my life* which measures the affective dimension of SWB (positive affect “happy”) is another issue to be reflected upon as it may be leading to conceptual confusion for the measurement.

In all age groups, the internal consistency data can also be considered satisfactory (α and $\omega > 0.70$). The obtained adjustment indexes and internal consistency data indicate, respectively, evidence of validity regarding the internal structure and

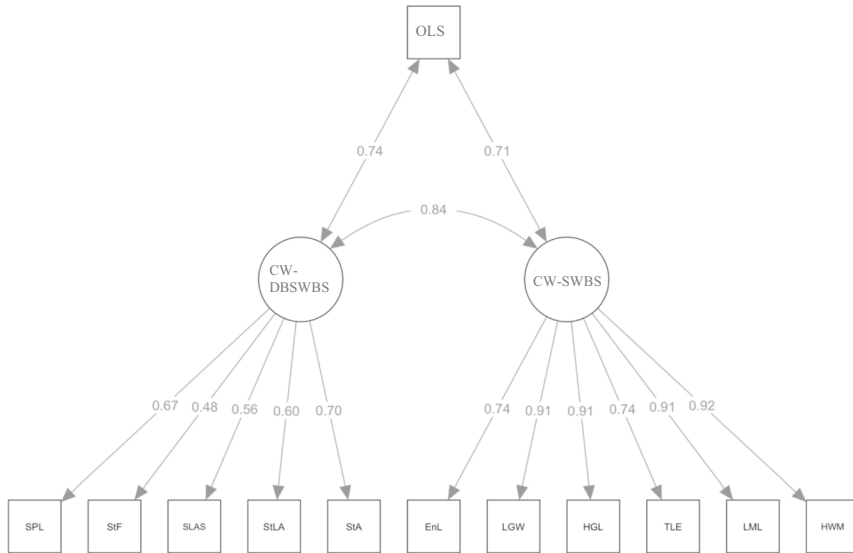


Fig. 2 Measurement model of the CW-SWBS and CW-DBSWBS scales and OLS for the 10-year-old group. Notes: SPL= “satisfied people live with”, StF= “satisfied friends”, SLAS= “satisfied life as a student”, StLA= “satisfied local area”, StA= “satisfied appearance”, EnL= “enjoy life”, LGW= “life going well”, HGL= “have good life”, TLE= “things life excellent”, LML= “like my life” and HWM= “happy with my life”

reliability of the CW-SWBS scale (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014). In addition, these findings reinforce the results of other national studies carried out with similar scales which indicated the adequacy of the theoretical model of SWB to the data obtained in the age groups from 9 to 13 years old (Sarriera et al., 2020) and from 12 to 16 years old (Bedin & Sarriera, 2014).

The CW-SWBS is considered a low context-dependent subjective well-being scale (Casas & González-Carrasco, 2021). The results published on data of the third wave of the Children's World showed the adequacy of the latent model to the data plus the comparability of the instrument among 30 countries with the sample of the 10-year age group, and also among the 35 countries with the 12-year age group (Casas & González-Carrasco, 2021). In this study, considering the analyses of the third wave of the Brazilian sample, the Configural, Loading and Threshold invariance for gender, school type (public or private) and State where the research was conducted the same findings were identified. This result was obtained both for the version for 8-year-old children with an emoticon-type scale and for the version with a scale for children aged 10 and 12 (grouped), whose item response scale ranged from 0 to 10. The difference from the international study to the study developed in Brazil was that with the Brazilian sample it was not necessary to remove an item (e.g., *Things in my life are excellent*) to obtain Configural, Loading and Threshold invariance in demographic variables.

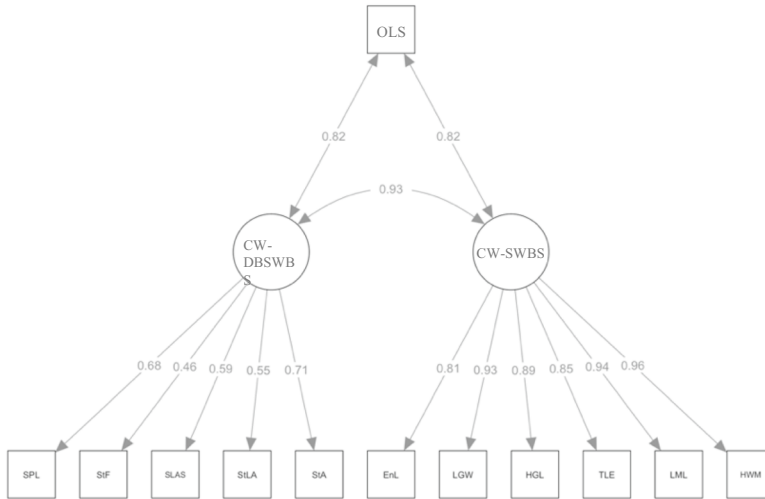


Fig. 3 Measurement model of the CW-SWBS and CW-DBSWB scales and OLS for the 12-year-old group. Notes: SPL= “satisfied people live with”, StF= “satisfied friends”, SLAS= “satisfied life as a student”, StLA= “satisfied local area”, StA= “satisfied appearance”, EnL= “enjoy life”, LGW= “life going well”, HGL= “have good life”, TLE= “things life excellent”, LML= “like my life” and HWM= “happy with my life”

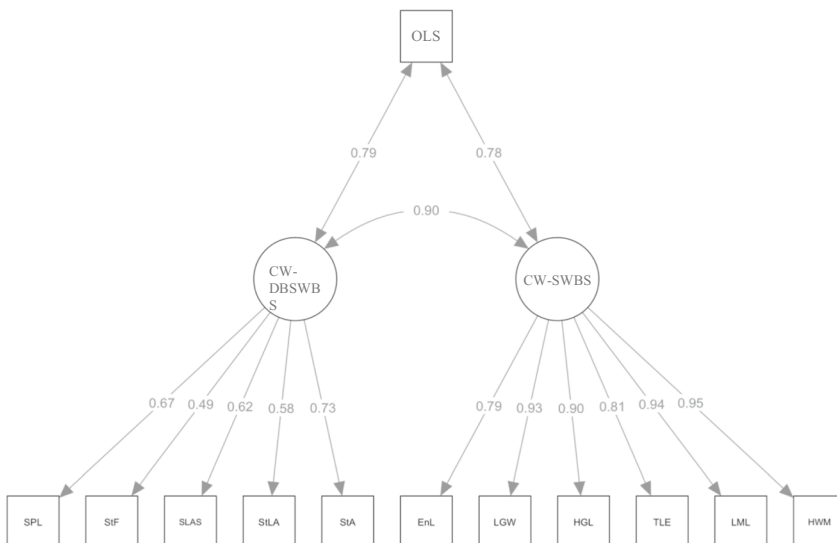


Fig. 4 Measurement model of the CW-SWBS and CW-DBSWB scales and OLS for the 10–12 year-old group. Notes: SPL= “satisfied people live with”, StF= “satisfied friends”, SLAS= “satisfied life as a student”, StLA= “satisfied local area”, StA= “satisfied appearance”, EnL= “enjoy life”, LGW= “life going well”, HGL= “have good life”, TLE= “things life excellent”, LML= “like my life” and HWM= “happy with my life”

Therefore, this study shows the relevance of using the CW-SBWS total score for groups of different genders, regions and school types in the Brazilian context. The investigation on the influence of demographic variables on children's SWB is particularly important as it allows to reproduce conclusions from international studies and to propose interventions according to the particularities of the children and their region. Despite the maintenance of the internal structure, data from the age-multi-group CFA showed differences in the mean latent score when compared to data from 10- and 12-year-old children which corroborate with previous studies of the inverse relationship between age and life satisfaction (Goswami, 2014; Casas et al., 2020). Future studies interested in investigating age and gender interactions in children's and adolescents' SWB could replicate international studies (e.g., González-Carrasco et al., 2016). Another result of the multigroup CFA showed the possibility of comparing the scores obtained by the CW-SBWS scale in children from public and private schools. Previous international studies have not shown that the school type and its location are related to overall life satisfaction (Corominas et al., 2020). In Brazil, although the school type is related to potential predictors of child SWB Santos et al. (2019) also failed to identify such relationships. Nevertheless, in this study the assessment by domains found that children from private schools were more satisfied with their school (Santos et al., 2019). This data reinforces the need to assess children's life satisfaction in general and in each domain that comprises it.

Based on domains, the CW-DBSBWS scale also had its psychometric properties assessed in the present study. The CFA showed good factor loadings of the items with respect to the latent factor (> 0.40) and satisfactory adjustment indexes of the general model to the data obtained in the 8-, 10-, and 12-year-old samples and in the joint analysis of 10- and 12-year-olds. These results show evidence of validity regarding the internal structure of the scale (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014). This conclusion is shared by Casas and González-Carrasco (2021) who used data from the entire sample of children aged 10 and 12 years of the third wave of the Children's World survey and found the adequacy of the structure of the CW-DBSBWS scale for measuring children's well-being. Brazilian studies with other multidimensional scales (BMSLSSS) (Seligson et al., 2003) have also shown the adequacy of this form of measurement in children aged 9 to 13 years (Sarriera et al., 2020) and adolescents aged 12 to 16 years (Bedin & Sarriera, 2014).

When comparing the data from the models of children aged 8, 10 and 12 years, it was possible to observe that the adjustment and internal consistency indexes of this scale tend to be higher in the groups of older children. These results may reflect both the organization of the scale (emoticons or numerical) and the level of development for understanding domain-based items. As this discrepancy was not observed in the analyses of the CW-SBWS scale (with the same difference in the response scale) these results are possibly associated with the understanding of the items. Some authors have exposed difficulties in assessing children's SWB based on self-report indicating the importance of cognitive maturity (Cummins, 2014) and an optimistic bias more evident than in adults (Casas & Bello, 2012). Some of the analyses performed in this study converge with the hypothesis of measurement differences according to age. In the multigroup CFA analysis, the CW-DBSBWS Threshold

invariance for ages 10 and 12 could only be partially obtained by removing the restrictions from the item describing satisfaction with friends. Therefore, there are differences in what is measured by this item among age groups. Besides cognitive maturity and possible optimistic bias, the differences in the item means also could indicate socio-cognitive development since in the transition from childhood to adolescence the role of peers (friends) is increasingly stronger and could have an effect in life satisfaction. Data such as those obtained by Sarriera et al. (2020), when studying the domain-based satisfaction scale (BMSLSSS) provide support for this interpretation related to the child's age; and the authors warn that possible differences between these groups should be analyzed with caution by researchers. Regarding gender (only in the 8-year-old group), school type and State, invariance was observed in leaving the Thresholds of the item *Satisfaction with where they live* free. That is, children of different genders, school types or regions consider different aspects when answering this item. Casas and González-Carrasco (2021) studied and evaluated the CW-DBSBWS scale and concluded that it is strongly associated with contextual factors.

Evidence of convergent validity was observed for both the life satisfaction scale (CW-SBWS) and the domain-based one (CW-DBSBWS). Both were significantly correlated with each other and with the assessment of overall satisfaction with life based on a single item (OLS). These results are consistent with the conclusion of Diener (2009) who points out that the high correlations observed between the scales for assessing children's well-being indicate the existence of a higher-order factor. Some studies have shown the adequacy of a hierarchical scale model of children's SWB (Savahl et al., 2021). Although it was not raised in this study, the hierarchical model considers cognitive and affective aspects of the child SWB assessment and presents a solution with two cognitive components (general and domain-based satisfaction with life) and with two affective components (positive and negative) and a relatively stable higher-order factor among cultures (Savahl et al., 2021). Despite the high correlation between the scales, the discriminant analysis showed that the instruments also assess different dimensions of well-being. This result demonstrates the relevance and complementarity of using the two scales for the multidimensional understanding of well-being. The scales used in this study are part of the cognitive domain and their use together can contribute to a multidimensional view of children's SWB. Multidimensional models are important because they present a comprehensive view of human beings and, therefore, the proposal of a model that "approaches general well-being, using different dimensions and indicators" is extremely relevant (Sarriera & Bedin, 2017, p. 4).

4.1 Final Considerations

This study presents evidence of validity, data on reliability and attention points when comparing the results of two life satisfaction scales (CW-SBWS and CW-DBSBWS) used in Brazil to collect the third wave of the Children's World survey. It is worth pointing out the limitations of this study which is the fact that data were collected with a cross-sectional design. Therefore, participants belonged to the

South and Southeast regions of Brazil with no diversity of other gender categories. These issues limit the interpretations of the results as it is not possible to generalize the results for other regions of the country, nor for other gender categories.

This study is in agreement with Casas et al. (2012) and their recommendation to further investigate the psychometric properties of the SWB assessment instruments by taking into account their uses and application in different contexts. Moreover, together with other studies (Casas, 2019; Fernandes & Caputo, 2021; Tomás, 2014) we sum up our efforts to build strategies to appropriately and respectfully capture the child's own view of his/her own well-being. Children's opinion is particularly important to be heard in developing countries, such as those in Latin America, where contexts are characterized by exposing people to social inequalities, poverty and lack of protective networks and social public policies. In conclusion, the findings of this research support the use of the instruments in different contexts of Brazil. Also, it has some potential to collaborate to the Movement of Children's Indicators (Ben-Arieh, 2008) and be part of the actions that fight for respect to the singularities of every culture.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s12187-021-09909-x>.

Acknowledgements Thanks are due to the Brazilian National Council for Scientific and Technological Development (CNPq) for supporting the project and to all children who kindly agreed to answer the questionnaire.

This study was also partially supported by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brasil (CAPES) - Finance Code 001.

Declarations

Conflicts of Interest/Competing Interests The authors have no competing interests to declare that are relevant to the content of this article.

References

- Alcantara, S. C., González-Carrasco, M., Montserrat, C., Viñas, F., Casas, F., & Abreu, D. P. (2017). Peer violence in the school environment and its relationship with subjective well-being and perceived social support among children and adolescents in northeastern Brazil. *Journal of Happiness Studies*, *18*, 1507–1532. <https://doi.org/10.1007/s10902-016-9786-1>
- Alcantara, S. C., González-Carrasco, M., Montserrat, C., Casas, F., Viñas-Poch, F., & Abreu, D. P. (2019). Peer violence, school environment and developmental contexts: Its effects on well-being. *Ciência & Saúde Coletiva*, *24*(2), 509–522. <https://doi.org/10.1590/1413-81232018242.01302017>
- American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (2014). Standards for educational and psychological testing. Washington, DC.
- Amerijckx, G., & Humblet, P. C. (2014). Child well-being: What does it mean? *Children & Society*, *28*(5), 404–415. <https://doi.org/10.1111/chso.12003>
- Bedin, L. M., & Sarriera, J. C. (2014). Propriedades psicométricas das escalas de bem-estar: PWI, SWLS, BMSLSS e CAS. *Avaliação Psicológica: Interamerican Journal of Psychological Assessment*, *13*(2), 213–225. <http://pepsic.bvsalud.org/pdf/avp/v13n2/v13n2a09.pdf>
- Ben-Arieh, A. (2008). The child indicators movement: Past, present, and future. *Child Indicators Research*, *1*, 3–16. <https://doi.org/10.1007/s12187-007-9003-1>








- Ben-Arieh, A., Dinisman, T., & Rees, G. (2017). A comparative view of children's subjective well-being: Findings from the second wave of the ISCWeB project. *Children and Youth Services Review, 80*, 1–2. <https://doi.org/10.1016/j.childyouth.2017.06.068>
- Bradshaw, J., Keung, A., Rees, G., & Goswami, H. (2011). Children's subjective well-being: International comparative perspectives. *Children and Youth Services Review, 33*(4), 548–556. <https://doi.org/10.1016/j.childyouth.2010.05.010>
- Bronfenbrenner, U., & Morris, P. A. (1998). The ecology of developmental processes. In W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology: Theoretical models of human development* (pp. 993–1028). Wiley.
- Campbell, A. (1976). Subjective measures of well-being. *American Psychologist, 31*(2), 117–124. <https://doi.org/10.1037/0003-066X.31.2.117>
- Casas, F. (2011). Subjective social indicators and child and adolescent well-being. *Child Indicators Research, 4*, 555–575. <https://doi.org/10.1007/s12187-010-9093-z>
- Casas, F. (2019). Introduction to the special section on children's subjective well-being. *Child Development, 90*(2), 333–343. <https://doi.org/10.1111/cdev.13129>
- Casas, F., & Bello, A. (Eds.). (2012). *Calidad de vida y bienestar infantil subjetivo en España. ¿Qué afecta al bienestar de niños y niñas españoles de 1o de ESO?* UNICEF. http://www.unicef.es/sites/www.unicef.es/files/Bienestar_infantil_subjetivo_en_Espakua.pdf
- Casas, F., & González-Carrasco, M. (2021). Analysing comparability of four multi-item well-being psychometric scales among 35 countries using Children's worlds 3rd wave 10 and 12-year-olds samples. *Child Indicators Research, 1*–33. <https://doi.org/10.1007/s12187-021-09825-0>
- Casas, F., & Rees, G. (2015). Measures of children's subjective well-being: Analysis of the potential for cross-national comparisons. *Child Indicators Research, 8*, 49–69. <https://doi.org/10.1007/s12187-014-9293-z>
- Casas, F., Sarriera, J. C., Abs, D., Coenders, G., Alfaro, J., Saforcada, E., & Tonon, G. (2012). Subjective indicators of personal well-being among adolescents. Performance and results for different scales in Latin-language speaking countries: A contribution to the international debate. *Child Indicators Research, 5*, 1–28. <https://doi.org/10.1007/s12187-011-9119-1>
- Casas, F., Oriol, X., & González-Carrasco, M. (2020). Positive affect and its relationship with general life satisfaction among 10 and 12-year-old children in 18 countries. *Child Indicators Research, 13*, 2261–2290. <https://doi.org/10.1007/s12187-020-09733-9>
- Cho, E. Y. N. (2015). Children's wellbeing in east and Southeast Asia: A preliminary comparison. *Social Indicators Research, 123*, 183–201. <https://doi.org/10.1007/s11205-014-0731-6>
- Cho, E. Y. N., & Yu, F. Y. (2020). A review of measurement tools for child wellbeing. *Children and Youth Services Review, 19*, 105576. <https://doi.org/10.1016/j.childyouth.2020.105576>
- Corominas, M., González-Carrasco, M., & Casas, F. (2020). The importance of feeling adequately heard by adults and enjoying time with family in relation to children's subjective well-being. *Child Indicators Research, 13*, 193–214. <https://doi.org/10.1007/s12187-019-09680-0>
- Cummins, R. A. (2014). Understanding the well-being of children and adolescents through homeostatic theory. In Ben-Arieh A., Casas F., Frønes I., & Korbin J. (Eds) *Handbook of child well-being*. Dordrecht. https://doi.org/10.1007/978-90-481-9063-8_152.
- Cummins, R. A., Eckersley, R., Pallant, J., Van Vugt, J., & Misajon, R. (2003). Developing a national index of subjective wellbeing: The Australian unity wellbeing index. *Social Indicators Research, 64*, 159–190. <https://doi.org/10.1023/A:1024704320683>
- Damáσιο, B. F. (2013). Contribuições da Análise Fatorial Confirmatória Multigrupo (AFCMG) na avaliação de invariância de instrumentos psicométricos. *Psico-USf, 18*(2), 211–220. <https://doi.org/10.1590/S1413-82712013000200005>
- Dell'Aglio, D., Koller, S. H., & Yunes, M. A. M. (2011). Resiliência e psicologia positiva: interfaces do risco a proteção. 2nd ed. Casa do Psicólogo.
- Diener, E. (2009). *Assessing subjective well-being: progress and opportunities*. In Diener, E. (Ed.), *Social indicators research series, vol. 39* (pp. 25–65). Dordrecht. https://doi.org/10.1007/978-90-481-2354-4_3.
- Diener, E., Suh, E. M., Lucas, R., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin, 125*(2), 276–302. <https://doi.org/10.1037/0033-2909.125.2.276>.
- Diener, E., Oishi, S., & Tay, L. (2018). Advances in subjective well-being research. *Nature Human Behaviour, 2*, 253–260. <https://doi.org/10.1038/s41562-018-0307-6>

- Fernandes, N., & Caputo, S. G. (2021). Quém teme a las imágenes de los niños en la investigación? - Contribuciones al uso de imágenes en la investigación con niños. *Sociedad e Infancias*, 5(Spe), 5–19. <https://doi.org/10.5209/soci.71598>
- Giacomoni, C. H., Souza, L. K., & Hutz, C. S. (2014). The concept of happiness in children. *Psico-USF*, 19(1), 143–153. <https://doi.org/10.1590/S1413-82712014000100014>
- González-Carrasco, M., Casas, F., Malo, S., Viñas, F., & Dinisman, T. (2016). Changes with age in subjective well-being through the adolescent years: Differences by gender. *Journal of Happiness Studies*, 18, 63–88. <https://doi.org/10.1007/s10902-016-9717-1>
- Goswami, H. (2014). Children's subjective well-being: Socio-demographic characteristics and personality. *Child Indicators Research*, 7, 119–140. <https://doi.org/10.1007/s12187-013-9205-7>
- Green, S. B., & Yang, Y. (2009). Reliability of summed item scores using structural equation modeling: An alternative to coefficient alpha. *Psychometrika*, 74, 155–167. <https://doi.org/10.1007/s11336-008-9099-3>
- Gross-Manos, D., Shimoni, E., & Ben-Arieh, A. (2015). Subjective well-being measures tested with 12-year-olds in Israel. *Child Indicators Research*, 8(1), 71–92. <https://doi.org/10.1007/s12187-014-9282-2>
- Guzmán, J., Varela, J. J., Benavente, M., & Sirlópú, D. (2017). Sociodemographic profile of children's well-being in Chile. In J. C. Carriera & L. M. Bedin (Eds.), *Psychosocial well-being of children and adolescents in Latin America* (pp. 109–128). Springer International Publishing.
- Huebner, E. S. (1991). Initial development of the student's life satisfaction scale. *School Psychology International*, 12(3), 231–240. <https://doi.org/10.1177/0143034391123010>
- Huta, V., & Ryan, R. M. (2010). Pursuing pleasure or virtue: The differential and overlapping well-being benefits of hedonic and eudaimonic motives. *Journal of Happiness Studies*, 11(6), 735–762. <https://doi.org/10.1007/s10902-009-9171-4>
- Lawler, M. J., Newland, L. A., Giger, J. T., & Roh, S. (2015). Ecological, relationship-based model of 12-year-old children's subjective well-being in the United States and ten other countries. *Journal of Social Research & Policy*, 6(2). http://www.jsrp.ro/content/JSRP_Vol6_Iss2_Lawler
- Lawler, M. J., Newland, L. A., Giger, J. T., Roh, S., & Brockevelt, B. L. (2017). Ecological, relationship-based model of children's subjective well-being: Perspectives of 10-year-old children in the United States and 10 other countries. *Child Indicators Research*, 10, 1–18. <https://doi.org/10.1007/s12187-016-9376-0>
- Lee, B., & Yoo, M. S. (2015). Family, school, and community correlates of children's subjective well-being: An international comparative study. *Child Indicators Research*, 8, 151–175. <https://doi.org/10.1007/s12187-014-9285-z>
- Lei no 8.069, de 13 de julho de 1990. (1990). Dispõe sobre o Estatuto da Criança e do Adolescente e dá outras providências. Brasília, DF: Diário Oficial [da] República Federativa do Brasil. https://www.planalto.gov.br/ccivil_03/leis/18069.htm
- Lima, R. F. F., & Morais, N. A. (2018). Bem-estar subjetivo de crianças e adolescentes: revisão integrativa. *Ciencias Psicológicas*, 12(2), 249–260. <https://doi.org/10.22235/cp.v12i2.1689>
- Medeiros, L. K. A., & Martins, R. R. (2020). Análise comparativa de estudos sobre bem-estar subjetivo no Brasil: Aspectos epistemológicos, metodológicos e teóricos. *Estudos e Pesquisas em Psicologia*, 20(3), 953–975. <https://doi.org/10.12957/epp.2020.54359>
- Montserrat, C., Dinisman, T., Baltatescu, S., Grigoras, B. A., & Casas, F. (2015). The effect of critical changes and gender on adolescents' subjective well-being: Comparisons across 8 countries. *Child Indicators Research*, 8, 111–131. <https://doi.org/10.1007/s12187-014-9288-9>
- Moreira, A. L., Yunes, M. Á. M., Nascimento, C. R. R., et al. (2021). Children's subjective well-being, peer relationships and resilience: An integrative literature review. *Child Indicators Research*, 14, 1723–1742. <https://doi.org/10.1007/s12187-021-09843-y>
- Newland, L. A., Lawler, M. J., Giger, J. T., Roh, S., & Carr, E. R. (2015). Predictors of children's subjective well-being in rural communities of the United States. *Child Indicators Research*, 8, 177–198. <https://doi.org/10.1007/s12187-014-9287-x>
- Newland, L. A., Giger, J. T., Lawler, M. J., Roh, S., Brockevelt, B. L., & Schweinle, A. (2019). Multilevel analysis of child and adolescent subjective well-being across 14 countries: Child and country-level predictors. *Child Development*, 90(2), 395–413. <https://doi.org/10.1111/cdev.13134>
- Park, N. (2004). The role of subjective well-being in reply to: Positive youth development. *The Annals of the American Academy of Political and Social Science*, 591, 25–39. <https://doi.org/10.1177/0002716203260078>

- Rees, G., Goswami, H., & Bradshaw, J. (2010). *Developing an index of children's subjective well-being in England*. The Children's Society. <https://www.york.ac.uk/inst/spru/pubs/pdf/childswbSum.pdf>
- Rees, G., Savahl, S., Lee, B. J., & Casas, F. (Eds.). (2020). *Children's views on their lives and well-being in 35 countries: A report on the Children's Worlds project, 2016–19*. Children's Worlds Project (ISCWeB). <https://isciweb.org/wp-content/uploads/2020/08/Childrens-Worlds-Comparative-Report-2020.pdf>
- Rönkkö, M., & Cho, E. (2020). An updated guideline for assessing discriminant validity. *Organizational Research Methods*, 1–42. <https://doi.org/10.1177/1094428120968614>.
- Santos, B. R., Sarriera, J. C., & Bedin, L. M. (2019). Subjective well-being, life satisfaction and interpersonal relationships associated to socio-demographic and contextual variables. *Applied Research in Quality of Life*, 14, 819–835. <https://doi.org/10.1007/s11482-018-9611-6>
- Sarriera, J. C. & Bedin, L. M. (Eds.). (2017). *Psychosocial well-being of children and adolescents in Latin America: evidence-based interventions*. Springer International Publishing. <https://doi.org/10.1007/978-3-319-55601-7>.
- Sarriera, J. C., Casas, F., Santos, B. R., Bedin, L. M., & González, M. (2018). Subjective well-being and personal relationships in childhood: Comparison of Brazilian and Spanish children. *Interpersona An International Journal on Personal Relationships*, 12(1), 91–106. <https://doi.org/10.5964/ijpr.v12i1.284>
- Sarriera, J. C., Abs, D., Strelhow, M. R. W., & Bedin, L. M. (2020). Medidas de bem-estar subjetivo: estudo com crianças brasileiras. In Sarriera, J. C., Rocha, K. B., Inzunza, J. A., Silva, R. B. (Eds.), *Bem-estar e saúde comunitária: teoria, metodologia e práticas transformadoras* (pp. 51–66). Appris.
- Savahl, S., Casas, F., & Adams, S. (2021). The structure of children's subjective well-being. *Frontiers in Psychology*, 12, 650681. <https://doi.org/10.3389/fpsyg.2021.650691>
- Seligman, M. E., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55(1), 5–14. <https://doi.org/10.1037/0003-066X.55.1.5>
- Seligson, J. L., Huebner, E. S., & Valois, R. F. (2003). Preliminary validation of the brief multidimensional Student's life satisfaction scale (BMSLSS). *Social Indicators Research*, 61(2), 121–145. <https://doi.org/10.1023/A:1021326822957>
- Sinval, J., Pasian, S., Queirós, C., & Marôco, J. (2018). Brazil-Portugal transcultural adaptation of the UWES-9: Internal consistency, dimensionality, and measurement invariance. *Frontiers in Psychology*, 9, 353. <https://doi.org/10.3389/fpsyg.2018.00353>
- Strelhow, M. R. W., Sarriera, J. C., & Casas, F. (2020). Evaluation of well-being in adolescence: Proposal of an integrative model with hedonic and eudemonic aspects. *Child Indicators Research*, 13, 1439–1452. <https://doi.org/10.1007/s12187-019-09708-5>
- Tomás, C. (2014). As culturas da infância na educação de infância: um olhar a partir dos direitos da criança. *Interações*, 10(32), 129–144. <https://doi.org/10.25755/int.6352>
- Tomy, A. J., & Cummins, R. A. (2011). The subjective wellbeing of high-school students: Validating the personal well-being index–school children. *Social Indicators Research*, 101, 405–418. <https://doi.org/10.1007/s11205-010-9668-6>
- United Nations (1989). Convention on the Rights of the Child. Available at: UNCRC at http://www.unicef.org.uk/Documents/Publication-pdfs/UNCRC_PRESS200910web.pdf
- Woyciekoski, C., Stenert, F., & Hutz, C. S. (2012). Determinantes do Bem-Estar Subjetivo [Determinants of subjective well being]. *PSICO*, 43(3), 280–288.
- Zumbo, B. D., Gadermann, A. M., & Zeisser, C. (2007). Ordinal versions of coefficients alpha and theta for Likert rating scales. *Journal of Modern Applied Statistical Methods*, 6(1), 21–29. <https://doi.org/10.22237/jmasm/1177992180>

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

Authors and Affiliations

Aline Lopes Moreira¹  · **Jorge Castellá Sarriera**²  ·
Leonardo Fernandes Martins¹  · **Lívia Maria Bedin**³  ·
Maria Angela Mattar Yunes¹  · **Luciana Cassarino Perez**⁴  ·
Murilo Ricardo Zibetti⁵ 

Jorge Castellá Sarriera
jorgesarriera@gmail.com

Leonardo Fernandes Martins
leomartinsjf@gmail.com

Lívia Maria Bedin
liviabedin@gmail.com

Maria Angela Mattar Yunes
mamyunes@gmail.com

Luciana Cassarino Perez
lucicaspe@gmail.com

Murilo Ricardo Zibetti
murilozibetti@unisinós.br

- ¹ Post Graduation Program of Psychology, Salgado de Oliveira University, UNIVERSO, Niterói, Rio de Janeiro, Brazil
- ² Doctoral and Master Program in Psychology, and Master Program in Social Policy and Social Work, Department of Developmental and Personality Psychology, Federal University of Rio Grande do Sul, UFRGS, Porto Alegre, Rio Grande do Sul, Brazil
- ³ Doctoral and Master Program in Psychology, Department of Developmental and Personality Psychology, Federal University of Rio Grande do Sul, UFRGS, Porto Alegre, Rio Grande do Sul, Brazil
- ⁴ Federal University of Rio Grande do Sul, UFRGS, Porto Alegre, Rio Grande do Sul, Brazil
- ⁵ University of Vale do Rio dos Sinos, UNISINOS, São Leopoldo, Rio Grande do Sul, Brazil