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The Italian validation of the Stirling Child Well-being Scale

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ABSTRACT. L'obiettivo di questo lavoro è l'adattamento italiano della scala Stirling per l'assessment del benessere in età evolutiva. Il questionario è stato ideato da Liddle e Carter nel 2015 con lo scopo di misurare le dimensioni edoniche ed eudaimoniche del benessere. La validazione è avvenuta su un campione di 1130 partecipanti (540 maschi, e 590 femmine, range di età 8-13 anni) ed ha mostrato buoni indici statistici. Il questionario sembra quindi essere un valido strumento per valutare il benessere in diversi contesti (clinico, educativo) e costituisce un riferimento per la ricerca futura, dal momento che queste due componenti del benessere sono ancora scarsamente investigate, soprattutto nella loro dimensione evolutiva.

SUMMARY. The aim of the current work is to validate the Italian adaptation of the Stirling Child Well-being Scale, a questionnaire created by Liddle and Carter (2015) to assess the two psychological dimensions of hedonic and eudaimonic well-being. The questionnaire was validated on a sample of 1130 participants (540 male and 590 females, aged 8 to 13 years). It showed good fit indexes ($\chi^2(87) = 317.01$, $p<.001$, RMSEA = .048, SRMR = .045, CFI = .971, NNFI = .965), and a satisfactory reliability (Cronbach's alpha = .762). The questionnaire revealed as a useful tool to assess well-being in several contexts (such as clinical, educational) other than traditional scales created to specifically evaluate the school-related well-being. Indeed, it allows separate measurement of the two dimensions of hedonic and eudaimonic well-being, constituting a benchmark for future research and comprehension of the composition of these two components, yet to be understood, especially in children.

Keywords: *Children well-being, Hedonic dimension, Eudaimonic dimension*

INTRODUCTION

Well-being: An overview of the construct

Approximately fifty years ago, the World Health Organization (WHO, 1948) defined health as a 'state of complete physical and social well-being and not merely the absence of disease or infirmity'. However, the health indicators of our society continue to be largely focused on infirmity, disease, and negative functioning. Even the epidemiological research is often directed towards measuring the mortality or morbidity rate among the human population rather than quantifying its well-being or positive functioning.

In addition, most of the assessment tools used in psychology, sociology and medicine try to measure problems either physical (illnesses, pain, sleep disorders, symptoms), mental (cognitive malfunctioning, stress, depression, anxiety, hostility), or social (role limitations, domestic uneasiness, or sexual dysfunction). Another controversial issue which is often observed is the lack of agreement on the concept of well-being, health, and positive functioning of an individual. In fact, multiple definitions are proposed to illustrate psychological well-being and happiness (e.g., Keyes, 2002).

Different social sciences scholars have tried to understand what elements people use to positively judge their lives. This definition of subjective well-being has been labeled as 'being satisfied with life' and is based on the people's standards in determining what is positive in life. Therefore, it regards a global assessment of the quality of life of a person according to his or her own subjective criteria.

Historically, the concept of what constitutes well-being has been greatly debated, focusing on two predominant points of view: the hedonic and eudaimonic perspectives. The hedonic well-being is primarily concerned with the immediate states of pleasure and happiness; the eudaimonic is related to the actualization of human potential (Ryan & Deci, 2001). Therefore, there have been conflictual approaches among the different theorists on the concept of well-being and its measurement.

Currently, a growing consensus among researchers can be seen in the idea of what overall psychological well-being is; it comes from the combination of the two above-mentioned perspectives, i.e., hedonic, and eudaimonic. Evidence of an integrative theoretical approach has been provided by the definition of positive mental health as formulated by the World Health Organization (WHO) for which mental health is obtained when 'every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community' (1948). The concept of mental health is often used to define overall psychological well-being; the holistic vision of well-being includes both subjective well-being and overall psychological well-being.

It is useful to explore the use the WHO makes of the term positive mental health with the purpose of highlighting a key problem in today's psychology. Modern psychology is based on deficits (Springer & Hauser, 2006) and it is excessively oriented toward the study of prevention and the treatment of mental illnesses. They claim the need to understand and foster positive feelings, personalities and institutions as well as focusing on well-being as a positive dimension of the state of health. Further research on well-being has confirmed that the notion of psychological well-being may be in a different dimension from the notion of mental illness (Keyes, 2002).

The Stirling Children's Well-being Scale

The *Stirling Children's Well-being Scale* (*SCWBS*) was promoted by the Stirling Council Educational Psychology Service with the objective of creating a holistic scale, formulated in positive terms, and aimed at measuring the emotional and psychological well-being in children from 8 to 15 years of age (Liddle & Carter, 2015). The idea was that such a scale that could estimate the effectiveness of the intervention and projects aimed at fostering children's well-being may be useful as most of the tools available were focused on mental illness rather than on well-being (e.g., McDowell, 2009; Ryan & Deci, 2001). In addition, the well-being scales available were scarcely relevant to developmental populations.

To guarantee that the scale was suitable and relevant for the study of children's well-being, the items that made it up were given to children during a research trial. The items that were the result of complex interpretation or that left space for other possible interpretations by the children were changed or omitted. This served to guarantee that the originated scale could be understood by children and could be perceived as a well-being measurement tool.

The aspects identified targeted different aspects of well-being: trust, usefulness, interest in life, problem solving

skills, autonomy, positive relations, thinking clearly and creatively, energy, happiness and optimism (Ryan & Deci, 2001). Fifteen items compose the scale. Every item consists of a statement expressed in first person that was representative of a component of the mental well-being structure, formulated with words easily understandable by an 8-year-old child. The answers were evaluated on the Likert 5-point scale from 1 (never) to 5 (always). The tendency to give a series of same answers in a mechanical manner, without pausing on the significance of the questions, was more prevalent in younger children even though the studies carried out demonstrated that such a tendency could be a prejudicial factor only for children under the age of eight (Liddle & Carter, 2015).

The original scale developed by Liddle and Carter in 2015 shows good internal reliability with a Cronbach' alpha of .847; the construct validity was assessed by a Pearson correlation with the WHO scale (positive correlation above .7) and the Dubois self-esteem scale (strong positive correlation of .69). The analysis showed a strong significant correlation between the initial scores and the retest scores ($r = .752$, $p<.01$) showing that the scale had good external reliability. No additional factorial analyses were conducted.

In Italy, a few studies have been conducted that focused on social well-being considering separately adolescents and young adults (e.g., Cicognani, Berti & Albanesi, 2001) and elders (e.g., Zambianchi & Ricci Bitti, 2013). Results showed on average low levels of social well-being and significant gender differences, with a level of perceived social well-being higher in males than females.

In a study involving Italian students from primary school and middle school, variations in the scholastic well-being have been analyzed. Tobia, Greco, Steca and Marzocchi (2019) used the questionnaire on scholastic well-being, considering the students' gender and age. Results showed that females report to be more satisfied than males about their school achievement and relationship with their teachers. In addiction, girls showed higher levels of negative emotions (such as anxiety and sense of guilt) compared to males when facing evaluation tasks. Comparing students from primary and secondary school, a significant difference in the perceived scholastic well-being was observed: well-being decreases as students age.

Preliminary research using the SCWBS in the Italian context was conducted by Sacchi, Artuso and Palladino (2022) on middle school children (aged 11 to 13 years) to examine the relationships between their perceived well-being and several components of learning and study skills. Results showed that perceived well-being reduces significantly with age in middle school children; indeed, eight graders showed a well-being few points lower than both sixth and seventh graders. This result confirms previous data with Italian students tested on school well-being (Tobia et al., 2019), showing a decrease in well-being score with age, especially in females. This result may be explained considering the critical step that is taken during this period of middle school, from childhood to early adolescence, a period where negative effects on self-esteem, self-efficacy, motivation, and social relationships are often observed (Konu & Lintonen, 2006).

Aim of the study

The aim of the present study was to test the psychometric properties of the Stirling scale/questionnaire in a sample of Italian children (aged 8 to 13 years), and to contribute to the literature on well-being conceptualization (hedonic *vs* eudaimonic well-being). Specifically, we aimed to test the three-factor solution which corresponded to the factor structure indicated in the original scale. Once the factorial structure was established, we assessed the validity of the scale correlating the performance on the scale with the performance of the AMOS scale, an Italian instrument aimed to assess study approach.

METHOD

Participants

Children were recruited through local mainstream primary and uppers secondary school programs (Grade 3 to Grade 8). The final sample included a total of 1130 children (540 male and 590 females; $M_{age} = 10.56$, $SD = 1.66$).

Schools were in Northern Italy. After collecting informed consent, the questionnaire was collectively administered at schools by Master students of Psychology, at the University of Pavia. The student in charge of data collection introduced the session explaining the general topic of the questionnaire. Then, it was administered. No time limit was contemplated so that each child could complete the questionnaire on her/his own pace. The session lasted about 15 minutes.

Measures

– *Stirling Children's Well-being Scale (SCWBS)*. In agreement with the authors, we have translated the scale from English to Italian. Following the procedure, the items of the questionnaire have been first translated into Italian; then, the items have been submitted to five bilinguals Italian-English individuals who have re-translated the items in English, without knowing the original version. Following this step, a few items have been modified and tested one more time, to ensure the better correspondence English-to-Italian. The SCWBS measures psychological well-being, in particular positive aspects of well-being (in opposition to negative/deficit aspects). The SCWBS is composed of 15 items measured on a 5-points Likert scale (i.e., 1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always).

  Each participant is asked to carefully read each item and reflect about how s/he felt or has been thinking about it in the last two weeks. The minimum score is 12, the maximum score is 60. According to the original study (Liddle & Carter, 2015) the 15 items are divided in 3 subcomponents: the items 1, 3, 4, 5, 6, 8, examine the *eudaimonic* dimension of well-being. The items 9, 10, 11, 12, 14, 15 investigate the *hedonic* dimension of well-being. The three remaining items (2, 7, 13) are a control of *social desirability*. See Appendix for the Italian version.

– *Questionnaire on Study Approach (QAS)*. This short questionnaire is taken from the AMOS battery (Cornoldi, De Beni, Zamperlin & Meneghetti, 2005), a comprehensive battery devised to study motivational aspects of learning. The student is required to read and analyze a series of information that describe possible study behaviors and then asked to express how much these correspond to her/his personal behavior, study method and study approach. The questionnaire employs a three-point Likert scale, from 1 = little true; 2 = true; to 3 = very true). The participant is requested to describe how s/he feels, that not necessarily identifies how s/he really is. Indeed, the questionnaire is a metacognitive one as it evaluates knowledges and subjective beliefs.

  The 49 items in the QAS refer to 7 fundamental areas that are typical of a good approach to study. Both partial scores (for each of the 7 areas) and a global score (summing up the 7 subscales) can be calculated:

1. Being motivated and interested to learn (motivation);
2. Being able to plan times and study modalities (personal work organization);
3. Being able to take on an active and strategic attitude to learning (strategic processing);
4. Being aware of the different study methods (study flexibility);
5. Being able to focus on the task removing distractions (concentration);
6. Manage school anxiety via self-regulation strategies (anxiety);
7. Consider school in a positive way, as a learning and socialization environment (attitude towards school).

   The QAS gives back partial scores (to accurately assess each of the 7 areas) and a global score (that allows a fast and easy evaluation of the study approach).

Statistical analyses

The R program (R Core Team, 2024) with the 'lavaan' library (Rosseel, 2012) was used. Model fit was assessed using various indices according to the criteria suggested by Hu and Bentler (1998). Since the test included ordinal values (answers at the scales were provided in Likert formats), we used the ordered function in lavaan, which provides correlations for ordinal variables, add thresholds and the mean structure to the model, use DWLS as the estimator, set standard error to robust, and report robust fit measures. Robust statistics were reported, the chi-square (χ^2), the Comparative Fit Index (CFI), the Non-Normed Fit Index (NNFI), and the Root Mean Square Error of Approximation (RMSEA). Chi-square difference test ($\Delta\chi^2$) was used for testing the difference between alternative models. It is worth noting that the robust difference test is a function of two standard statistics and is calculated using standard (not robust) chi-square values. Confirmatory factor analysis was used to ascertain the number of dimensions.

Once the factorial structure was established, we calculated the reliability using Cronbach's alpha. The validity of the scale was assessed correlating the performance on the scale with the performance of the AMOS scale.

RESULTS

Table 1 shows descriptive statistics for the sample.

Table 1 – Descriptive statistics: mean age (years; months, number of participants by gender and total sample numerosity by school grade)

Grade	*M* age	Female	Male	*N*
Third	8; 00	89	77	166
Fourth	9; 00	98	95	193
Fifth	9; 9	92	95	187
Sixth	11; 00	105	98	203
Seventh	12; 00	96	90	186
Eight	12; 9	110	85	195

Confirmatory factor analysis (CFA)

In the first model, a one factor solution was included. The fit was adequate, $\chi^2(90) = 479.86$, $p<.001$, RMSEA = .062, SRMR = .055, CFI = .951, NNFI = .943. We then went forward testing a three-factor solution, which corresponded to the factor structure indicated in the original scale. The model fit was satisfactory, $\chi^2(87) = 317.01$, $p<.001$, RMSEA = .048, SRMR = .045, CFI = .971, NNFI = .965. This model was also statistically superior as compared to the one factor solution, $\Delta\chi^2(3) = 142.03$, $p<.001$. Factor loadings and correlations were all positive and statistically significant (see Table 2). Based on these results, the factor structure of the instrument was confirmed.

Reliability

As performed in the original report (Liddle & Carter, 2015), we calculated the reliability of the overall scale, Cronbach's alpha = .762, which was satisfactory.

Table 3 shows the correlations between the total of the Stirling scale with the various subscales of the AMOS, except for Study flexibility that showed correlations weak and closed to 0. These results showed that the scale has a good predicting value in predicting different attitude toward study, in particular study organization, motivation, concentration and a general positive consideration towards school. In addition, high scores in the well-being scale are negatively related to anxiety.

DISCUSSION

In the present study, the Italian adaptation of the SCWBS is proposed. Confirmatory factor analyses showed the validity of the structure proposed by the authors of the original scale (Liddle & Carter, 2015), and not yet demonstrated. Results also showed a good reliability of the instrument, with significant positive correlations to different study-related variables, such as motivation, organization and concentration. In addition, a negative significant correlation with anxiety also confirms the goodness of the scale.

The high correlations between well-being and study-related variables clearly highlight the association between psychological well-being and attitude towards study, to indicate that they are linked to each other, as expected, according to previous studies and theoretical models on the relation between emotion and academic achievement (see Pekrun, Goetz, Titz & Perry, 2002; Quinlan, 2016). According

Table 2 – Factor correlations and factor loadings for the three factors solutions

	Factor 1	Factor 2	Factor 3
Factor loading matrix			
Item 1	.663		
Item 3	.407		
Item 4	.419		
Item 5	.485		
Item 6	.402		
Item 8	.579		
Item 9		.549	
Item 10		.564	
Item 11		.589	
Item 12		.539	
Item 14		.676	
Item 15		.652	
Item 2			.400
Item 7			.505
Item 13			.441
Interfactor correlation matrix			
Fact01	1		
Fact01	.742	1	
Fact02	.552	.843	1

Note. All values are statistically significant with $p<.001$

Table 3 – Inter-correlations between the SCWBS and the AMOS scores

	1	2	3	4	5	6	7	8
1. Stirling total	1							
2. Study motivation	.363**	1						
3. Study organization	.445**	.460**	1					
4. Strategy use	.143**	.243**	.183**	1				
5. Study flexibility	.008	.000	.019	.175**	1			
6. Concentration	.468**	.564**	.552**	.187**	−.041	1		
7. Anxiety	−.266**	−.221**	−.162**	−.047	.075*	−.276**	1	
8. Attitude towards school	.469**	.438**	.457**	.105*	−.073*	.563**	.172**	1

Note. $N = 1{,}130$.
* $p<.05$; ** $p<.01$

to the control-value model of Pekrun and colleagues (2002), highest correlations were obtained between well-being and study-related variables that indicate better control on the study activities: concentration, study organization, and attitudes towards study. On the other hand, the negative correlation observed between well-being and anxiety during study, supported the role of emotions as hypothesized in the same model.

Well-being may thus represent a key factor to better understand the relationship between emotions and learning attitude or academic achievement as well as strategy use and effective task control as well as emotions involved. In a developmental period, such as middle childhood, it seems crucial to focus on psychological well-being and being able to measure it, to fully understand it as well as to develop specific interventions to boost well-being in relation to other variables (such as cognitive, metacognitive, emotional-motivational, e.g. Artuso, Carretti & Palladino, 2019).

In a recent review O'Mahony (2022) suggests that well-being should be approached from a holistic multidimensional perspective, that is context- and value- dependent, with a crucial role for social and relational dimensions. We believe the current scale could contribute to investigate and develop this holistic account, in line both with the WHO definition of well-being (1948) and the original purpose of the authors (see Liddle & Carter, 2015).

Among the limitations, the sample was all from Northern Italy, we did not collect data in Central or in Southern Italy, so for future studies it would be useful to have samples from other regions, though we did not anticipate differences based on dwelling place. Among future aims, we plan to integrate the data collected with clinical samples, to demonstrate the usefulness of the scale and its efficacy beyond learning-related variables. In addition, it would be worth to correlate the questionnaire to other scales that measure well-being in different contexts.

In sum, the scale allows separate measurement of the two dimensions of hedonic and eudaimonic well-being, constituting a benchmark for future research and comprehension of the composition of these two components, yet to be understood, especially in children. The scale appears promising at measuring a construct related to general well-being. Here, in the validation study, we have specifically investigated the relationship to study success and study-related behaviors, as well as study-related emotions

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APPENDIX

Original statements and Italian translation

Item	Original version	Italian translation
1	I think good things will happen in my life	Penso che accadranno belle cose nella mia vita
2	I have always told the truth	Ho sempre detto la verità
3	I've been able to make choices easily	Sono riuscita/o facilmente a fare delle scelte
4	I can find lots of fun things to do	So trovare molte cose divertenti da fare
5	I feel that I am good at some things	Mi sento di essere brava/o in alcune cose
6	I think lots of people care about me	Credo che parecchie persone si interessino a me
7	I like everyone I have met	Mi piace ogni persona che ho incontrato
8	I think there are many things I can be proud of	Credo che ci siano molte cose di cui posso essere orgogliosa/o
9	I've been feeling calm	Mi sono sentita/o calma/o
10	I've been in a good mood	Sono stata/o di buon umore
11	I enjoy what each new day brings	Mi piace ciò che ogni nuova giornata porta
12	I've been getting on well with people	Sono andata/o d'accordo con le persone
13	I always share my sweets	Condivido sempre le mie caramelle
14	I've been cheerful about things	Mi sono sentita/o serena/o nei confronti delle cose
15	I've been feeling relaxed	Mi sono sentita/o rilassata/o