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PSYCHOMETRIC PROPERTIES OF THE THREE PATHWAYS
TO WELL-BEING SCALE IN A LARGE SAMPLE OF
ARGENTINEAN ADOLESCENTS¹

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Summary.—The Authentic Happiness Theory considers that well-being can be reached by three main pathways: a pleasant life, an engaged life, or a meaningful life. This study investigates the psychometric properties of the Three Pathways to Well-being scale in Argentinean adolescents and compares that to prior results for Argentinean adults. A sample of 255 Argentinean adolescent students (110 boys, 145 girls) aged between 13 and 18 years (M age = 15.5, SD = 1.6) was used in this study. The participants completed the Spanish versions of the Three Pathways to Well-being scale, the Meaning in Life Questionnaire, the Satisfaction With Life Scale, and the Personal Wellbeing Index. Confirmatory factor analyses verified the three-factor structure of the test, accounting for 46% of the variance. The internal consistencies were $\alpha = .76$ for the pleasant life, $\alpha = .80$ for the engaged life, and $\alpha = .70$ for the meaningful life. Concurrent validity was examined with the Satisfaction With Life Scale, the Personal Wellbeing Index, and the Meaning in Life Questionnaire, and the engaged life was the pathway most strongly associated with the positive related measures.

Well-being has been traditionally conceptualized through two perspectives (Ryan & Deci, 2001). The first perspective considers well-being as hedonic; i.e., well-being is achieved by maximizing the number of pleasurable moments through the satisfaction of one's desires (Henderson, Knight, & Richardson, 2013a). This perspective encompasses the study of well-being as associated with subjective well-being, positive emotions, and life satisfaction (Lyubomirsky & Lepper, 1999; Pavot & Diener, 2008; Diener, 2009). According to this hedonic perspective, the level of positive emotions is considered to be dispositional because it is linked to personality and inherited genetic traits (Hills & Argyle, 2001; Diener, Oishi, & Lucas, 2003; Lucas & Diener, 2009).

The second perspective considers well-being as eudemonic. Here, well-being is obtained by actualizing one's inherent potential in the pursuit of complex and meaningful goals in relation to the self and others (Henderson, *et al.*, 2013a). Several major theories share the eudemonic

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view, such as the psychological well-being theory (Ryff & Keyes, 1995), the self-determination theory (Ryan & Deci, 2000), and the concept of sense of coherence (Antonovsky, 1987). Although many studies have investigated well-being from a unilateral approach (i.e., from either the hedonic or the eudemonic perspective), recent research has recognized that both perspectives are distinct and complementary since they both contribute to well-being in a unique way (Ryan & Deci, 2001).

Considering this, Seligman (2002) proposed an integrated theory of well-being. While originally called the Authentic Happiness Theory, it was later renamed the Well-being Theory to avoid the connotations of "cheerfulness" brought by the word "happiness" (Seligman, 2011). In this theory, well-being can be reached by three main routes or pathways: a pleasant life (i.e., positive emotions), an engaged life, or a meaningful life (Seligman, 2002). More recently, Seligman (2011) added two new paths to well-being: positive relations and accomplishments or achievements. However, this new model, called PERMA (Positive emotions, Engagement, Relations, Meaning, Accomplishment), has not yet been fully developed or tested empirically. The pleasant life pathway corresponds to the hedonic perspective of well-being. It consists of having positive emotions about the present, past, and future and learning the skills needed to amplify the intensity and duration of these emotions (Seligman, 2002).

The engaged life pathway considers well-being in terms of being highly engaged in what one does (i.e., work, play, sports) and includes commitment, perseverance and absorption in work, intimate relations, and leisure (Peterson & Seligman, 2004; Park, Peterson, & Ruch, 2009). When an individual is highly engaged in activities, he or she experiences a psychological state called "flow." This concept describes a type of activity (i.e., work, study, sports) in which the person is so focused on the task that he or she loses a sense of time (Csikszentmihalyi, 1990). For many authors, the dimension of engagement has been equated with flow (Peterson & Seligman, 2004; Peterson, *et al.*, 2005), although others have questioned equating the two concepts, arguing that they are different but related (Henderson, Knight, & Richardson, 2013b).

The meaningful life pathway involves people using their signature strengths and talents to serve something that they believe to be greater than the self. These include positive institutions such as religion, politics, family, community, and nation. Participation in these institutions produces a feeling of satisfaction and the belief that one has lived well (Lyubomirsky, Sheldon, & Schkade, 2005). Research has shown that these three pathways are empirically distinct and each is positively associated with life satisfaction in a variety of populations and in different cultures. Across a number of different studies, engagement and meaning were most strongly

correlated with life satisfaction (Peterson, Park, & Seligman, 2005; Vella-Brodrick, Park, & Peterson, 2009).

Several questionnaires have been developed to assess the three pathways to well-being. The Steen Happiness Index (SHI; Seligman, Steen, Park, & Peterson, 2005) is a 20-item questionnaire that assesses the three routes to well-being, termed here as “experiencing and savoring pleasures,” “losing the self in engaging activities,” and “participating in meaningful activities.” While this questionnaire was found to have good psychometric properties, its factor structure has not been tested.

The Orientation to Happiness Scale (OHS; Peterson, *et al.*, 2005) is the instrument most frequently used to assess the three pathways to well-being. It consists of 18 items divided into three subscales: pleasure, engagement, and meaning. The pleasure and meaning scales correspond to the hedonic and eudemonic perspectives of well-being, respectively, while the engagement scale was developed to measure the state of flow. However, this questionnaire has been criticized for considering flow as an experience that can accompany some hedonic and eudemonic pursuits, rather than a distinct state (Henderson, *et al.*, 2013b). The psychometric properties have been tested in adults and were found to be adequate in the American sample; however, the variance accounted for was rather low in other cultural samples (below 50%; Peterson, *et al.*, 2005; Vella-Brodrick, *et al.*, 2009; Chen, 2010; Ruch, Harzer, Proyer, Park, & Peterson, 2010; San Martin, Perles, & Canto, 2010). Only two studies have assessed its psychometric properties in adolescents. The OHS showed the same three-factor structure with German adolescents but the scales had lower internal consistency than the original version (Hirschi, 2011). However, a Croatian study found that a two-factor structure (hedonia and eudemonia) fit the data better in adolescents (Brdar, Rijavec, & Miljković, 2009).

Similar to the OHS, the Three Pathways to Well-being scale (TPWB) is a 23-item scale that measures the three routes to well-being via separate subscales. It was developed in Argentina and validated in the Argentinian adult population. In this instrument, the engagement scale is focused on having goals and using strengths to achieve them, rather than in the experience of flow. Using the TPWB, Castro Solano (2011) found in a sample of Argentinian adults that they most frequently used the engagement pathway, followed by the pleasure and meaning pathways. Furthermore, the hedonic life was not associated with life satisfaction, while the eudemonic life was most strongly correlated with this variable (Castro Solano, 2011). In addition, Argentinian women showed a higher use of the engagement pathway than men and there was a slight positive association between the meaningful pathway and the age of the participants.

In order to evaluate the application of the well-being theory and to develop positive interventions for groups other than Argentinean adults, it is important to examine whether previous findings from adult populations can be applied to other age groups. Thus, it is important to test the psychometric properties of the instrument in each of the other age groups to assess whether the differences reflect the characteristics of the different groups or originate from measurement problems.

Research goal. To investigate the psychometric properties of the TPWB in Argentinean adolescents and compare that to prior results for Argentinean adults.

METHOD

Participants

A convenience sample of 255 Argentinean adolescent students (110 boys, 145 girls) was used in this study. The participants were 13 to 18 years old and were recruited from public (50.2%) and private (49.8%) high schools in the city of Buenos Aires. This distribution is consistent with the school enrollment in Buenos Aires, where approximately half of the students attend private schools and the other half public institutions (General Direction of Educational Quality Evaluation, 2012). The mean age was 15.5 yr. ($SD=1.57$). The students were selected by school years (1 to 5). Since the schools participating in this study had several courses of the same year, the selection of courses was randomized per year. There was approximately the same number of participants per school year. All students were native Spanish speakers.

Instruments

Three Pathways to Well-Being scale (TPWB).—The TPWB assesses well-being according to the three pathways model proposed by Seligman (2002). It contains 23 statements rated on a 5-point scale with anchors 1: Very different from me and 5: Very similar to me. The TPWB is divided into three subscales, each of which corresponds to one of the three pathways to well-being: the Pleasant life (8 items referring to the maximization of positive emotions to achieve pleasure, e.g., “I try to repeat over and over the pleasant moments I have”), the Engaged life (7 items concerning having goals and using one’s strengths to achieve them, e.g., “I have a clear idea of what my goals in life are and I work hard to achieve them”), and the Meaningful life (8 items regarding the use of personal strengths to serve the social environment beyond oneself, e.g., “I use my potential to do things that will benefit society”). The scale was developed for and validated in Argentinean adults. The three-factor structure in the adult population explained 48% of the variance. Concurrent validity was exam-

ined with the Satisfaction With Life Scale (SWLS), the Personal Wellbeing Index (PWI), and the Meaning in Life Questionnaire (MLQ). The results indicated the engaged life was the strongest pathway associated with the positive related measures, whereas the pleasant life was poorly associated to these measures. The internal consistency (Cronbach's α) of the TPWB in adults was good (pleasant life $\alpha = .81$, engaged life $\alpha = .82$, and meaningful life $\alpha = .71$; Castro Solano, 2011).

Meaning in Life Questionnaire (MLQ).—The MLQ is a 10-item scale that assesses the extent to which respondents feel that their lives are meaningful (Steger, Frazier, Oishi, & Kaler, 2006). The MLQ is composed of two independent subscales: Search for Meaning and Presence of Meaning. Each dimension of meaning is measured via five items rated with anchors 1: absolutely untrue and 7: absolutely true. The two-factor structure of the MLQ has been replicated using confirmatory factor analysis (CFA) in multiple samples across different cultures (Steger, *et al.*, 2006; Steger, Kawabata, Shimai, & Otake, 2008; Steger, Oishi, & Kashdan, 2009). The instrument has demonstrated very good internal consistency in previous studies ($\alpha > .80$ in both subscales). The validation studies of the Spanish version have replicated the two-factor structure via exploratory and confirmatory factor analysis (Góngora & Castro Solano, 2011). Internal consistencies in the current sample for the subscales were $\alpha = .82$ for Presence of Meaning and $\alpha = .88$ for Search for Meaning.

Satisfaction With Life Scale (SWLS).—The SWLS is a 5-item scale that assesses overall life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985). Respondents rate each with anchors 1: Strongly agree and 7: Strongly disagree. The SWLS is among the most widely used measures of well-being, and various international empirical studies have demonstrated its validity and reliability (Diener, *et al.*, 1985; Pavot, Diener, Colvin, & Sandvik, 1991; Castro Solano, 1999). Studies have also shown good psychometric properties in adolescent samples, including Argentinean adolescents (Gilman & Huebner, 2000; Pons, Atienza, Balaguer, & Garcia-Merita, 2000; Castro Solano & Diaz Morales, 2002). In this sample, the internal consistency as measured by Cronbach's α was .75.

Personal Wellbeing Index (PWI).—The PWI (International Well-Being Group, 2006) assesses life satisfaction in various domains (e.g., health, relationships, and income). These domains were selected to describe the subjective and objective aspects of quality of life. The PWI contains nine items (including general satisfaction with life and spirituality/religion) and uses a scale with anchors 0: Not satisfied and 10: Completely satisfied. The instrument has been adapted and used in 51 countries (Lau, Cummins, & McPherson, 2005; Tonon, 2012). The PWI has been shown to be adequate in evaluating personal well-being in adolescents from Latin

America, including Argentina (Casas, Sarriera, Abs, Coenders, Alfaro, Saforcada, *et al.*, 2012). The reliability for this sample was $\alpha = .81$.

Procedure

Participation in this study was voluntary and no incentives were given to the students. The participants and their parents were informed of the purpose of this study. Since adolescents were under age, their parents signed an informed consent form. Approximately 80% of the invited students were consented to participate in the study. All instruments were in the Spanish language. The instruments were administered in class during the school day, in a single session, under the supervision of research staff.

Data Analysis

There were only five missing values in the TPWB data, and they were replaced by the middle value 3: Neither similar nor different to me, as per the established procedure of the TPWB to treat the missing values (Castro Solano, 2011). CFA was conducted using Amos 18 (Arbuckle, 2009) to support the scale structure. Goodness of fit was assessed with a variety of widely recommended fit indices: goodness-of-fit index (GFI), comparative fit index (CFI), Tucker-Lewis index (TLI), and incremental fit index (IFI). For these indices, values greater than 0.90 were considered adequate to accept a model (Finch & West, 1997). The root mean square error of approximation (RMSEA) is an index that favors parsimonious models. Hu and Bentler (1999) suggested a RMSEA of less than 0.06 as a cutoff criterion for a good-fitting model (Hu & Bentler, 1999). Then, the descriptive statistics and inter-correlations of the scales were calculated and reliability analyses were performed. Bivariate correlations were applied between the TPWB subscales and the SWLS, PWI, and MLQ.

RESULTS

Confirmatory Factor Analysis, Internal Consistency, and Interscale Correlations

CFA was performed to verify the factor structure identified in a previous study with an adult population (Castro Solano, 2011). The first model that was tested included the original 23 items. The results revealed a poor fit with this model ($\chi^2 = 463.02$, χ^2 / df ratio = 2.18, GFI = 0.84, CFI = 0.82, IFI = 0.82, TLI = 0.78, RMSEA = 0.07). A closer examination to the modification Index (>0.12) revealed that four items reduced the goodness of fit of the model: Item 4 ("As soon as I feel discomfort or pain, I immediately try to alleviate or minimize it") from the engaged life, Item 11 ("I feel energized when I can use my abilities or skills to solve a task") from the pleasant life, and Items 3 ("When I work, I think more about the impact the task will have on others rather than on my own personal satisfaction") and 12 ("I help people who are suffering and in need") from the meaningful life.

A second model was then tested excluding these four items. This modified model fit the data adequately ($\chi^2=215.68$, χ^2/df ratio=1.68, GFI=0.93, CFI=0.93, IFI=0.90, TLI=0.93, RMSEA=0.05) and accounted for 46% of the variance.

Taking the results of the CFA into account, the total number of items in the TPWB was reduced to 19: the pleasant life (7 items), the engaged life (6 items), and the meaningful life (6 items). The internal consistencies of the subscales were $\alpha = .76$, $\alpha = .80$, and $\alpha = .70$, respectively.

Considering the disparity between the number of items in each TPWB subscale, mean values were divided by the number of items on each subscale. The mean scores, standard deviations, skewness, and kurtosis for the three subscales are presented in Table 1. The results show that the pleasant life was the pathway in which adolescents scored highest, followed by the engaged life, and finally by the meaningful life.

Pearson correlations between the TPWB subscales were moderate, ranging from .21 to .35, indicating that, although they are significantly related, the subscales assess different aspects of well-being. The results are presented in Table 1.

Relationship of TPWB with Sex and Age

A multivariate analysis of covariance (MANCOVA) was performed to analyze the relationship of the TPWB with sex and age. The variable sex did not show an effect on TPWB scale scores (Wilks' Lambda=0.98, $F=0.95$, $p=.42$, $\eta^2=.01$). However, age had a significant but small effect on TPWB scores (Wilks' Lambda=0.94, $F=5.51$, $p<.01$, $\eta^2=.07$). Inter-subject effect tests showed that this small effect only affected the meaningful life scale ($F=6.52$, $p=.01$, $\eta^2=0.03$).

TPWB and Other Positive Measures

Concurrent validity of the TPWB was examined with other related positive measures: the SWLS, the PWI, and the MLQ. The mean scores, standard deviations, skewness, and kurtosis for the MLQ, the SWLS, and the PWI are presented in Table 1. To account for the large number of correlations, a more conservative alpha ($\alpha=.01$) was selected for analyses. The results are shown in Table 1. No significant correlations were found between the pleasant life and overall satisfaction with life (SWLS), satisfaction with life in different domains (PWI; e.g., health, relationships, or income), or the presence or search for meaning in life (MLQ). Among the three pathways to well-being, the magnitude of the associations was strongest for engaged life. Significant but moderate correlations were found between engaged life and overall life satisfaction (SWLS; $r=.31$, 95%CI=.16, .42) and life satisfaction in different domains (PWI; $r=.36$; 95%CI=.19, .50); furthermore, a strong correlation was found between engaged life scores

TABLE 1
 MEANS, STANDARD DEVIATIONS, SKEWNESS, KURTOSIS, AND CORRELATIONS BETWEEN THE TPWB
 SUBSCALES AND THE SWLS, THE PWI, AND THE MLQ

Scale	Pleasant Life	Engaged Life	Meaning- ful Life	SWLS	PWI	MLQ-P	MLQ-S
1. Pleasant life				.08	.08	.12	.11
2. Engaged life	.35‡			.31‡	.36‡	.48‡	-.16
3. Meaningful life	.21‡	.34‡		.13	.12	.30‡	.19‡
<i>M</i>	3.91	3.81	3.11	24.30	63.67	23.39	19.27
<i>SD</i>	0.73	0.80	0.76	6.43	14.18	6.79	7.67
Skewness	-.84	-.59	-.33	-.62	.95	-.39	-.15
Kurtosis	.50	.03	.06	-.04	2.19	-.40	-.76

Note.—SWLS: Satisfaction With Life Scale; PWI: Personal Wellbeing Index; MLQ-P: Meaning in Life Questionnaire–Presence; MLQ-S: Meaning in Life Questionnaire–Search. † $p < .01$. ‡ $p < .001$.

and presence of meaning in life (MLQ-P; $r = .48$, 95%CI = .35, .58). Finally, the meaningful life had a moderate correlation with the presence of meaning in life ($r = .30$, 95%CI = .18, .41) and a small to moderate correlation with the search for meaning in life ($r = .19$, 95%CI = .04, .31) in adolescents.

DISCUSSION

This study aimed to investigate the psychometric properties of the TPWB in Argentinean adolescents and to compare that to prior results for Argentinean adults. The findings indicate the TPWB used in Argentinean adolescents has four fewer items but it retains the three-factor structure of the adult version, which correspond to each of the three pathways to well-being: pleasure, engagement, and meaning (Seligman, 2002). However, the accounted variance of the whole instrument was only 46%, which indicates a limited fit of the model. In social sciences factors should account for, at least, 50% to 60% of the variance to consider the scale of good psychometric quality (Pett, Lackey, & Sullivan, 2003; Hair, Anderson, Tatham, & Black, 2007). In other words, there is much more variability that is not captured by the three factors found in the solution, which is a limit to the validity of the scale. However, a similar amount of explained variance (48%) was found with the TPWB in an Argentinean adult sample. Thus, on the one hand there are limitations of the instrument, but on the other hand there may be difficulties with the theory due to consistent empirical findings and a theoretical reformulation. In relation to the empirical findings, studies that used the OHS, which is based on the same three pathways to well-being theory, also accounted for low amounts of variance ranging from 42% to 53% (Peterson, *et al.*, 2005; Vella-Brodrick, *et al.*, 2009; Chen, 2010; Ruch, *et al.*, 2010; San Martín, *et al.*, 2010). Furthermore,

Seligman, in his new well-being theory called PERMA, added two new pathways to well-being: achievement and relationships, due to the three original pathways being found to be incomplete to describe in depth what people choose to achieve well-being (Seligman, 2011). Future studies that include instruments with the two new pathways of the PERMA model will provide evidence of the validity of this new well-being theory.

Scale reliability was found acceptable for all subscales ($\alpha \geq .70$), being similar to the alpha values in the adult version (Castro Solano, 2011). In relation to demographic variables, adolescents of both sexes were found to have a similar use of pathways to well-being. However, Castro Solano (2011) found that Argentinean women had higher levels of engagement than men. Regarding age, this variable did not relate, in general terms, to their pathway use; this study only found a low positive association with the meaningful life, which was similar in Argentinean adults. Meaning in life starts development during adolescence and continues throughout life; therefore, this may explain the tendency to a more limited use of this pathway at younger ages (Fry, 1998).

Concerning the concurrent validity of the instrument, the same instruments included in the adult study were used with adolescents to establish the associations with the TPWB scales. Similar patterns and magnitude of association as in the adult version were found between the three pathways and the Satisfaction With Life Scale (SWLS), the Personal Wellbeing Index (PWI), and the Meaning in Life Questionnaire (MLQ). The hedonic pathway was not significantly related to any positive measure included in this study. However, the engaged life was the route most strongly correlated to other positive variables. Adolescents who were engaged in what they do (i.e., study, play, sports) were those who evaluated themselves as more satisfied with their life. This applied to cognitive evaluations of one's life in general (SWLS) and within particular domains (PWI) such as health, relationships, and safety. The association between satisfaction with life and the eudemonic life, in particular the engaged pathway, has systematically been found in studies of adult populations, including the study of the TPWB in Argentinean adults (Peterson, *et al.*, 2005; Vella-Brodrick, *et al.*, 2009; San Martin, *et al.*, 2010; Castro Solano, 2011). In addition, those adolescents who considered that their life had meaning (MLQ) were those who felt engaged in activities and who used their strengths and talents to belong to and serve their social environment in positive institutions such as those that support religion, politics, family, community, and nation.

It should also be noted that the TPWB measures engagement as the commitment and use of strengths to achieve goals; however, the results of the present study are similar to those employed by the OHS, which evaluates engagement as the experience of flow (Peterson, *et al.*, 2005).

It could be argued that both scales assess related aspects of engagement, since strength and commitment to activities would be expected to result in a state of flow. Thus, although the two instruments focus on different facets of engagement, they are closely related, and this can clarify the similarities in findings.

Limitations and Conclusions

Some limitations of this study should be mentioned. First, the aforementioned limitation in the variance accounted for the scale, which is below what is recommended, and the concurrent problem of poor fit of the well-being model. Second, the TPWB measures well-being in a self-report format; thus, other sources of information are not considered (e.g., daily reports, objective reports, life events, or situational data). Third, a convenience sample was used in this study; thus, it would be necessary to evaluate these findings in larger and randomized samples. Fourth, social desirability was not controlled for in this study, and it may affect the results. Future studies may include the Marlowe-Crowne Scale to re-examine findings controlling for this variable. In addition, it would be necessary to assess the stability of the measures through longitudinal investigation. It would also be relevant to extend this study to adolescent groups with special interests, such as sports, church, music, or art, to have a better understanding of the engagement pathway in this age group. Additionally, it would be interesting to test the TPWB in older adults and in other cultural groups besides Argentinean adolescents and adults.

Finally, this study has shown that the TPWB used in an adolescent population has similar psychometric properties as the adult version and can be used to assess the three pathways to well-being in adolescents. The assessment of pathways to well-being can be considered the starting point to plan and develop interventions to increase the use of pathways. Positive psychology has shown that interventions can be successful in increasing the three pathways to well-being (Seligman, *et al.*, 2005; Seligman, Rashid, & Parks, 2006). It would also be important to continue research on the pathways to well-being in this age group as well as to develop and evaluate the interventions to increase them.

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