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Research Article

# Psychometric Properties of the Light Triad Scale for the Argentine Population: The Role of Light Traits in the Prediction of Psychological Well-Being

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## Abstract

Research about positive personality traits has gained relevance in the last decades, with different theoretical models and assessment tools being developed worldwide. Therefore, this study aimed to analyze the psychometric properties of the Light Triad Scale (Kaufman et al., 2019) to be used in Argentina and to evaluate whether light traits significantly increment the prediction of total well-being and its three dimensions (emotional, social, and personal), beyond the variance explained by normal personality traits (Five Factor Model). Two general population samples were investigated: sample A, composed of 607 Argentine adults (*Mage* = 42.4, *SD* = 15.8), and sample B, composed of a subgroup of sample A, with 392 individuals (*Mage* = 39.2, *SD* = 13.8). For data collection, the following instruments were used: Light Triad Scale (LTS), Dark Triad Scale (DTS), Big Five Inventory (BFI), Five Continua Personality Inventory, Short Form (FCPI-SF), The Mental Health Continuum, Short Form (MHC-SF). Results: The three-dimensional structure of the LTS scale could be confirmed. In addition, evidence was obtained regarding the incremental validity of the LTS in the prediction of well-being (especially for the social well-being dimension). Conclusions: The analyses conducted provide evidence of validity and reliability of the LTS scale, which guarantees its use in Argentina.

*Keywords:* Light triad; Argentinian adaptation; personality traits; positive traits; well-being

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The study of positive and negative personality traits has gained special relevance in recent years, with different models being developed worldwide. In general, the universalization of some constructs, mainly positive ones such as the model of virtues and strengths of Peterson and Seligman (2004), has been questioned (Lopez et al., 2002). Many researchers have warned about the possible ethnocentric biases entailed in classifications from an imposed ethical perspective (Christopher & Hickinbotton, 2008; Snyder et al., 2011).

The Dual Personality Model developed in Argentina (de la Iglesia & Castro Solano, 2021) represents an attempt to integrate the classification of personality pathology proposed in section III of the DSM-5 (American Psychiatric Association, 2013), the model of the five great personality factors – Five Factor Model, FFM (Costa & McCrae, 1985) – and a model of positive personality traits (de la Iglesia & Castro Solano, 2018). Positive traits are presented as positive versions of the five pathological traits. These are placed along the health-disease continuum and represent an additional pole located beyond normality: the positive pole.

This proposal was supported by validation analyses, in which positive traits were found to be partially and positively associated with FFM traits and negatively correlated with pathological personality traits. In addition, when compared with normal traits, positive traits showed evidence

of incremental validity, functioning as better predictors of positive mental health in the general population (de la iglesia & Castro Solano, 2018). These positive traits are serenity, humanity, integrity, moderation, and sprightliness.

A recently developed and internationally recognized model of positive traits is the Light Triad proposed by Kaufman et al. (2019). The authors aimed to contrast the dark and light sides of personality and create a measure that evaluates the positive personality traits in contrast to the dark traits proposed by Paulhus and Williams (2002) in the Dark Triad model. This model postulates three dark personality traits (machiavellianism, narcissism, and psychopathy) and was later extended to include the sadism trait (the Dark Tetrad, Paulhus, 2014). These traits have been extensively studied because they are linked to aggressive behavior, aversive relationships, socio-emotional deficits, low well-being, amoral behavior (Muris et al., 2017), criminal behavior (Hampejs et al., 2025), as well as social dominance traits (Muris et al., 2017; Vize et al., 2018), interpersonal competition, and desires for power (Kaufman et al., 2019). Furthermore, recent evidence has shown that Dark Triad traits are positively associated with counterproductive work behaviors, including both organizational and interpersonal deviance (Duradoni et al., 2025). Another recent meta-analytic also linked these traits to workplace bullying perpetration, abusive supervision, and interpersonal aggression, with psychopathy showing the strongest association (Sui et al., 2026).

Although the models seem to be conceptual opposites, Kaufman et al. (2019) found in a multi-sample study that the dark and light traits exhibited a moderately negative correlation (−.48), indicating that they are not two sides of the same coin and that the presence of dark traits does not necessarily indicate the absence of light traits. In fact, people are likely to display different levels of both types of traits (Neuman et al., 2020), as proposed by the so-called “second wave” of Positive Psychology in terms of the balanced study of positive and negative traits that may describe personality more accurately and objectively (Ivtzan et al., 2015).

The irreducibility of the light traits with respect to the dark ones was corroborated in other studies (Gerymski & Krok, 2019; Lukić & Zivanovi, 2021; Stavraki et al., 2023). It should also be noted that although these traits correlate with those of normal personality, especially with the agreeableness trait of the FFM (Costa & McCrae, 1985) and the honesty-humility dimension of the HEXACO (Ashton & Lee, 2009), different studies have shown that they are not overlapping measures (Gerymski & Krok, 2019; Kaufman et al., 2019; Lukić & Zivanovi, 2021). Likewise, light and dark traits do not appear to manifest in the same way across different cultures,

highlighting the need to obtain local psychometric evidence for these measures in order to further advance their study (Ramos-Vera et al., 2023).

Specifically, the Light Triad model includes three traits: kantianism (a tendency to treat others as ends in themselves and not as a means to an end); humanism (a tendency to respect the dignity and worth of each individual); and faith in humanity (a tendency to believe and trust that others are inherently good).

These traits were derived from an instrument developed by the authors: the Light Triad Scale (LTS). To construct the test items, Kaufman et al. (2019) used different questionnaires available for the evaluation of the dark triad. They started from an initial pool of 36 items that were conceptual opposites, not merely the reverse, of the narcissism, Machiavellianism, and subclinical psychopathy traits. This initial pool was evaluated by experts in positive psychology and personality psychology. Subsequently, after running exploratory and confirmatory factor analyses, they produced the final scale consisting of three factors and 12 items. The test developed has adequate evidence of validity and reliability.

The traits of the light triad have been shown to be predictors of a series of variables related to self-transcendental and growth-oriented results, such as competence and autonomy, need for affiliation and intimacy, compassion and empathy, self-esteem, and satisfaction with life, among others (for more details see Kaufman et al., 2019). Subsequent studies conducted by other authors have shown that light traits may play a mediating role between childhood experiences and flourishing in adulthood (Landa-Blanco et al., 2024), and even a moderating role between dark traits and antisocial, criminal, or immoral behaviors (Castagna & Hart, 2024; Pechorro et al., 2026). In the occupational domain, Romascanu and Stanescu (2023) found that these traits are negatively correlated with counterproductive work behaviors and positively correlated with organizational citizenship behaviors, highlighting the usefulness of the instrument across different fields of application.

The LTS scale has been adapted to different countries and cultures, with versions being available for Poland (Gerymski & Krok, 2019), Turkey (Tekeş & Biçaksiz, 2021), Serbia (Lukić & Zivanovi, 2021), Brazil (Barros et al., 2022), Spain (Stavraki et al., 2023), Russia (Komienko et al., 2023), Portugal (Pechorro et al., 2024), and India (Biswas et al., 2026). Overall, most adaptations have supported the original three-factor structure of the LTS. However, some studies have reported low factor loadings for some items, such as item 4 (in agreement with

findings in the original study [Kaufman et al., 2019]), as well as cross-factor loadings between items 9 and 11 of the humanism and kantianism dimensions.

In addition, the Polish validation demonstrated that the kantianism scale yielded the lowest reliability values, which improved only if the sample subjects aged over 50 were considered. The authors (Gerymski & Krok, 2019) suggested that the items can take on different meanings when translated into different languages. As previously mentioned, the universalization of positive constructs is usually a subject of debate.

Lastly, regarding socio-demographic variables, the original authors found that light traits prevail in women and are positively related to age and socioeconomic status. However, in other studies (Barros et al., 2022), such differences were not replicated, or were found only for some traits. For example, Saptir (2025) reported a higher prevalence of humanism in women, but not for the remaining traits. Therefore, it is necessary to continue analyzing cultural differences in the prevalence and expression of these traits (Ramos-Vera et al., 2023)..

The present study aimed to provide evidence of the validity of the LTS scale and the model of light traits, as well as its relationship with the traits proposed by the model developed in Argentina, the Dual Personality Model (de la Iglesia & Castro Solano, 2021).

The availability of instruments with cross-cultural validation allows comparative studies between countries, and hence a more global approach (Delle Fave, 2009). The predictive power of these traits on well-being beyond widely studied normal traits was also examined. To this end, the conceptualization proposed by Keyes (2002, 2005), in which well-being is understood in terms of hedonic (emotional) and eudaimonic (social and psychological) components, was adopted.

Regarding the FFM traits, a meta-analysis (Anglim et al., 2020) found that the traits that show the greatest association with both hedonic and eudaemonic well-being are neuroticism, extraversion, and conscientiousness. Previous studies using positive personality models have shown increased validity in predicting psychological well-being beyond the FFM model (e.g., Cosentino & Castro Solano, 2017; de la Iglesia & Castro Solano, 2018). Regarding the relationship between Light Triad traits and well-being, several studies have shown a positive correlation (Baldacchino & Sassetti, 2026; Matloob & Anwar, 2026; Stavraki et al., 2023).

Accordingly, the present research aimed (i) to analyze the psychometric properties of the Light Triad Scale (Kaufman et al., 2019), to be used in Argentina and (ii) to determine whether light

traits increase the prediction of total well-being and its three dimensions (emotional, social, and personal) beyond the variance explained by normal personality traits.

# Method

## Design

This research was a correlational study which follow a cross-sectional non-experimental design.

## Participants

Sample A consisted of 607 Argentine subjects from the general population with a mean age of 42.4 years (*SD*= 15.8). Of these, 59.2% were female, 40.2% male, 0.3% non-binary, and 0.3% preferred not to specify their gender identity. In addition, 79.2% had an undergraduate degree or higher and 81.5% reported a middle socioeconomic level. Sample B was composed of a subgroup of sample A, with 392 individuals with a mean age of 39.2 (SD = 13.8), 54.8% of whom reported being female, 44.1% male, and 0.5% non-binary, while 0.5% preferred not to report their gender identity. Besides, 80.1% had an undergraduate degree or higher and 77.6% reported a middle socioeconomic level.

## Measures

*Light Triad Scale* (LTS; Kaufman et al., 2019). This scale contains 12 items divided into three subscales: faith in humanity (traits showing a tendency to believe in and trust the goodness of others), humanism (traits showing a tendency to respect the dignity and worth of each individual), and kantianism (traits showing a tendency to treat others as ends in themselves and not as a means to an end, that is, acting in a utilitarian way for one´s own benefit). Each subscale consists of four items that are answered on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The original LTS scale shows a good fit to the three-factor model and adequate internal consistency (faith in humanity: items 1–4, α = .80; humanism: items 5–8, α = .76; kantianism: items 9–12, α = .67; Kaufman et al., 2019). For the local validation process, the scale was translated into Spanish and subjected to a pilot study and expert judgment. The psychometric properties of the translated version were estimated with a sample of Argentine adults (see Results section).

*Big Five Inventory* (BFI; John et al., 1991). This test is an operationalization of the Big Five Factors Model of personality: extraversion, agreeableness, conscientiousness, neuroticism, and open mindedness. This measure has 44 items arranged on a Likert scale of degree of agreement with five response options (0 = *strongly disagree* to 4 = *strongly agree*). In Argentina,

Castro Solano and Casullo (2001) conducted psychometric studies of this measure for its use in three populations: adolescents, non-consultant adults, and the military. They obtained evidence of appropriate validity and reliability. In sample B, the internal consistency calculated from Cronbach's alpha and McDonald's omegas was as follows: extraversion (items 1, 6, 11, 16, 21, 26, 31, 36) α = .76, ω = .77; agreeableness (items 2, 7, 12, 17, 22, 27, 32, 37, 42) α = .72, ω = .76; conscientiousness (items 3, 8, 13, 18, 23, 28, 33, 38, 43) α =. 82, ω = .84; neuroticism (items 4, 9, 14, 19, 24, 29, 34, 39) α = .79, ω = .79; open mindedness (items 5, 10, 15, 20, 25, 30, 35, 40, 41, 44) α = .81 ω = .84.

*Five Continua Personality Inventory, Short Version* (FCPI-SF; de la Iglesia & Castro Solano, 2023). This instrument was constructed for use in the Argentine population and is an operationalization of the Dual Personality Model, which measures five positive traits (serenity, humanity, integrity, moderation, and sprightliness) and five pathological traits (negative affectivity, detachment, antagonism, disinhibition, and psychoticism). It has 55 items arranged on a six-option Likert scale of degree of agreement (0 = *totally disagree* to 5 = *totally agree*). In sample B, the internal consistency calculated by Cronbach's alphas and McDonald's omegas was as follows: serenity (items 2, 9, 13, 20, 55) α = .78, ω = .78; humanity (items 6, 15, 19, 25, 35) α = .71, ω = .75; integrity (items 11, 31, 33, 38, 41) α = .67, ω = .71; moderation (items 10, 18, 22, 49, 51) α = .76, ω = .77; sprightliness (items 1, 5, 23, 28, 29) α = .79, ω = 77; negative affectivity (items 4, 7, 8, 12, 17, 30, 40, 45, 53) α = .76, ω = .77; detachment (items 16, 32, 37, 39, 44) α = .75, ω = .77; antagonism (items 3, 21, 24, 43, 46, 54) α = .70, ω = .70; disinhibition (items 14, 27, 34, 48, 50) α = .64, ω = .67, and psychoticism (items 26, 36, 42, 47, 52) α = .67, ω = .68.

*The Mental Health Continuum, Short Form* (MHC-SF; Keyes, 2005). This scale measures well-being through a total score and three partial scores: emotional, psychological, and social. It has 14 items arranged on a six-option Likert scale in which the respondents report a degree of agreement for each of the statements (0 = *never* to 5 = *every day*). It was adapted for Argentina by Lupano Perugini et al. (2017) in a study that confirmed its factorial structure and provided evidence of convergent validity and indicators of excellent internal consistency. In sample B, the internal consistency calculated by Cronbach's alphas and McDonald's omegas was as follows: emotional (items 1–3) α = .89, ω = .89; social (items 4–8) α = .78, ω = .79; and psychological (items 9–14) α = .84, ω =. 84.

## Procedure

The design was non-experimental cross-sectional, with non-probabilistic sampling. The data were collected by students engaged in a research practice at a private university in the city of Buenos Aires, Argentina. Participation was voluntary and did not involve any compensation. The participants were required to be of legal age.

Surveys were administered online using SurveyMonkey. The first page of the survey asked the participants to give their consent and guaranteed the anonymity of the data and its exclusive use for research. Data collection was supervised by a researcher.

## Data Analysis

For the adaptation of the LTS, the scale was first translated from English into Spanish using the direct translation method. The translated version was subjected to a pilot study to guarantee respondent comprehension of the items and instructions. It was then submitted to expert judgment to analyze the adequacy of the item content to the evaluated construct and its corresponding dimensions. The version obtained was administered to sample A, and then various psychometric analyses were performed.

A confirmatory factor analysis was performed using the polychoric data matrix because the responses were in Likert format. The estimation method was diagonalized weighted least squares (DWLS), which is appropriate for this type of data. The fit of the model was studied using various indices (Schumaker & Lomax, 2016): the CFI and TLI indices with expected values close to 1, ideally close to .90 or .95; the SMRS, with an expected value lower than .05; and the RMSEA with an expected value lower than .08. Additionally, $\chi^2$ was expected to be not statistically significant although in samples with $n > 200$, as in this case, $\chi^2$ may be significant. For the comparison between the three-dimensional and one-dimensional models, the fit indices and the PNFI were evaluated to assess which model was more parsimonious.

In addition, internal consistency was estimated using Cronbach's alphas and McDonald's Omegas. Likewise, the mean variance extracted for each dimension was calculated in order to estimate convergent validity. Then, to analyze the associations with other measures and the differences according to sociodemographic variables, Pearson's r, Student's t, one-way ANOVA, and $\chi^2$ tests were calculated.

The data were analyzed using the Jamovi statistical software in its 2.3 version and the R in its 4.1 version.

### Ethical Considerations

The study was conducted in accordance with the ethical standards of the 1964 Declaration of Helsinki and followed international ethical guidelines (APA and NC3R). It also adhered to the regulations of the National Scientific and Technical Research Council (CONICET) for ethical conduct in the social sciences and humanities (Resolution No. 2857, 2006). The study was approved by the ethics committee of the University of Palermo (Resolution No. 012/2024).

All participants provided written informed consent. They received information regarding the study procedures, were explicitly informed that their participation was entirely voluntary, and were assured of the strict confidentiality of their data.

# Results

The scale was first translated using the direct translation method. Two researchers holding a Ph.D. in Psychology and having a good command of the English language participated in the process. They translated the original version individually. Their versions were then compared and, according to the translators, they did not differ markedly. The translated measure was tested with a pilot test of 15 adults (8 women, 7 men), who suggested minor changes in the wording of some items. Expert judgment was then conducted to estimate the adequacy of the content of the items to the dimensions. Three judges were asked to match each item with the dimension that it belonged to, in their opinion, by virtue of its content. The degree of agreement was high (70% or higher for each item).

To obtain evidence of the construct validity of the LTS scale, a confirmatory factor analysis was then performed from the data obtained from sample A. This was calculated using the polychoric data matrix and the diagonalized weighted least squares (DWLS). Except for $\chi^2$, the fit indices showed an excellent fit of the three-dimensional model of the LTS: $\chi^2$ (51) =238.60, $p < .001$, CFI = .942, TLI = .925, SRMR = .051, RMSEA = .078 (IC 90% = .070, .088), PNFI = .755. All regression weights of the elements (see Figure 1) were greater than .40 and statistically significant ($p < .001$).

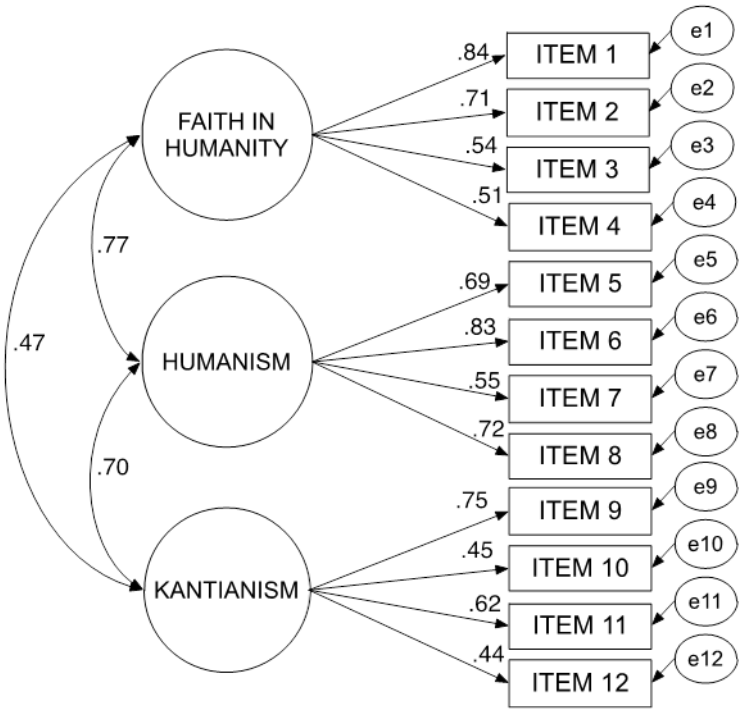


**Figure 1**. *Confirmatory Factor Analysis of the LTS*

Next, to compare the fit and parsimony with a one-dimensional model, the same procedures were calculated, but all the items were loaded into a single dimension of light traits. Although the parsimony index was higher in this case, the fit of the model was generally poor, $\chi^2$ (54) = 556.151, $p$ < .001, CFI = .842, TLI = .807, SRMR = .081, RMSEA = .124 (IC 90% = .115, .134), PNFI = .770. Table 1 shows the descriptive statistics of the selected items and the composite scores.

**Table 1.**
*LTS: Descriptive Statistics of the Selected Items and Composite Scores.*

| | M | Mdn | SD | Min | Max | Asymmetry | Kurtosis |
|---|---|---|---|---|---|---|---|
| Item 1 | 3.84 | 4.00 | 0.86 | 1 | 5 | -0.65 | 0.64 |
| Item 2 | 3.36 | 3.00 | 0.94 | 1 | 5 | -0.34 | -0.22 |
| Item 3 | 3.13 | 3.00 | 1.06 | 1 | 5 | -0.05 | -0.68 |
| Item 4 | 3.63 | 4.00 | 0.83 | 1 | 5 | -0.85 | 1.19 |
| Item 5 | 4.02 | 4.00 | 0.79 | 1 | 5 | -0.78 | 1.07 |
| Item 6 | 4.04 | 4.00 | 0.71 | 1 | 5 | -0.68 | 1.37 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Item 7 | 3.50 | 4.00 | 0.82 | 1 | 5 | -0.24 | 0.03 |
| Item 8 | 4.18 | 4.00 | 0.70 | 1 | 5 | -0.71 | 1.25 |
| Item 9 | 4.45 | 5.00 | 0.68 | 1 | 5 | -1.59 | 4.36 |
| Item 10 | 3.75 | 4.00 | 0.93 | 1 | 5 | -0.82 | 0.73 |
| Item 11 | 3.86 | 4.00 | 1.02 | 1 | 5 | -1.01 | 0.78 |
| Item 12 | 3.66 | 4.00 | 1.16 | 1 | 5 | -0.90 | 0.06 |
| Faith in humanity | 3.49 | 3.50 | 0.67 | 1 | 5 | -0.35 | 0.73 |
| Humanism | 3.94 | 4.00 | 0.57 | 1 | 5 | -0.80 | 3.03 |
| Kantianism | 3.93 | 4.00 | 0.62 | 1 | 5 | -0.77 | 1.88 |

In addition, the internal consistency of the scale was studied by assessing Cronbach's alphas and McDonald's Omegas. As in the validation of the original test and adaptations to other countries, the kantianism dimension yielded the lowest values (e.g., Barros et al., 2022; Kaufman et al., 2019; Gerymski & Krok, 2019; Tekeş & Biçaksiz, 2021). Following the criteria adopted in the Polish validation of the scale (Gerymski & Krok, 2019), the coefficients were estimated by dividing the sample into two according to age (50-year cutoff). As shown in Table 2, the values for the total sample were between acceptable and excellent, and higher in all cases in the subsample composed of people over 50 years of age.

The mean variance extracted for each scale was also calculated: faith in humanity = .44, humanism = .49, kantianism = .33. As in the results obtained previously, the values for faith in humanity and humanism were close to .50, which indicates adequate convergent validity according to Hair et al. (2010), while the value obtained for the kantianism dimension was far from the expected value.

**Table 2.**
*Internal Consistency Values for the Scales of the LTS.*

| | Faith in Humanity | | Humanism | | Kantianism | |
|---|---|---|---|---|---|---|
| | α | ω | α | ω | α | Ω |
| Total sample | .70 | .72 | .73 | .74 | .52 | .56 |
| Under 50 years of age | .69 | .70 | .73 | .74 | .47 | .51 |
| Over 50 years of age | .73 | .76 | .72 | .75 | .59 | .65 |

Then, using sample B, the associations of the LTS traits with different relevant external criteria were analyzed to obtain evidence of criterion validity (see Table 3). We first analyzed the associations with the three Dark Triad (DTS) traits. Statistically significant associations were found for the three traits with psychopathy; humanism and faith in humanity traits with narcissism; and faith in humanity with machiavellianism.

Then, associations were analyzed between the LTS traits and the FCPI-SF, which includes positive and pathological personality traits. Statistically significant correlations were found with some of the pathological traits: the three traits with antagonism; humanism and faith in humanity with detachment and psychoticism; and humanism with disinhibition. Regarding the positive traits, the correlations were statistically significant and positive in all cases.

Finally, concerning the traits of the Big Five model (BFI), statistically significant and positive associations were found in all cases, except for the neuroticism trait, which only yielded a negative association with faith in humanity.

For the dark and pathological traits, the effect sizes were small; for the positive traits, effect sizes were mostly medium; for the normal traits, effect sizes were between small and medium (Cohen, 1992).

**Table 3.**
*Associations between LTS Traits and Pathological, Normal, and Positive Traits*

| | Kantianism | Humanism | Faith in Humanity |
|---|---|---|---|
| Machiavellianism | -.09 | -.09 | -.10* |
| Narcissism | -.04 | .11* | .17*** |
| Psychopathy | -.28*** | -.31*** | -.26*** |
| Negative Affectivity | .03 | .09 | .02 |
| Detachment | -.08 | -.10* | -.14** |
| Antagonism | -.12* | -.16*** | -.13** |
| Disinhibition | -.09 | -.10* | -.02 |
| Psychoticism | .02 | .16*** | .17*** |
| Serenity | .27*** | .33*** | .31*** |
| Humanity | .35*** | .55*** | .45*** |
| Integrity | .41*** | .50*** | .32*** |
| Moderation | .26*** | .27*** | .24*** |
| Sprightliness | .24*** | .38*** | .34*** |
| Extraversion | .13** | .27*** | .23*** |
| Agreeableness | .26*** | .44*** | .42*** |

| | | | |
|---|---|---|---|
| Conscientiousness | .16** | .20*** | .17*** |
| Neuroticism | -.04 | -.05 | -.12* |
| Open Mindedness | .16** | .29*** | .19*** |

*Note.* *** $p < .001$, ** $p < .01$, * $p < .05$

Next, a multiple hierarchical regression was calculated to determine whether the LTS traits increased the prediction of total well-being and its three dimensions (emotional, social, and personal), beyond the variance explained by the normal traits of the Big Five model of personality traits. The five normal traits were entered in the first block and the LTS traits in the second block. In all cases, the models tested were statistically significant ($p < .01$), and the LTS traits significantly increased the change in $R^2$ (see Table 4).

For total well-being, the adjusted $R^2$ for Block 1 was .28, $F(5,386) = 31$, $p < .001$, and the traits found to be statistically significant predictors were extraversion, agreeableness, conscientiousness, and neuroticism. In Block 2, the adjusted $R^2$ changed to .36, $F(8,383) = 27.9$, $p < .001$. This change was statistically significant ($p < .001$) and implied an 8% increase in the explained variance. The extraversion, conscientiousness, and neuroticism traits maintained their statistical significance as predictors of total well-being, and, among the LTS traits, faith in humanity was found to be a statistically significant predictor.

Then, in the emotional well-being model, the adjusted $R^2$ of Block 1 was .28, F(5,386) = 30.9, p < .001, and the traits that were statistically significant predictors were extraversion, agreeableness, conscientiousness, and neuroticism. In Block 2, the adjusted $R^2$ changed to .31, $F(8,383) = 22.0$, $p < .001$. This change was statistically significant ($p < .001$) and implied a 2.8% increase in the explained variance. The extraversion, conscientiousness, and neuroticism traits maintained their statistical significance as predictors of emotional well-being, the agreeableness trait ceased to be a statistically significant predictor, and, among the LTS traits, faith in humanity turned out to be a statistically significant predictor.

In the social well-being model, the adjusted $R^2$ for Block 1 was .09, $F(5,386) = 7.66$, $p < .001$, and only extraversion was found to be a statistically significant predictor. In Block 2, the adjusted $R^2$ changed to .20, $F(8,383) = 12.10$, $p < .001$. This change was statistically significant (p < .001) and implied an 11.1% increase in the explained variance. The extraversion trait maintained its statistical significance as a predictor of social well-being and, within the LTS traits, faith in humanity turned out to be a statistically significant predictor.

In the personal well-being model, the adjusted $R^2$ for Block 1 was .32, $F(5,386) = 37.2$, $p < .001$, and the extraversion, agreeableness, conscientiousness, and neuroticism traits were statistically significant predictors. In Block 2, the adjusted $R^2$ became .36, $F(8,383) = 27.7$, $p < .001$. This change was statistically significant ($p < .001$) and implied a 4.13% increase in the explained variance. The extraversion, neuroticism, and conscientiousness traits maintained their statistical significance as predictors of psychological well-being and, within the LTS traits, faith in humanity turned out to be a statistically significant predictor.

**Table 4**.
*Multiple Hierarchical Regressions: Prediction of Total Well-Being and Emotional, Social, and Psychological Well-Being*

| | Total well-being | | Emotional well-being | | Social well-being | | Psychological well-being | |
|---|---|---|---|---|---|---|---|---|
| | $R^2$ | *b* | $R^2$ | *b* | $R^2$ | *b* | $R^2$ | *b* |
| *Block 1* | .28*** | | .28*** | | .09*** | | .32*** | |
| Extraversion | | 0.24*** | | 0.26*** | | 0.15** | | 0.22*** |
| Agreeableness | | 0.14** | | 0.13** | | 0.03 | | 0.19*** |
| Conscientiousness | | 0.18*** | | 0.11* | | 0.09 | | 0.23*** |
| Neuroticism | | -0.14** | | -0.23*** | | -0.09 | | -0.09 |
| Open Mindedness | | 0.06 | | 0.00 | | 0.05 | | 0.07 |
| *Block 2* | .36*** | | .31*** | | .20*** | | .36*** | |
| Extraversion | | 0.20*** | | 0.23*** | | 0.11* | | 0.19*** |
| Agreeableness | | 0.00 | | 0.04 | | -0.10 | | 0.08 |
| Conscientiousness | | 0.19*** | | 0.11* | | 0.10 | | 0.23*** |
| Neuroticism | | -0.16*** | | -0.23*** | | -0.09 | | -0.11* |
| Open Mindedness | | 0.03 | | -0.01 | | 0.03 | | 0.05 |
| Kantianism | | 0.01 | | -0.02 | | 0.00 | | 0.04 |
| Humanism | | 0.02 | | 0.07 | | -0.03 | | 0.05 |
| Faith in Humanity | | 0.30*** | | 0.16** | | 0.38*** | | 0.18*** |

*Note.* *** $p < .001$, ** $p < .01$, * $p < .05$

Finally, the light traits were studied in terms of different sociodemographic variables. Student's t-tests confirmed that there was a statistically significant difference in humanism according to gender, $t(386) = 2.26$, $p = .024$. Women exhibited greater humanism than men (*MW* = 4.00 vs. *MM* = 3.87). No statistically significant differences were found in kantianism or faith in humanity

($p$ > .05). In addition, Pearson's r tests were calculated to verify whether there were associations with age. A positive and weak relationship was found between age and faith in humanity, $r$ = .11, $p$ = .026. No statistically significant relationships were found with the other two light traits ($p$ > .05).

# Discussion

The main objective of this study was to examine the psychometric properties of the LTS scale for the Argentine population. The confirmatory factor analysis confirmed the three-factor structure of the test, which showed a better fit than the one-dimensional model, thus providing evidence of local construct validity. This three-factor structure was also replicated in validations performed in other countries (e.g., Barros et al., 2022; Biswas et al., 2026; Gerymski & Krok, 2019; Lukić & Zivanovi, 2021; Pechorro et al., 2024; Komienko et al., 2023; Stavraki et al., 2023; Tekeş & Biçaksiz, 2021).

As to scale reliability, the kantianism dimension yielded the lowest values, as in the validation of the original test and adaptations to other cultures. This study used the criterion adopted for the Polish validation of the scale (Gerymski & Krok, 2019) in terms of calculating the coefficients in two sub-samples delimited by age with a cutoff of 50 years. As in the Polish validation, here too, better coefficients were obtained in the group over 50 years of age. This finding may reflect the pro-social nature of this dimension since these qualities mainly characterize the older population (Soto et al., 2011). In any case, future studies should delve into the content validity of kantianism given the tendency to replicate the same limitations.

Regarding the correlations found with other measures, it should be noted that positive and significant correlations were obtained between the three LTS traits and the five positive traits of the FCPI-SF, developed in Argentina. As the correlations exhibited a medium effect size, they were not overlapping measures and, therefore, they provide evidence of criterion validity. The need to have a validated LTS for Argentina, apart from the benefit of having a locally developed test, is the possibility of making cross-cultural comparisons (Delle Fave, 2009), since this technique has had great international impact, despite its recent development.

The dark traits of the DTS and of the LTS exhibited negative correlations; in some cases, these correlations were non-significant and had a small effect size. On the one hand, this confirms what the original authors and other researchers have argued (Gerymski & Krok, 2019; Kaufman et al., 2019; Lukić & Zivanovi, 2021; Stavraki et al., 2023), namely that the models are not

merely the reverse of each other. The only trait that had significant correlations with the three traits of the LTS was psychopathy; therefore, those people with high levels of impulsiveness and social insensitivity are expected to show little faith and respect for others and they are likely to use people as a means to an end. For pathological personality traits, low negative correlations and some non-significant ones were also found. Therefore, LTS traits could not be considered the reverse of these traits either.

Finally, regarding the relationship with other personality models, the correlations with normal traits replicate the findings of previous studies, which reported that the highest associations tend to occur with the agreeableness trait (Gerymski & Krok, 2019; Kaufman et al., 2019; Lukić & Zivanovi, 2021). However, these were moderate correlations that would not give rise to an overlapping of the traits evaluated by both models.

The second objective of this research was to analyze the incremental validity of the LTS in the prediction of well-being beyond the normal traits measured by the BFI. The hierarchical regression analysis confirmed that these traits increased the percentages of variance explained, mainly in terms of social well-being. This result is consistent because, according to Kaufman et al. (2019), the LTS traits are linked to an affectionate and beneficial orientation toward others. As a result, they are expected to predict, to a higher extent than normal traits, greater social well-being, which implies that the individual is a well-integrated and contributing member of society (Keyes, 2002, 2005). In addition, this finding is in line with previous studies carried out with positive trait models developed in Argentina, which have also verified the incremental validity to predict psychological well-being beyond the FFM model (e.g., de la Iglesia & Castro Solano, 2018; Cosentino & Castro Solano, 2017).

**Limitations and future research suggestions**

Some limitations should be noted regarding both the validated instrument and the research conducted. First, as reported by the original authors and those who adapted the scale to other countries, some observations have been made about the LTS, in particular its kantianism dimension. It is, therefore, necessary to continue studying its content validity as well as the conceptual and linguistic equivalence of its items. For this reason, the original authors argue that researchers may prioritize a global score while the content of the dimensions continues to be explored (Kaufman et al., 2019).

Furthermore, both this test and those used for data collection are self-report measures that may be influenced by a tendency to respond in a socially desirable way, affecting the validity of the

data and inferences made. It would also be convenient to replicate the study with other samples in order to generalize the results, especially with regard to sociodemographic variables, given that previous research has shown a disparity in the findings obtained.

It should also be noted that this study did not attempt to demonstrate the non-overlapping or irreducible nature of the model with respect to other personality models; therefore, our analyses do not allow us to confirm this aspect rigorously. Future studies with local samples should address this question by using other statistical calculations such as canonical correlations and redundancy analysis like those reported by Lukić and Zivanovi (2021).

Finally, future research could be enriched by analyzing the role that light traits may play in different contexts, such as their power to predict performance in the labor and academic fields.

## Conclusion

It can be concluded that the analyses made provide considerable psychometric evidence of validity and reliability, which guarantees the use of the LTS scale in Argentina. In addition, its short length is a remarkable feature that makes this instrument suitable for research purposes.

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## Competing Interests

The authors have declared that no competing interests exist.

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