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Spirituality and Personality within the framework of The Big Five

Espiritualidad y personalidad en el marco de los Big Five

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Abstract: The present study aimed at assessing, in our context, whether the previously mentioned constructs emerge as a distinct factor within the model of the Big Five. The study used a non-probabilistic, intentional sample composed of 186 subjects between the ages of 18 and 28 years old from the city of Parana, Entre Rios, Argentina. Two exploratory factor analysis were performed. The results show that those aspects related to spirituality and religiousness - except for the sub-dimension connectedness - constituted an independent and non-redundant factor with the model of the Big Five. These findings, in line with other studies, enable to assess the role of spirituality and religiousness within a theory of personality, and thus provide a more holistic understanding of individual differences in human personality.

Key words: spirituality, religiosity, personality, Big Five, sixth factor

Resumen: El objetivo de este trabajo ha sido evaluar en nuestro contexto, si la espiritualidad emerge como un factor diferente dentro del modelo de los Big Five. A partir de un muestreo no probabilístico, participaron 186 sujetos de entre 18 y 28 años, de la ciudad de Paraná, Entre Ríos, Argentina. Los resultados obtenidos a partir de dos análisis factoriales muestran que los aspectos vinculados a la espiritualidad y la religiosidad, con excepción de la sub dimensión conexión, conformaron un factor independiente y no redundante con el modelo de los Big Five. Estos hallazgos permiten evaluar el rol de la espiritualidad y religiosidad dentro de una teoría de la personalidad que incluyendo este importante aspecto brinde una mirada más holística en la comprensión de las diferencias individuales en torno a la personalidad humana.

Palabras clave: espiritualidad, religiosidad, personalidad, Big Five, sexto factor

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Introduction

The study of personality has received much attention since the beginnings of Psychology until now and the production of knowledge about this construct is remarkable (Larsen & Buss, 2005; Yang & Chiu, 2009) representing one of the topics of greatest relevance to psychology since it is where the different areas and disciplines of our science converge (Hampson, 2000).

This proliferation of studies observed in relation to personality construct, has not been similar in relation to spirituality and religiosity. Probably, due in part to the belief in the incompatibility between science and religion (Hill et al., 2000; Weaver, Pargament, Flannelly, & Oppenheimer, 2006), and on the other hand that spirituality and religion are often concepts discussed theoretical and empirically (Piedmont, 2001).

As Piedmont (1999) comments, initial efforts have been directed towards the conceptualization and construction of instruments, and the questions have revolved around whether religiosity and spirituality are clear and distinct domains capable of capturing individual differences if these constructs can tell us something new about a person or if it is simply a grouping of known psychological variables.

Piedmont together with different research teams (1999, 2009) has studied the role of the personality in the understanding of the constructs of religiosity and spirituality, finding that spirituality would be presented as a sixth non-redundant with the five great factors of personality, as well as it would have a predictive value above those in psychosocial variables.

Brief theoretical frame

Personality is one of the most studied topics in psychological science; this may be due to the influence of this construct on other variables such as vocational interests, depression, coping, well-being, quality of life, job satisfaction, including physical health and longevity (Benet-Martinez, et al., 2015).

Currently the personality is conceived as a complex and specific psychological structure of each person, it is expressed by a particular way

of feeling, thinking, valuing, behaving, perceiving, interpreting, and facing reality (De lasHeras, 2010). The personality develops from the interaction of biological and environmental factors (Millonand Davis, 2004), manifesting in individual differences that present a certain contextual and temporal stability (Maltby, Day, Macaskill, 2013).

There are different theoretical frameworks for the study of personality, within these, the theory of traits and its operationalization is one of the most extensively tested approaches (Robins, Fraley & Krueger, 2009). From this perspective, personality can be understood as a pattern of thoughts, emotions and behaviors that remains relatively stable throughout the life cycle (Costa & McCrae, 1980). Starting from the first taxonomies proposed by Allport and Odbert (1936), personality traits were grouped into different dimensions or factors, such as the sixteen factors proposed by Cattell (1950) or the three by Eysenck (1976). Subsequently, from the work of different researchers, among which the contributions of Goldberg (1981), Tupes and Christal (1961), and Norman (1963), emerge the Five-Factor Model of Personality (FFM) (Costa & McCrae, 1980, 1992). At present, this model stands out among those that have gained greater acceptance and consensus (Cupani, Sanchez, Gross, Chiepa, & Dean, 2013; DePaula & Azzollini, 2013). This approach condenses years of study and factor analysis carried out with samples of different ages, sex and culture (Costa & McCrae, 1992). As result of these analyses, five factors have been obtained: Extraversion; Agreeableness; Conscientiousness; Neuroticism; and Openness (Goldberg, 1992). For this reason, we consider that the FFM of the Personality could serve as a safe point and useful reference for the development and evaluation of constructs such as religiosity and spirituality.

Some researchers consider that spirituality and religiosity constitute a unique construct, since both involve the search for the sacred (Hill & Pargament, 2008) Zinnbauer, Pargament & Scott, (1999), while others emphasize the distinctiveness of both (Piedmont, 2001). Piedmont, Ciarrochi, Dy-Liacco, and Williams (2009) showed that spirituality and religion are constructs that are associated with each other, but are different:

correlated with different external criteria (for example, prosocial behaviors, sexual orientation, purpose in life, materialism, etc.).

Give a definition of what is comprehensively religiosity can be a difficult task because of the multidimensionality and complexity is of this concept (Hill & Pargament, 2008). Despite this, Koenig (2008) proposed a definition which states that religion is a system of beliefs and practices supported and carried out by a community who rely on rituals in one worships and establishes a communication with the sacred or the divine, also provides different patterns of behavior and describes a way of understanding the world and its meaning, to others and to ourselves. For Piedmont et al. (2009) religiosity refers to the beliefs about the transcendent learned from a specific tradition and the rituals and practices associated with a social or community institution or organization.

Spirituality, on the other hand, would be defined as an intrinsic motivation of the people who, conscious of his own death, create meanings and purposes for their lives, that is, as a human skill that goes beyond objective reality to relate singularly with what is considered transcendent, like God, the universe or a superior being (Piedmont et al., 2009). For other authors such as Koenig, McCullough and Carson (2001) spirituality is configured as a personal search to understand those fundamental questions of our existence, life, meaning, and the relationship with the sacred or transcendent, which may or may not lead to the development of religious rituals or to the conformation of a community.

Finally, regarding the framework provided by the FFM and the concept of spirituality, according to Piedmont (1999), as mentioned above, spirituality would be a sixth factor of personality. MacDonald (2000) jointly factored a series of scales of spirituality together with the FFM factors, being able to find the five original dimensions of personality, noting also that many of the scales of spirituality defined factors independent of the FFM domains, which has led to infer that it would be a sixth factor (MacDonald, 2000; Piedmont, 2001; 2009).

In this context, the overall objective of this study was to contribute to the progress of the

study of the psychology of personality, religion and spirituality in our country. Likewise, the specific objective of this study was to analyze a model factor that includes spirituality and the Five Big Personality Factors (FFM) operationalized through the Neo Pi R, to evaluate the possibility that spirituality emerges as a sixth factor and not be redundant with the other five factors raised in the FFM.

Methodology

According to the type of design and the nature of the data, the study constitutes a quantitative research, following an ex post facto design. Taking into account the objectives, this is a psychometric analysis of factorial validity. In terms of time of evaluation is a cross-sectional work, since only one evaluation was done; and according to the source of the data, it is configured in a field study.

Participants

From a non-probabilistic, intentional sampling, 186 subjects participated (men $n = 91$ and women $n = 95$), whose ages ranged from 18 to 28 years old ($M = 21.40$, $SD = 2.76$), of medium socioeconomic level, belonging to general population. Regarding the educational level, 4.3% ($n = 8$) did not finish high school, 21.5% ($n = 40$) finished high school but did not continue studying, 63.4% ($n = 118$) continued studying after finishing the high school and 10.8 ($n = 20$) finished college.

Materials

The following data collection instruments were administered:

- *Structured questionnaire to collect demographic data.* From the questionnaire, socio-demographic data were obtained regarding a: sex, age, marital status and education level.
- *Scale to assess Spiritual and Religious Feelings (ASPIRES).* The ASPIRES was developed by Piedmont (2004), consists of two versions, a short and other extended version, each of them has a scale of self-report and another that

must be answered by an observer who is close and deeply knows the subject evaluated. The short version is the abbreviated version of the extended version and has 13 items; the first four constitute a Religiosity Index (RI) and measure the frequency of religious participation and related activities.

For example, the evaluated subjects are asked to rate how often they read the Bible / Torah / Koran from 1 (never) to 7 (several times a week); read religious literature from 1 (never) to 7 (several times a week); prays from 1 (never) to 7 (several times a week); and participates in religious services from 1 (never) to 5 (almost always). This Religiousness Index is calculated by adding the Z score of each item, that total obtained offers a composite measure of religious participation. The nine final items constitute the Spiritual Transcendence Scale (STS) that measures the effort of each individual to create a broader meaning or meaning, beyond the here and now. For Piedmont (2012), the Spiritual Transcendence implies an intrinsic and individual motivation that guides people within a spiritual context, providing a personal sense and a broader perspective about life. This perspective would distance itself from its immediate existence, making that person perceives a fundamental unity that underlies the various efforts of nature (Piedmont & Leach, 2002).

The response format that evaluates the dimension of Spiritual Transcendence, ranges from 1 (strongly agree) to 5 (strongly disagree). Those who obtain high scores in this dimension understand the meaning of their life in a broader context, being one with nature and community, while those with low scores represent those who are more driven by material ends, more focused on the realities physical of the here and now. The Spiritual Transcendence Scale contains three subscales: Universality that measures the belief in the unity and purpose of life (for example, "I believe that there is a higher plane of spirituality that unites all people"). The Prayer Fulfillment dimension, that evaluates the experienced feeling of joy and satisfaction that results from the personal encounter with a transcendent reality through prayer and / or meditation (for example, "when I pray and / or meditate I do not feel a deep

happiness and fullness"). Finally, the Connectedness dimension, that values the belief of belonging to a human reality that includes everyone, that goes through the generations and provides a sense of responsibility and connection with others (for example, "the memory of my dead loved ones continue to influence my current life").

A translation of the extended version, which is used in this study, measures the same variables but adds more items, the Religiosity Index contains eight items assessing *religious participation* and other four measuring *religious crisis*; while Spiritual Transcendence Scale is composed of 23 items. Piedmont (2004; 2007; 2008) reported acceptable reliability indices, for both the self-report and the observer versions, Cronbach's alphas coefficients ranged from .59 to .89. The internal consistency indices obtained from the answers given by the subjects of the present study sample were for Religiousness: Religious Participation $\alpha = .86$; Religious Crisis $\alpha = .72$. For Spiritual Transcendence: Universality $\alpha = .72$; Connectedness $\alpha = .63$; Prayer Fulfillment $\alpha = .91$; and for the full scale $\alpha = .86$.

- *The NEO Revised Personality Inventory (NEO PI-R) developed by Costa and McCrae (1992)*. The NEO PI-R is an instrument that operationalizes the approach of the Big Five factors to evaluate the normal adult personality. It does so through a traditional evaluation system. That is, the subject is offered a series of affirmations of the type: «I like to have lots of people around» and his task is to assess this item on a scale of 1 to 5, where 1 indicates that he totally disagrees with this statement, and 5 totally agrees. Each of these dimensions is broken down into six different scales, each of which satisfy the following requirements: (a) to the same scope, they are totally different from each other, (b) they represent the field in question as completely as possible, and (c) are important and recognized by the psychological literature.

The instrument has 240 affirmations from which the Five Big Factors denominated: Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness. Each of these factors, as can be seen in Figure 1, contains six facets respectively.

Factors	EXTRAVERSION	KINDNESS	RESPONSIBILITY	NEUROTICISM	OPENING
Facets	Warmth	Trust	Competition	Anxiety	Fantasies
	Gregarious feeling	Righteousness	Order	Hostility	Aesthetics
	Assertiveness	Altruism	Duty	Depression	Feelings
	Activity	Submission	Effort	Self-criticism	Actions
	Search for excitement	Modesty	Self-discipline	Impulsivity	Ideas
	Positive emotions	Sensitivity	Reflection	Vulnerability	Values

Figure 1.

The five major factors of the PI - R facets

Results

This inventory has been adapted for Argentina by Richaud de Minzi, Lemos, and Oros (2001; 2004). The psychometric results of this version in our context, indicated an internal consistency, calculated through Cronbach's alpha coefficient, between $\alpha = .66$ and $\alpha = .82$, and at the same time, for each factor independently, a value of $\alpha = .82$ to Neuroticism, $\alpha = .67$ for Extraversion, $\alpha = .66$ for Openness, $\alpha = .70$ for Agreeableness and $\alpha = .81$ for Conscientiousness, values similar to those of the original version. The study of factor constructive validity allowed corroborating the factors and facets proposed by Costa and McCrae (Richaud de Minzi et al., 2001).

Procedures followed for the collection of data

The instruments were administered individually, and where appropriate, in the home, work, or academy of each participant. In all cases, requested previously signed informed consent. Participation was voluntary and anonymous, subject to ethical requirements in relation to research, by the code of ethics of the Federation of psychologists of the Republic of Argentina (FEPRA).

Procedures followed for the analysis of data

Consistent with the objective of the work, factorial studies were conducted.

For its realization, the assumptions were evaluated and the corresponding fit indices were calculated. The data were processed statistically using SPSS 21 programs (Statistical Package for the Social Sciences, IBM Corporation, 2012) and FACTOR 8 (Lorenzo Seva & Ferrando Piera, 2012).

In order to verify the possibility of carrying out the following exploratory factor analyzes, the assumptions of normality were checked by analyzing the asymmetry and kurtosis indices of the reagents, found in all of the variables values between ± 1.00 in both indices, which is considered optimal except for the variable Opening whose kurtosis value was 1.57, however, indexes between ± 1.60 , are considered adequate (George & Mallery, 2003).

Thus a first exploratory factor analysis (AFE) was made from a Principal Component Analysis (PCA) with Varimax rotation, as is recommended when the correlation between factors is less than .32 (Tabachnick & Fidell, 2013; Tornimbeni, Perez, & Olaz, 2008), in this case the correlation between factors was of .23. The extraction of two factors was requested; starting from the assumption that spirituality and the aspects related to religious issues would be weighed in a different factor to aspects of personality.

In Table 1 the distribution of the weights of the dimensions in the factors "Spirituality and Religiousness, and Personality" can be observed.

Table 1

AFE to two dimensions of spiritual transcendence and religiosity, and personality factors

	Dimensions	
	Spirituality and religiosity	Personality
Religious participation	.899	-.013
Religious crisis	-.720	-.040
Prayer	.893	.060
Universality	.729	.254
Connectedness	-.043	.287
Extraversion	.159	.706
Openness	.020	.593
Agreeableness	.353	.585
Conscientiousness	.369	.388
Neuroticism	-.086	-.669

Several fit indices were calculated, such as the Chi-square statistic (χ^2) divided by degrees of freedom. Regarding its interpretation, a quotient of 4 is considered a reasonable adjustment, (Wheaton, Muthen, Alwin& Summers, 1977), while those values close to 2, are considered as very good (Tabachnick&Fidell, 2013) . In this case, the result obtained was 1.52.

Other authors (Browner &Crudeck, 1993) propose to consider also the average of the standardized residuals (RMSEA)because it provides a better index of adjustment. Other indicators of relative adjustment are the comparative adjustment index (CFI), the goodness of fit index (GFI) and the goodness-of-fit index corrected to the model's degrees of freedom (AGFI). These indices are among the most commonly used, since they are less affected by the size of the sample (Bentler, 1990). It is generally considered a good fit when goodness of fit indexes are found in values > .90 and RMSEA <.08 (Hu &Bentler, 1999). The results obtained in relation to these indices were CFI = .923; GFI = .968; AGFI = .949 and RMSEA = .07.

Then another AFE was carried out, also from a Principal Components Analysis (PCA). In this case an oblique rotation was performed (Oblimin) given that the correlation between the factors Religious Participation and Agreeableness ($r = .36$), Neuroticism and Conscientiousness ($r = -.43$), Neuroticism and Extraversion ($r = -.36$) was greater than $\pm .32$.

Requested the extraction of six factors; on the assumption that on the one hand it would weigh spirituality (whereas in this case the total score of spirituality) and the aspects linked to religious participation and in the five remaining factors would be distributed the five personality dimensions evaluated by the NEO PI R.

In this case it was not possible to assess the fit of the model given that are required at least two variables to factor for adjustment parameters to be calculated.

Table 2
AFE to six factors with dimensions spirituality and religiosity, and personality

	Dimensions					
	1	2	3	4	5	6
Total score spirituality	.912	-.068	.198	-.039	.045	-.075
Religious participation	.886	.068	-.195	.083	-.017	.107
Neuroticism	-.001	.990	.029	-.015	.000	-.020
Conscientiousness	-.001	.004	-.014	.005	.999	.008
Extraversion	.003	-.027	.049	-.010	.012	.974
Openness	.012	.024	.958	.049	-.017	.070
Agreeableness	.001	-.015	.029	.989	.009	-.013

Discussion and Conclusions

As could be observed in Table 1, with the exception of the Connectedness dimension of the Scale of Spiritual Transcendence, the dimensions of Prayer Fulfillment and Universality, and the dimensions of Crisis and Participation of the Religiousness Scale, loaded factorially in one factor, and in another different, the five personality dimensions of the Big Five. The Connectedness dimension presented a low weight in the factorial matrix, consistent with other studies conducted by Piedmont (1999). However, the observed model fit indices, were satisfactory and allow us to infer that aspects related to spirituality and religiosity make up a different factor to personality.

The results found with respect to the Connectedness dimension, although not the expected ones, coincide with other studies by Piedmont (1999) in which this dimension was not clearly weighed in the Spirituality factor and it did so with a very low weight. In a recent study conducted in Argentina (Simkin, 2017), this dimension presented an internal consistency of .57, clearly inferior to the values obtained in Universality ($\alpha = .76$), Religious Crisis ($\alpha = .68$), PrayerFulfillment ($\alpha = .91$) and Religious Participation ($\alpha = .91$).

With respect to the second analysis, (see table 2) in which extracted 6 factors, including in the same analysis only the total scores of the five personality factors and the total score of Spirituality and Religious Participation, found results showed that on the one hand loaded factorial the

total score of Spirituality and Religious Participation and each one of the dimensions of personality charged in each one of the rest of the five factors. Factors of Neuroticism, Conscientiousness, Extraversion, Openness and Agreeableness, each one strongly charged in a different factor.

These results, as mentioned by Simkin (2017), highlight the relevance of continuing with the development of studies that link spirituality with personality, from the Big Five approach. Since the debate continues on whether the personality would be constituted in a sex factor or personality could be explained by a set of traits associated with other factors, such as Agreeableness or Openness to experience (Saroglou, 2014).

Within the limitations observed in this study, we can mention carried out sampling, intentional type and the size of the sample, which affects less control of possible biases and the generalization of results. Likewise, the limitations inherent in self-report measures must be considered.

On the other hand, the results obtained in relation to the Connectedness dimension, although, as mentioned above, have been consistent with other investigations; they suggest us to deepen in the particular study of this dimension both at the theoretical level and in its consequent operationalization.

Regarding the scope, in general terms, the findings found in the different AFEs, in line with other research (Piedmont, 1999; Piedmont & Wilkins, 2013; Simkin, 2017), possible to assess the role of within a personality theory that includes this important dimension, allowing a more holistic view in the understanding of the individual differences around human personality.

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