

Emphatic Concern: Contributions of religiosity, pro-social behavior
and spirituality

Preocupación Empática: Contribuciones de la religiosidad, la conducta pro-social y la
espiritualidad

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Abstract

The aim of the present study is to examine the relationship between pro-social/antisocial behavior, religiosity and spirituality as cause variables of empathy. The study has also considered the influence of such variables as age, sex, religious creed and ethnicity, in a catholic sample of university students. A preliminary conceptual model of empathic concern, from the above studied variables was proposed. The results showed strong ties between empathic concern and pro-social, spirituality and particularly religiosity, such ties might contribute to explain this behavior. The output of the modeling process indicate (verified through standardized weights) that three of the four latent variables included in the model showed a relevant influence on the empathic concern (pro-social behavior, religiosity and spirituality). Antisocial behavior was dismissed as source of endogenous variable explanation. Although the model seems to be acceptable, some adjustments are needed to achieve a more comprehensive understanding of empathy conceptual framework.

Key Words: Empathy concern, Religiosity, Pro-social behavior, Spirituality

Resumen

El propósito de la presente investigación es estudiar las relaciones causales entre la conducta pro-social/antisocial, la religiosidad y la espiritualidad, como variables causales de la empatía. El estudio consideró además la influencia de ciertas variables como la edad, el sexo, la creencia religiosa y la etnicidad en una muestra de estudiantes universitarios católicos. Se propuso un modelo conceptual preliminar de la preocupación empática, a partir de las variables estudiadas. Los resultados evidenciaron fuertes vínculos entre las variables prosocialidad, espiritualidad y particularmente religiosidad con la preocupación empática que pueden contribuir a explicar este comportamiento. Los resultados del proceso de modelado, verificado a través de los pesos estandarizados, indican que tres de las cuatro variables latentes incorporadas en el modelo, mostraron influencias relevantes sobre la preocupación empática (conducta pro-social, religiosidad y espiritualidad). La influencia de la conducta antisocial fue rechazada como variable endógena explicativa. Si bien el modelo parece ser aceptable, debería ser ajustado para lograr un entendimiento más completo del marco conceptual de la empatía.

Palabras Clave: Preocupación empática, Religiosidad, Conducta pro-social, Espiritualidad

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Statements such as “Don't do unto others what you don't want others to do unto you”, attributed to Buddha, or “Love your neighbor as yourself” of the Christian gospels (²), or “Do good to others without expecting anything in return”, and many other similar expressions shared by different religions, tell us much about the importance given by sacred scriptures concerning the necessity of a better and more human relationship among people, a more qualified dimension of mutual and unconditional respect.

For this reason, many researchers (Batson, Schoenrade, & Ventis, 1993; Yodrabum, 2005; Hardy, & Carlo, 2005), believe that the religious experience and the practice of the faith, instilling moral thinking, promote pro-social behavior as a wide range of actions that seek to benefit one or more people, such as help, sharing and cooperation (Batson, 1998). On the other hand, there are reasons to believe that people are usually generous, cooperative, concerned and trustworthy to others, and it is assumed that such attributes, are more likely to be displayed with greater religiosity. Therefore, religiosity could be considered as a predictor of kindness and understanding as well as emotional pro-social altruism (Hardy & Carlo, 2005).

However, a growing number of studies cast doubt or relativize the relationship between religious practices and pro-social behavior, making it necessary to deepen the analysis and review its underlying theoretical assumptions. The existing scientific literature related to this topic is far from presenting a full agreement on the evidence of such relationship and rather exhibit a contradictory image of the influence of religiosity on pro-social behavior.

While there would be little doubt about the relationship as such, the controversy seems to arise when discussing the causal status of religiosity. This would have to do with the complexities of the multidimensional nature of the pro-social theoretical construct, and the notion of religiosity. For example, it is evident that some religious groups exhibit more pro-social behaviors with its own members than with outsiders, this is because the latter ones threaten the core values of these religious groups. This could be explained by the development, in the religious group, of a social identity that sets up well defined boundaries, as it happens in any group of people who share certain characteristics differing from that of others (Hunsberger & Jackson, 2005; Saroglou & Galand, 2004 Saroglou & Cols., 2005).

Saroglou (2006) points out that it would be good enough if the impact of pro-social religious ethics occurs at least with the closest people, whose judgments and perceptions are valued, and with whom the members of a religious group are involved in relationships of greater reciprocity. The authors submit the idea that religion promotes pro-social cooperation within culturally defined groups, and does not necessarily support the idea that pro-social behavior should be forced indiscriminately (Iannaccone & Berman, 2006; Ruffle & Sosis, 2006, Saroglou, 2006). As suggested by Saroglou (2006), there is no reason to expect that religion suppose heroic standards and high cost of altruistic or pro-social behavior.

In these conditions, one might expect that religiosity predicts pro-social behavior in close intimate target groups, but not in unrelated or unknown groups. This distinction would fit

² Mateo 22,39, Lucas 10,25-37, and Levítico 19,18.

well with the evolutionary perspective of Religion Psychology, which points out that religions promote spaces for well-defined coalitions and alliances involving reciprocal altruism (Kirkpatrick, 2005). This perspective, however, challenges the notion of support, commitment, solidarity, respect, etc., unconditional, and unrestricted, that the pro-social and religious writings demand for all alike. It also, argues that variations in the expression of religiosity can also play an important role in the determination of pro-social behavior, thus, the exercise of a religion from a fundamentalist perspective, would not only reduce the pro-social behavior towards people with different perspectives, but it would lead even to aggressive and exclusive actions against outsiders to the creed. Therefore, religious fundamentalism would create prejudice, discrimination, and violence (Altemeyer & Hunsberger, 2005, Laythe & Cols., 2002). For this reason, the research on the relationship between pro-social behavior and religiosity should differentiate the multiple expressions of this construct.

In the same direction, a third aspect that could explain the inconsistencies in this type of research could come from overlooking the influence of other religious variables that can mediate or modulate the pro-social behavior. For example, Francis, Croft & Pyke, (2012) found that differences in empathic behavior are not the result of religious identity (Muslim, Christian, etc.), but of the image of God that people have within the framework of these religions. Therefore, those who have the idea of a merciful and protective God expressed higher levels of empathy than those who conceived God as righteous and severe authority.

Similarly, the spirituality of a person can interact with their religiosity and produce differential results in pro-social behavior. Bellah & Cols., (1985) reported the existence of two expressions of spirituality in western societies. One, which is characterized by reflecting a highly individualistic position, mainly centered in "seeking the self-perfection" known as "modern spirituality"; and other which rather highlights the active pursuit and construction of meaning and transcendence with a sense of connection with each other and social responsibility. The latter is closer to the religiosity and is rooted in pro-social values (Dillon & Cols., 2003).

Given this distinction, it is possible to observe differences in pro-social attitudes and benevolence, depending on the type of spirituality which modulates religious behavior. MacDonald, (2000), points out that, except in cases in which spirituality emphasizes only personal experience and does not imply commitment and social practice (Belzen, 2005 explains the difference), spirituality can exert influence on religiosity and promote help behavior, solidarity, and tolerance.

The lack of consistency of the existing results on the causal relationship between religiosity and pro-social behavior might come from the method with which researchers often address this study. Batson et al., (1993) observed that it should be noted that, except for a few relevant experiments, most of the research on religion and pro-social behavior adopts procedures of pencil and paper-based measurement mechanisms. Galen (2012) adds that other methodological operations such as the use of inappropriate controls and self-reports, can also facilitate data bias and social desirability, increasing the likelihood of incorrect conclusions of these studies. Despite the response to these assumptions (see Saroglou, 2012), the concern regarding the methodological difficulties persist.

Batson et al., (1993) insist that research must mainly incorporate religion or its constituent elements as independent variables, under experimental manipulation, and apply direct measuring of pro-social behavior. Research conducted in the framework of behavioral economics, derived from game theory and experimental economics, pose today a methodological alternative to traditional use of scales and questionnaires, introducing more rigorous measurement and conceptualization, without adding more complexity. Interesting examples are the studies of Shariff y Norenzayan, (2007), and Decety et al., (2015) which used the Dictator Game; or Paciotti et al., (2011) who also applied the Confidence Game and Public goods Game. However the results of these investigations are certainly more critical and less conclusive on the influence of religion on pro-social behavior.

Empathy and Religiosity

Empathy is one of the most genuine expressions of the pro-social behavior. It is about the “natural capacity to share, understand and respond with care to the affective states of others, plays a crucial role in much of human social interaction from birth to the end of life” (Decety, 2012, p. vii). Empathy has been conceived by many authors as a primary motivational force and an essential underlying mechanism which includes affective and cognitive components. The first reflects a primary emotional response to the suffering of others and a sense of good will towards people. The cognitive component of empathy allows the ability of understanding pain and sorrow of others and assume its own perspective. Early in the life, empathy is a relatively stable pattern over time and across different contexts and species (Ben-Ami Bartal, et al, 2011). Finally, empathy is a reliable predictor of pro-social behavior (Light & Zahn-Waxler, 2012).

Because empathy occurs very early in the life of individuals, and it is also present in some lower species, there are those who do not doubt to give it a biological or innate condition, a characteristic which may be sufficient for its exercise. However, as it was pointed out before, it is also evident that it is possible to find it among individuals, those who show greater or lesser degree of empathy, pointing out probably some contextual influences (social and cultural) that could explain such differences. An example is the influence of the membership of a particular social group which makes its members express greater empathy with each other and in a lesser degree with people of the out group persons (Meissner & Brigham, 2001). In other words, the group identity (social, ethnic, national, religious, etc.) has the possibility of influencing the empathic capacity of people who share it.

As we discussed above, religious groups develop strong group identities and therefore, it is expected that the emphatic behavior of its members would be much more evident among them than with people who are recognized as strange to its principles, values and beliefs.

Therefore, the investigation of the relationship between religiosity and empathy has the purpose of examining some of the multiple socio-cultural influences that can affect it in any direction.

Among the backgrounds that seek to clarify this relationship, Hardy et al., (2012), in a sample of adolescents, explored the moral identity as mediator between religiosity and empathy. Religiosity was defined as the degree of commitment expressed in interpersonal relationships. It was found that the empathy was directly related to the religious commitment.

Likewise, religious commitment allowed predicting moral identity that could be a leading mechanism towards positive social interactions.

On the other hand, Watson et al. (1985) studied the relationships between religiosity and the empathy dimension in a sample of university students. They measured the degree of orthodoxy, altruism, empathy, religious orientation, and evaluative dependence. Data showed a clear relationship between religiosity and emotional empathy, and cognitive perspective-taking and empathy. These results help to understand the motivations of religious people in situations of need and support. In the same direction, Ayten, (2013), in a sample of Turkish Muslims, found that there is an important relationship between religiosity and providing-help behavior, between religiosity and empathic disposition.

To the argument that altruistic impulses mediated by empathy are part of the individual's genetic heritage, and that religion extends further this potential, Duriez, (2004) postulated that this is not always possible to demonstrate. In his research, carried out with Belgium-Flemish students, he found that the relationship between religiosity and empathy should be understood in terms of how individuals process religious contents, instead of people being religious or not. In this way, the author verified that, while empathy was not associated with being religious or cute or nice, it was related with the processing of the religious content in a symbolic way; and Zhao (2012) adds that it is not religion *per se* that influence the altruistic behavior, but rather the moral foundations that may or may not be an attribute of religious people. More recently, Decety et al., (2015) evaluated the religiosity of a group of parents in six different countries, as well as the altruism, empathy, and justice perception of their children between 5 and 12 years of age. The results showed that most religious parents reported greater empathy and sensitivity towards justice in their children, than those less religious. However, the religiosity of parents predicted inversely the altruism of their children and correlated positively with their punitive trends. These results clearly challenge the view that emphasizes the positive influences of religion on pro-social behavior.

Moreover, Huber II and MacDonald (2012), tried to go further, and in addition to setting up a simple relationship between empathy and altruism, they incorporated the spiritual dimension as an element of mediation between both constructs. The authors argued that although altruism and empathy are related, the spirituality of the person, acts as a modulator of that relationship. It was mentioned that empathy is positively related both with non-religious spirituality and religiosity, and negatively with existential well-being. Regression analysis showed that the non-religious spirituality was an important predictor of empathy and altruism. Thus, it is clear there are influences which limit, exacerbate, and clarify the expression of empathy, in such a way that its relationship with religiosity does not follow a linear or one-dimensional logic. Therefore, it seems necessary to further explore the features of the empathic response, considering carefully the influences that modulate variables such as religiosity, spirituality, antisocial and pro-social behavior, etc., in its different forms.

The purpose of the present research is therefore, to study causal relationships between pro-social/antisocial behavior, religiosity, spirituality, and empathy concern, considering also the influence of certain variables such as age, sex, religious creed and ethnicity. The following problems guided this purpose: a) what will be the relative contribution of pro/anti-social behavior, religiosity and spirituality, to the explanation of the empathic concern? b) which is the predictive power of pro/anti-social behavior, religiosity and spirituality, on the

empathic response? c) what is the relative influence of religiosity on empathy, in a sample mainly composed by practicing Catholics? And d) would it be possible to suggest a preliminary conceptual model, relatively well adjusted and of acceptable validity, of the empathic concern, starting from variables studied in the present research?

Method.

Sample and participants. A convenience sample of 295 young university undergraduate students, aged between 16 and 28 ($M = 20.73$, $SD = 1.825$) were recruited from a local university. 152 were female (51.5%) and 143 male (48.5%). Despite being a Catholic institution, 112 (38%) of the sample recognized themselves as not fully Catholic or as non-practicing Catholics (15.9 non-Catholic Christian, 8.1% agnostic, 6.1% atheist, and 7.8% other religious denominations). 183 (62%) acknowledged being practicing Catholic. Complementarily, 69 (23.4%) were identified as descendants members of the Aimara ethnic group, and the remaining 226 (76.6%) identified themselves as non-Aimara mestizo or European-origin population.

All participants were informed about the nature and purpose of the study and received their voluntary informed consent before applying the data gathering procedures. The socioeconomic family context of participants can be characterized as middle income citizens, residents of the cities of La Paz and El Alto (Bolivia).

Procedure. The survey was conducted through the application of several scales which took approximately between forty-five minutes to an hour to complete. The scales were administered in Spanish during a regular class period. All participants offered socio-demographic and religious information.

Variables. The independent variables considered in the present research were the following: a) socio-demographic and religious variables (age, sex, educational background, socioeconomic status and professed religion), included at the first section of the testing battery ; b) antisocial behavior, measured by a well-known instrument (Elliott, Huizinga & Menard, 1989); c) pro-social behavior, assessed with the Self-report Scale for Adult Pro-socialness (Caprara et al., 2005); d) Religiosity (frequency of religious practices and beliefs or religious experiences) was measured by the Duke University Religion Index (Durel), (Koenig & Büssing, 2010); and e) Spirituality, (spiritual practices and spiritual needs), was valued by the Parsian-Dunning Religiosity Questionnaire (Díaz-Heredia, Muñoz-Sánchez & De Vargas, 2012). The dependent variable was cognitive and affective empathy, measured by Empathy Basic Scale (Jolliffe, & Farrington, 2006).

Measurement instruments. The statistical information concerning the instruments that were applied in the present research is described below:

Antisocial Behavior Scale - Young Adults (Cho et al, 2009). The original ASBS is a 16 item instrument with five response options (from 1 = *never* to 5 = *always*) measuring antisocial behavior in adolescents (lying, stealing, and cheating). In the present study, two items were removed to adjust ASBS to young adults' sample. A previous adaptation research to Bolivian populations (Guillén, et al., 2015), reported suitable reliability data (Cronbach's Alfa = .935). The construct validity through EFA (Principal Component's extraction method) recommended a mono-factorial scale structure, explaining 53% of the variance. CFA estimated almost successfully all its parameters. For the present study, even though CMIN/df

= 3.488, $p = .000$, did not show a good result, other indexes seemed to be more relevant: RMR = .035; CFI = .963 and RMSEA = .051.

Adults Pro-Socialness Scale (Caprara, et al., 2005). The APS, a 16-item scale with five Likert type response options (from 1 = *never* true to 5 = *almost* true), measured pro-social behavior (sharing, helping, taking care of, and feeling emphatic with others). The authors found that “this [...] scale had already demonstrated very adequate psychometric qualities including that of tapping into a single factor or trait dimension of pro-socialness, a necessary prerequisite for employing most IRT models, [...] majority of the items were moderately discriminative and appropriate to differentiate adults with a middle level of prosocialness” (p.87). The APS application to the Bolivian population provided the following information: Reliability analysis was acceptable with a Cronbach’s Alpha = .886; EFA (Principal Component’s extraction method) recommended a three factor scale structure, explaining 53.7% of the total variance. The panorama for CFA was as follows: CMIN/df = 190.744, $p = .000$; RMR = .036; GFI = .927; y RMSEA = .060.

The Parsian-Dunning Religiosity Questionnaire (Diaz-Heredia, Muñoz-Sánchez & De Vargas, 2012), in its original version, is a 29-item scale aimed to assess three components: self-consciousness, importance of spiritual beliefs, spiritual practices and spiritual needs. It is a Likert type scale with five response options (from 1 = *totally disagree* to 5 = *totally agree*). The Spanish adaptation obtained an acceptable total reliability (Cronbach’s Alpha = .88). The EFA recommended a four-factor scale structure, explaining the 52.6% of the variance and the CFA confirmed that the model was capable to estimate successfully all its parameters (GFI= .998; AGFI = .992; RMSEA = .000). In the present study, spirituality was measured only with the sub-scales spiritual practices and spiritual needs. Statistical values raised from its application in the Bolivian sample reported a good reliability for both sub-scales (Cronbach’s Alpha SP = .76; SN = .79). The EFA, as expected, recommended a two-factor scale structure, explaining 44.1% of the variance, and CFA showed the following indexes: CMIN/df = 128.137, $p = .000$; RMR = .051; GFI = .945; y RMSEA = .053.

The Duke University Religion Index DUREL (Koenig & Büssing, 2010), is a five item Likert type scale, used for measuring religiosity. Authors reported a high test-retest reliability (intra-class correlation = 0.91), high internal consistence (Cronbach’s alpha’s = 0.78–0.91) and high convergent validity with other measures of religiosity (r ’s = 0.71–0.86). The application of DUREL in the Bolivian sample reported a good general reliability (Cronbach’s alpha’s = .87); EFA recommended a mono-factorial structure, explaining 67.29 % of the variance.

Empathy Basic Scale (Jolliffe & Farrington, 2006). The brief version of EBS (Oliva et al., 2011) has nine items and it can be applied to measure global empathy; nevertheless, it can also be used to evaluate cognitive and affective empathy independently. Even though, the factorial validity of this short version of the BES was put in doubt by Merino-Soto and Grimaldo-Muchotrigo (2015), the EFA obtained in the Bolivian sample, recommended a two-factor scale structure, explaining 58.4% of the total variance. The global reliability obtained in the Bolivian sample, showed an acceptable Cronbach’s alpha = .82) and reliability indicators for both sub-scales (Cronbach’s Alpha CE = .76; AE = .79) seems also to be in good shape. CFA, reported CMIN/df = 34.413, $p = .007$; RMR = .041; GFI = .976; and RMSEA = .059.

Data analysis

Data analysis followed a sequential strategy (Roth, 2012, Guillén et al., 2015): After confirming both, the reliability and validity of the measurement, each research question was tested proving the relationship between variables through Squared Chi and correlation calculation, and the relation of each variable with the dependent variable (Empathic concern). Afterwards, a linear regression procedure was designed to identify variables with empathic concern prediction potential. Finally, a multivariate structured equation modeling was implemented to test the theoretical relevance in which the latent variables corresponded to those studied with linear multiple regression analysis. In all cases, SPSS software was used, except for the structural equation modeling which used AMOS (Byrne, 2009, Roth, 2012).

Results

Descriptive statistics. Table 1 presents descriptive information regarding age, gender, religious and ethnic variables. The participants of this study were divided into two wide categories: low ($n = 160$, 54.23%) and high ($n = 135$, 45.77%) empathy concern levels. From this Table, it is clear that female gender ($\chi^2 = 16.63$, $p = .000$) and religious practices ($\chi^2 = 11.68$, $p = .001$) are clearly associated with higher levels of empathy. These global results are in line with contemporary theory.

Table 1. Age, gender, ethnicity, Religion and empathy level of the sample.

Variable/Category	Low Empathy (N=160)		High Empathy (N=135)		Total (N=295)		High/Low Empathy
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Age:							Cochran`s X ² = .02 ($p = .886$)
17-20 Años	76	47.5	63	46.7	139	47.1	
21-25 Años	84	54.2	72	53.3	156	52.9	
Gender:							Cochran`s X ² = 16.63 ($p = .000$)
Male	95	59.4	48	35.6	143	48.5	
Female	65	40.6	87	64.4	152	51.5	
Ethnicity:							Cochran`s X ² = 2.24 ($p = .087$)
No Aimara origin	128	80.0	98	72.6	226	76.6	
Aimara origin	32	54.2	37	27.4	69	23.4	
Religion:							Cochran`s X ² = 11.68 ($p = .001$)
Profess a religion	127	79.4	126	93.3	253	85.8	
Do not profess a religion	33	20.6	9	6.7	42	14.2	

All the remaining variables of the study were also analyzed confronting both levels of empathic expressions. Table 2 shows the obtained results. As it can be viewed, religiosity experience ($\chi^2 = 20.36$, $p = .000$) and profound believes ($\chi^2 = 10.84$, $p = .001$), are related with high levels of empathy more than the frequency of religious practices. It is also clear that spirituality in all its forms: total ($\chi^2 = 7.58$, $p = .006$), spiritual practices ($\chi^2 = 9.61$, $p = .002$), and spiritual needs ($\chi^2 = 33.10$, $p = .000$), are very close to the empathic exercise.

Table 2. Descriptive cross tabulation analysis of all studied variables, grouped by type, high and low empathic values, obtaining χ^2 indices.

Variable/Category	Low Empathy (N=160) <i>n</i> (%)	High Empathy (N=135) <i>n</i> (%)	Total (N=295) <i>n</i> (%)	High/Low Empathy
Religiosity (Total):				
Low	88 (55.0)	39 (28.9)	127 (43.1)	Cochran`s $\chi^2 = .20.36$ ($p = .000$)
High	72 (45.0)	96 (71.1)	168 (56.9)	
Religiosity (Frequency):				
Low	112 (70.0)	81 (60.0)	193 (65.4)	Cochran`s $\chi^2 = 3.23$ ($p = .07$)
High	48 (30.0)	54 (40.0)	102 (34.6)	
Religiosity (Beliefs):				
Low	67 (41.9)	32 (23.7)	99 (33.6)	Cochran`s $\chi^2 = 10.84$ ($p = .001$)
High	93 (58.1)	103 (76.3)	196 (66.4)	
Spirituality (Total):				
Low	120 (75.0)	81 (60.0)	201 (68.1)	Cochran`s $\chi^2 = 7.58$ ($p = .006$)
High	40 (25.0)	54 (40.0)	94 (31.9)	
Spirituality (practices):				
Low	77 (48.1)	41 (30.4)	118 (40.0)	Cochran`s $\chi^2 = 9.61$ ($p = .002$)
High	83 (51.9)	94 (69.6)	177 (60.0)	
Spirituality (Needs):				
Low	55 (34.4)	20 (14.8)	75 (25.4)	Cochran`s $\chi^2 = 33.10$ ($p = .000$)
High	105 (65.6)	115 (85.2)	220 (74.6)	
Pro-social behavior:				
Low	131 (81.9)	68 (50.4)	199 (67.5)	Cochran`s $\chi^2 = 33.10$ ($p = .000$)
High	29 (18.1)	67 (49.6)	96 (32.5)	
Antisocial behavior:				
Low	148 (93.7)	131 (97.0)	279 (95.2)	Cochran`s $\chi^2 = 1.81$ ($p = .178$)
High	10 (6.3)	4 (3.0)	14 (4.8)	

Finally, as expected, low levels of pro-social behavior are consistently and significantly related with low levels of empathy ($\chi^2 = 33.10$, $p = .000$).

Correlation analysis. Table 3 shows the correlation matrix of the different variables analyzed. As it can be observed, all variables, obtained positive and significant inter-correlation values, showing the close relation among them and especially with empathic concern. The exception was anti-social behavior that, as expected, correlated negatively with all other variables.

Table 3. Correlation matrix (Spearman's rho) of research variables.

	1	2	3	4	5	6	7	8	9
1. Antisocial behavior	1,000								
2. Prosocial behavior	-,214**	1,000							
3. Spirituality	-,210**	,402**	1,000						
4. Spiritual practices	-,217**	,286**	,846**	1,000					
5. Spiritual needs	-,152**	,400**	,865**	,496**	1,000				
6. Religiosity	-,103	,265**	,336**	,377**	,230**	1,000			
7. Frequency of religious practices	-,102	,230**	,292**	,361**	,157**	,887**	1,000		
8. Religious beliefs	-,088	,255**	,321**	,333**	,256**	,927**	,661**	1,000	
9. Empathy	-,035	,481**	,341**	,231**	,357**	,298**	,249**	,288**	1,000

** Correlation is significant at the 0.01 level (2-tailed).

It is also important to note the significant relation among all variables, especially between empathy and prosocial behavior and between empathy and spiritual variables. Nevertheless, high correlation indices were not so high to suspect multicollinearity.

Means Comparison. Table 4 presents t values, derived from mean scores, comparing empathy response in groups that exhibit different values of relevant independent variables: Pro-social behavior, religiosity, spirituality, religion creed and gender. As it can be noticed, the mean differences obtained from low and high levels of pro-social behavior, religiosity and spirituality, were important enough to shed very significant t values. These results indicate that to possess high levels of pro-social behavior, religiosity, and spirituality, could determine also a greater empathic response. The results show, however, that being pro-social, influences more to empathy concern than being religious practicing or a highly spiritual person.

Table 4. T values obtained comparing empathy-concern scores of independent groups with differential values of the following independent variables: pro-social behavior, religiosity, spirituality, religious creed and gender.

Dependent Variable	Prosociality	N	Mean	DS	t	p	Levene's Test	
							F	p
Empathy	Low	199	29.15	5.51	- 7.686	.000	.387	.534
	High	96	34.45	5.63				
	Religiosity							
	Low	127	28.66	6.26	-5.746	.000	3.023	.083
	High	168	32.55	5.36				
	Spirituality							
	Low	201	29.93	6.09	-4.032	.000	.442	.507
	High	94	32.91	5.54				
	Religious Creed							
	Yes	253	31.49	5.77	4.381	.000	.089	.346
	No	42	27.19	6.60				
	Gender							
	Male	143	28.78	5.78	-6.097	.000	.032	.858
	Female	152	32.85	5.68				

In addition, it has wondered if professing a religious faith can be a factor that improves or not empathetic response. To answer this question, the scores of empathy in groups who profess and who do not profess formally a religion have been compared. The results show a strong influence of the *profession of faith* in the determination of the affective and cognitive empathy ($t = 4.381$, $p = .000$). Finally, comparisons of empathy expression levels between male and female, confirmed once again the superiority of women over men ($t = 6.097$, $p = .000$).

Linear regression analysis. As it was shown, all variables incorporated in the present study proved to be significantly related each other and with empathy. Hence, further analysis was needed. Consequently, data was tested through regression analysis, entering the following independent variables: pro-social behavior, religiosity, frequency of religious practices, religion beliefs, spirituality, spiritual practices, and spiritual needs, expecting to identify those variables which could predict empathy concern as a criterion variable.

Initially, the model included all variables without exception. The preliminary results showed that this initial arrangement was not completely satisfactory. After excluding the variables with lower standardized regression values, in a second iteration, the new model accepted only those variables with suitable impact on the criterion variable: pro-social behavior, religiosity and spirituality. The dependent variable was once again empathic concern.

Table 5. Model Summary of variance proportion values explained by the multiple regression model.

<i>R</i>	<i>R</i> ²	Adjusted <i>R</i> ²	<i>S.E.</i>	Durbin-Watson
,576 ^a	,332	,325	5,01510	1,969

a. Predictors: (Constant), Religiosity, Prosocial behavior, Spirituality

b. Dependent Variable: Empathy

Table 5 presents, in the summary, the explained variance of the second model: the adjusted *R*² explained the 32.5% of the total variance of empathic concern, with an independence error (Durbin-Watson) = 1.969. Although this result is not as high as expected, the model presented a very significant ANOVA ($F = 47.612$, $p = .000$) (Table 6).

Table 6. General model analysis of variance with *F* value highly significant.

Model	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Regression	3592,496	3	1197,499	47,612	,000 ^b
Residual	7243,545	288	25,151		
Total	10836,041	291			

a. Dependent Variable: Empathy

b. Predictors: (Constant), Religiosity, Pro-social behavior, Spirituality

From Table 7, it is evident that the most influential variable is pro-social behavior. Nevertheless, the other two also contribute well to the model. The table also confirms, through collinearity diagnosis, the functional independence of the variables studied (Tolerance values not below .742 and FIV values not above 1.348). Finally, graphical information on standardized residual analysis (ZPRED-ZRESID and P-P cumulative probability) confirmed the linearity, normality, and homoscedasticity assumptions of the model.

Table 7. Standardized beta coefficients, t values and collinearity indicators related to the model.

Model	B	SE	β	t	p	Tolerance	VIF
(Constant)	3,744	2,407		1,556	,121		
Prosocial behavior	,310	,040	,425	7,757	,000	,774	1,292
Spirituality	,107	,041	,147	2,621	,009	,742	1,348
Religiosity	,156	,055	,148	2,839	,005	,858	1,166

a. Dependent (criterion) Variable: Empathy

Summarizing, using the enter method, a significant model ($F(3, 288) = 47.612, p < .001$) has been obtained with a R^2 adjusted = .325 with the following significant variables (see Table 8).

Table 8. Beta and p values of relevant predictors in the regression analysis modeling.

Predictor Variables	β	p
Prosocial Behavior	.425	.000
Religiosity	.148	.005
Spirituality	.147	.009

Criterion variable: Empathy

Multi-Causal Model of Empathy. Once verified the strong relationship among research variables (included antisocial behavior) and confirmed their mean differences between its divergent values, and after identifying their predictive orientation, it was decided to test the formulation of a multi-causal model which allows explaining the empathic concern of the university student's sample, mostly comprised by Catholics. The pattern of the relationship among the study variables was examined by means of structural equation modeling (Bentler, 1995; Byrne, 2010) using IBM-AMOS program. The proposed explanatory model is presented in Figure 1.

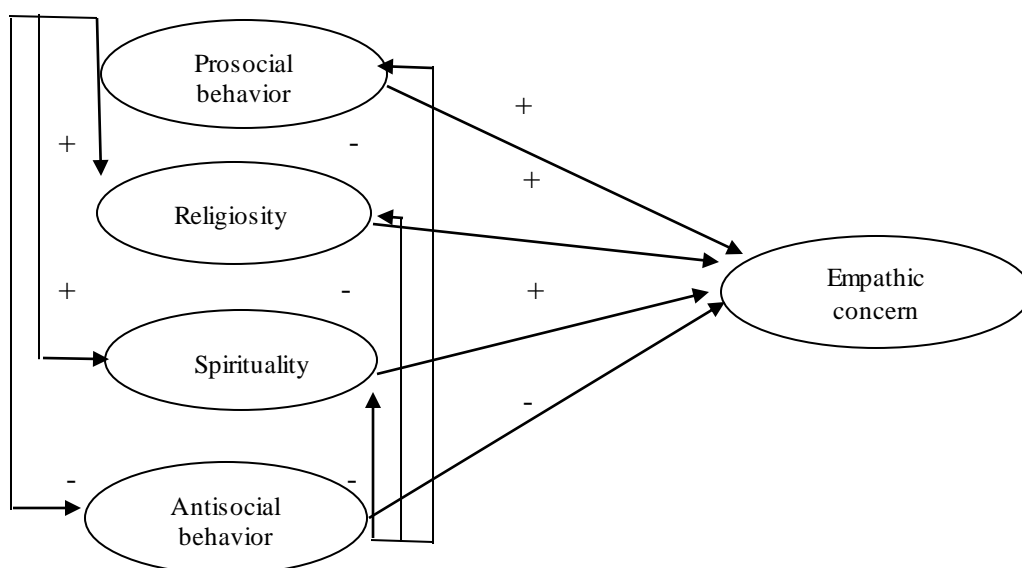


Figure 1. Hypothetical causal structure through which latent variables would affect the Empathic concern of the sample.

Based on classical approaches, the model postulated that the 'religiosity' and 'spirituality' variables would have a clear effect on the empathic concern. Also, it was hypothesized that the 'pro-social behavior' construct would enhance the influence of these variables. Moreover, it was assumed that 'anti-social behavior' would not show any effect on the endogenous variable.

According with the model's goodness of fit, it was obtained a relatively well adjusted structure, corroborated by the following fit indices. Although $CMIN/df = (\chi^2 = 1.587, p < .001)$ resulted insufficient, Comparison Baseline Indicators (CFI = .886) were acceptable, as well as Goodness of fit index (GFI = .803). Moreover ECVI = 7.6 confirmed a Parsimony-like model, and the RMSEA = .045, offered also a good fit.

The estimate results of structured equation modeling (significant beyond the .05 level, with the exception of antisocial behavior), are summarized in the path influence diagram in Figure 2.

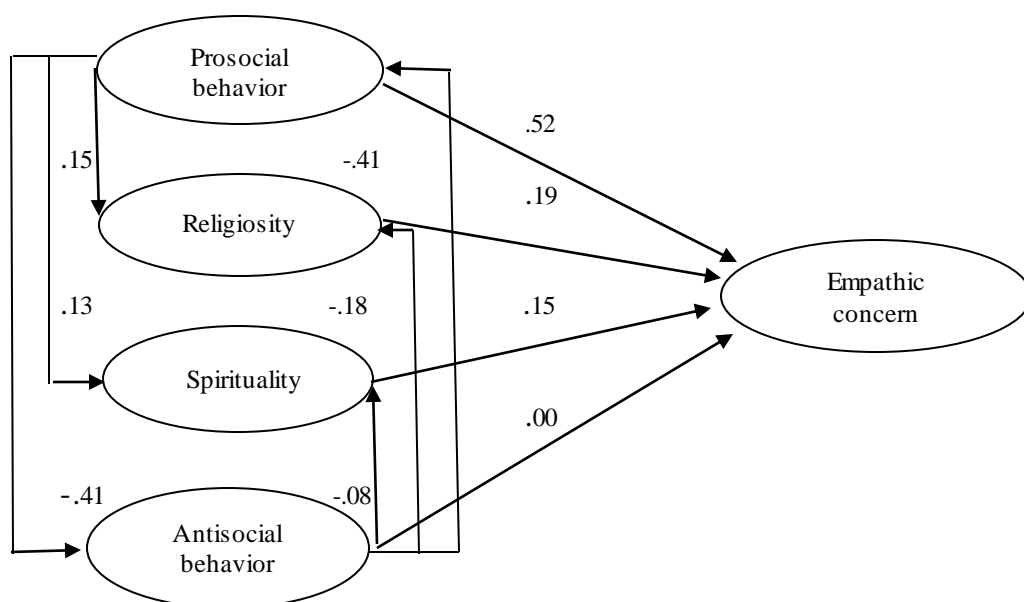


Figure 2. Path diagram summarizing the influential patterns of the model through variables affecting empathic concern, and among latent variables. The numbers correspond to standardized regression weights and covariates.

The output of the process, verified through standardized weights, indicate that three of the four latent variables included in the model, showed a relevant influence on the empathic concern (pro-social behavior = .52; religiosity = .19; and spirituality = .15). The influence of antisocial behavior was dismissed as a source of endogenous variable explanation. The modeling also showed significant covariance between pro-social behavior and religiosity (.15), between pro-social behavior and spirituality (.13), and a significant negative covariance (-.41) between pro-social and antisocial behaviors.

Finally, the squared multiple correlation estimate, confirmed that the three latent variables postulated by the model (pro-social behavior, religiosity and spirituality), would explain 48.3 % of the total variance of empathic concern.

Discussion

This preliminary model seems to confirm the strength of pro-social construct giving us a clear idea about its influence on empathic concern. These results are in line with the contributions of Batson, Schoenrade & Ventis, (1993); and Batson (1998). These authors found that religious practice strengthens moral thinking and hence, pro-social behavior. Also, the results of the present investigation are compatible with the findings of Yodrbum, (2005), which supported the assumption that religiosity enhances or favors the pro-social behavior; and with a study of Hardy & Carlo, (2005), which identifies religiosity as a reliable predictor of pro-sociality.

On the other hand, the model here proposed, suggested (with MacDonald, 2000) that engaging in active religious practice, as well as in a proper personal management of spiritual life centered on people, are also determinant conditions for enhancing empathic response.

Complementarily, in this model, antisocial behavior, which correlated negatively with empathy, pro-social behavior and with religiosity, lacks of influence or inhibits the endogenous variable. There is evidence that support the argument that the empathic concern and positive emotions are reliable inhibitors of proactive aggressive conduct. (Euler, Steinlin & Staddler, 2017; Cristina-Richand & Mesurado, 2016). Hence, it is possible to support that antisocial behavior could affect negatively empathic behavior (Marshall & Marshall, 2011) and perspective taking (Yavuz et al, 2016).

In the same direction, the model conceived antisocial behavior as a mean to reduce or limit the religiosity and spiritual expressions, and such effect would impact negatively the empathic response.

In this respect, Simons et al (2004) reported that parents with strong religious orientation reduced the probability of child misconduct by promoting religious commitment among their children and decreased the probability that children would experiment with delinquent behavior. Laird, Marks & Marrero (2011), informed of antisocial and rule-breaking behavior among adolescents with low religious commitment, compared to adolescents reporting high religious involvement. Koenig, McGue, Krueger & Bouchard Jr. (2007), confirmed religiousness as a protective factor against antisocial behaviors and a positive influence on pro-social behaviors.

Yonker, Schnabelrauch & DeHaan (2012), conducted a meta-analytic review of spirituality effects on late adolescence across 75 studies. Results showed significant main effect sizes of spirituality and religiosity, with several outcomes in risk behavior and wellbeing, concluding that involvement in spiritual development would be a protective factor. Concerning mutual influences between antisocial behavior and spirituality in a Latin American country, Salas-Wright, Olate & Vaughn (2013), suggested that spirituality and, to a lesser extent, religious coping, protect Salvadoran youth at risk for involvement in delinquent behavior.

Finally, the model derived in the present study, offered a hierarchy of variable influences over empathy: pro-social behavior, independently of other variables, contributed most to the understanding of the empathic response. Similarly, religiosity and spirituality showed also causal influence, although in a lesser amount.

There are reasons to think that the theoretical model proposed, which considered pro-sociality, religiosity and spirituality as determinants of empathic response indeed influence it in causal terms. This could mean that the results are in line with established by the mainstream theory, whose wealth of information supports the contemporary research evidence. However, at this point, we must remember the suggestion of Batson et al (1993) that warns about the methodological trend that privileges, in this type of research, the use of paper and pencil-based measures, susceptible to social desirability bias and recommends the practice of experimental direct manipulation in game situations derived from behavioral economics. It is likely that, as it was demonstrated by Decety et al (2015), the use of new methodologies would bring under consideration new relationships so far unexplored.

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