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PSYCHOLOGICAL AND PHYSICAL INDICATORS OF A TRANSCENDENTAL POSITIVE ENVIRONMENT AND ITS IMPACT ON SUSTAINABLE BEHAVIOR

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Abstract
Based on the premise that an environment is positive if it satisfies human needs and, in addition, instigates the conservation of natural and social resources, this research aimed at empirically testing a model of transcendental positive environment. One hundred and twenty Catholic Mexicans responded to an instrument that evaluated sense of transcendence, religiosity, and physical characteristics of the temples they attended. The instrument also measured the self-report of sustainable behaviors. By using structural equations, two higher-order constructs were modeled: "transcendental environment" and "sustainable behavior", the former indicated by the interrelations among three first-order factors: temples' physical elements, transcendence, and religiosity, and the latter, indicated by four factors (proecological, altruistic, frugal and equitable behaviors). The higher-order factors emerged coherently from their indicators, and the transcendental environment factor significantly and positively influenced the sustainable behavior factor. Implications of these results for the study and promotion of sustainable behaviors are discussed within the framework of positive environments theory.

Keywords: sustainable behavior; transcendence; religiosity; positive environments

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Introduction

Most experts and lay people tend to define *positive environment* (PE) as a context that provides benefits to individuals (Corral, Frías, Gaxiola, Tapia, Fraijo, & Corral, 2014). The traditional vision of a PE conceives it as a place wherein people can meet their needs and obtain resources to thrive and prosper. According to this view, positive environments are settings that condition the development and growth of people and their potential. In these environments, physical, mental and social well-being is promoted and life satisfaction is experienced (Valera & Vidal, 2017). Some specific scenarios encompassing environmental positivity include families, work scenarios, institutional environments, cities, legal institutions, and transcendental positive environments (Corral et al., 2014), among others. According to this notion of environmental positivity, a positive environment allows contact with tangible conditions such as food, shelter, clothing, etc., and intangible conditions: prescriptions, social support, rules, models of behavior, and other factors that enable wellbeing, social and individual progress.

Although everybody agrees with the notion of positive environments as providers of benefits, some authors claim that an element is missing in such conception of environmental positivity: In order to be fully positive, an environment should *provide* benefits, but also *ask* for some benefits in reciprocity. Therefore, in this ecological view, environmental positivity implies that people receive (material, social) resources, but also that they protect those resources (Corral & Frías, 2016).

A positive environment not only guarantees the quality of human life, which is indicated in the traditional vision, but also ensures its preservation; in other words, a positive environment is *sustainable*, capable of meeting human needs but also of enduring throughout time. In a PE, people engage in pro-ecological behaviors aiming to conserve their physical milieu: recycling and reusing objects, conserving energy, optimizing water consumption, conserving ecosystems. In addition, they protect their social environment by practicing altruistic actions, volunteering to help people in need, and being fair and equitable with others (Tapia, Corral, Fraijo, & Durón, 2013).

Transcendental environments are, to many individuals, important contexts of their daily lives. In those environments, people satisfy spiritual needs, and sometimes they are also driven to assist others in need. A *positive*

transcendental environment includes places, situations, institutions or programs that facilitate the connection between individuals and a transcendental entity (God, a Higher Power, life, an ideal, etc.). In this environment, individuals obtain psychological and tangible benefits (health, consolation, hope, happiness) and also practice behaviors that protect the physical and social environment (Corral et al., 2014). The above definition is based on the premise that individuals with higher levels of spirituality tend to protect the physical and social environment, performing proecological, austere, altruistic and equitable behaviors, which make them to feel good, experience satisfaction with their lives, and gain personal growth.

There are antecedents in the literature that support the ecological vision of positive environments. A positive home not only provides affection but also incites it (Sheridan & Burt, 2009). Positive schools are characterized by high-quality education services but also by students striving to learn (Ladd, Buhs, & Seid, 2000). Positive and successful companies implement fair labor procedures and also have productive and positive workers (Salanova & Schaufeli, 2004). A high-quality city is clean, safe, and provides excellent services because its government works well but, in addition, its citizens contribute to maintain those qualities (Moser, 2012).

In a study of environmental positivity in families, Corral-Verdugo et al. (2015) found that in homes with favorable physical conditions and positive (affectionate, democratic) social environments people tended to engage in pro ecological, frugal, altruistic and equitative behaviors, both within and outside the household. This finding supports the idea that a positive family constitutes a sustainable environment, meeting the needs of its members and also stimulating the conservation of the social and natural environment.

Addressing the topic of positive transcendental environments, Barrera-Hernández, Corral-Verdugo, Tapia-Fonllem, and Fraijo-Sing (2015) developed a study of semantic networks of the positive spiritual environment concept. The words included in the core of the network, due their higher semantic weight were: peace, God, tranquility, love, faith, church, well-being, happiness and relaxation. Emphasis was placed on the personal benefits of spirituality and the physical conditions of the environment that favor them. These contrasted with a null mention of terms that reveal an interest for environmental. This seems to reflect the traditional notion of a positive environment, which only attends to the benefits that individuals derive from it. In the present study we delve into this

aspect by investigating the reports that people provide regarding their pro-environmental behaviors, relating them to the perception of benefits they obtain from a spiritual environment.

Transcendence, religiosity and sustainable behavior

Piedmont (1999) defines spiritual transcendence as the capacity to perceive life from a broader and more objective perspective. This author identifies some components that make up spiritual transcendence, including a sense of connectivity, universality and fulfillment of prayer; in addition, he indicates other facets such as tolerance of paradoxes, the ability to accept life, a sensitivity to others' needs and pain, existential experience, and gratitude.

Peterson and Seligman (2004) regard transcendence as a virtue that allows individuals to forge connections with the universe, providing meaning to their lives. Six character strengths are embedded in this virtue; spirituality is one of them, which is considered as the prototype of transcendence. Although spirituality is defined differently by these authors, it always refers to beliefs and commitment to the transcendent (non-material) aspects of life, be they universal, sacred or divine. Therefore, since transcendence is a human condition by which people perceive a connection with themselves, other people, the environment (Piedmont, 1999) and the significant or sacred (Puchalski et al., 2011), a relationship between transcendence, prosocial and pro-environmental actions is expected.

Transcendence and religiosity, in spite of being terms that apparently describe different concepts, are not totally independent (Zinnbauer et al., 1997). Nervi (2011) points out that these are differentiable constructs but at the same time closely related and sometimes complementary. The concept of transcendence alludes meaning, connectivity, spirituality, subjectivity, purpose, interior plenitude, compassion, ecumenism, existentialism, hope, inner experience and life improvement. On the other hand, religiosity includes concepts such as institutionalism, beliefs, rituals, doctrine, tradition, belief system, explanation of the mystical, the public and the social.

Research evidences significant relations between conservation of the physical and social environment, transcendence and religiosity. Gutiérrez (1996) described the values of transcendence and its relationship with proecological behavior. In Hungary, Csutora and Zsóka (2012) found that transcendence is relevant to pro-ecological behavior, sustainable consumption, happiness and

satisfaction with life; they also point out that people who attend church more than once a month perform on average more pro-environment activities than those who never go to a temple.

Additional results indicate that the value of self-transcendence is a predictor of pro-environmental behavior. Schultz et al. (2005) found that self-transcendence values predict concern about environmental problems. In Mexico, Corral-Verdugo, Tapia-Fonllem, and Ortiz-Valdez (2015) conducted a study on the relation between human virtues (transcendence, moderation, justice, humanity, courage, wisdom) and sustainable behaviors (including pro-ecological behavior, frugality, equity and altruism). They found high, significant and positive correlations between human virtues and all the instances of sustainable behavior. Transcendence correlated with proecological behavior (r=.69, p<.001), frugality (r=.73, p<.001)**,** equity (r=.42, p<.001), and altruism (r=.73, p<.001).

Likewise, Chairy (2012) found that transcendence is a significant predictor of green shopping intent, and Felix and Braunsberger (2016) reported that consumers with higher levels of intrinsic religious orientation were more likely to buy environment friendly products. Eckberg and Blocker (1996) mention that the findings of their study support the premise that Christian theology has an anti-environmental component. However, they also found evidence of a pro-environmental effect of religious participation, pointing out that it is possible that the negative effect of Christian beliefs be due in large part to a fundamentalist component. Although this effect could be part of theological orientation, it could also constitute a matter of conflict between conservative and liberal religious views.

Dietz, Stern, and Guagnano (1998) found that religious denomination is related to willingness to sacrifice, consumer behavior and willingness to sign a pro-environmental petition, in addition that fundamentalists tend to be less pro-ecological than those who follow a more moderate view of religiosity. Minton, Kahle, Jiuan, and Tambyah (2016) found that non-religious consumers were less sustainable than Christians, $t_{(1471)}$=2.46, p<.014; Hinduists, $t_{(1471)}$=2.36, p<.018; and Muslims, $t_{(1471)}$=2.53, p<.012. Also, non-religious consumers had less pro-environmental views than Hinduists, $t_{(1471)}$=3,33, p<.001, and Muslims, $t_{(1471)}$=2,83, p<.005. Finally, non-religious consumers were less likely to volunteer in pro-environmental causes than Buddhists, $t_{(1471)}$=3,89, p<.001; Christians, $t_{(1471)}$=5,73, p<0,001; Hinduists, $t_{(1471)}$=6,47, p<.001; and Muslims,

$t_{(1471)}$=6,35, p<.001. Those authors concluded that religiosity is a key variable in understanding consumer behavior.

Cui, Jo, and Velasquez (2015), in their study of Christian religion and environmental decisions in company managers, found a negative association between environmental practices of business managers and religiosity, noting that this was an unexpected result because it contrasts with the explicit teachings of Christians who have a moral obligation to protect the environment.

Stamatoulakis (2013) investigated religiosity as a predictor of prosociality through a literature review of studies conducted between 2005 and 2010 in the databases of EBSCO, Sheffield University, PUBMED, and other psychological and sociological databases. He reviewed six investigations and found that religious people tend to express more prosocial behavior and concluded that a connection exists between religiosity and prosociality. Saroglou, Pichon, Trompette, Verschueren, and Dernelle (2005) investigated the impact of religiosity on prosociality, conducting four studies. Results of study 1 showed that religious youths tended to be non-aggressive when dealing with annoying hypothetical daily situations. In study 2 the religiosity of students was associated with their willingness to help close people in hypothetical situations, but the effect was not extended to unknown people. In study 3 and 4, religious persons reported high levels of altruistic and empathic behavior, and were also perceived as such by their peers (friends, siblings, or colleagues) in three out of four cases. Finally, the authors concluded that in all four studies the impact of religiosity on prosociality is limited, but existing, and does not reflect self-deception.

The studies above reviewed address the relationship between spirituality and sustainable behavior, based on a psychological dispositional perspective. In other words, spirituality is studied as a personal tendency and the influence of contextual factors on spirituality is minimized or implicitly assumed. Since all individuals always behave in a situation and those situations influence the development of dispositions to act (Corral & Frías, 2016), it is important to investigate the combination of situational and dispositional influences on spirituality and, subsequently, the effect that the latter has on sustainable behavior. To achieve this, it is necessary to use of a conceptual scheme allowing the study of environmental and psychological variables, in an integrated way, and how they influence the sense of transcendence that a person deploys.

Objective

Therefore, the present research aimed at analyzing the relationship between positive transcendental environments and sustainable behavior. The study of this link uses the theoretical approach of Positive Environments as developed by Corral and Frías (2016).

Method

Participants

One hundred and twenty individuals at a northwestern city of Mexico (60.8% women, 39.2% men) participated in this study. All of them professed the Catholic religion, and were aged between 17 and 71 years old, with an average age of 36.81 years (*SD*=14.02), of which 39.2% had professional studies, 28.3% high school, 16.7% secondary, 7.5% primary, 3.3% truncated professional studies and 1.7% masters.

Instruments

A scale was used to assess *spiritual transcendence*: Respondents reported the degree of agreement with 16 items that present affirmations regarding connection with people, purpose in life, tolerance to paradoxes, gratitude and prayer. The degree of agreement is established with five response options ranging from strongly disagree (0) to strongly agree (4). Piotrowski, Skrzypinska, and Zemojtel-Piotrowska (2013) reported the psychometric properties of the scale, which was adapted for the purposes of this research, checking again its validity and reliability in the studied sample.

One more scale was used to measure *religiosity*; this instrument reports the frequency of practices related to religious actions, such as attending mass on Sundays, fasting when indicated by Church, praying the rosary, among others. The scale uses four response options ranging from never (0) to always (3). The scale was developed for the purpose of the present investigation, checking its psychometric properties in the studied sample.

In addition, the *physical elements of churches* or temples, such as facade, temperature, lighting, beauty, ornaments, among others, were evaluated through an 11-item scale, with which participants rated those items with a Likert scale of 10 points ranging from (0) unsatisfactory to (10) very satisfactory.

Actions of *altruism* were measured through a scale of 10 items describing selfless behaviors of assistance to others such as donating blood, visiting the sick, financially assisting the Red Cross, among others. The response scale is Likert type; the participants self-reported the frequency with which they perform these behaviors through four response options ranging from never (0) to always (3). Corral-Verdugo et al. (2010) reported the use of this scale providing indicators of validity and reliability.

Pro-ecological behavior was evaluated using Kaiser's (1998) General Pro-ecological Behavior Scale (1998), adapted by Tapia, Fraijo, Corral, Gutiérrez, and Tirado (2006) into a reduced instrument of 16 Likert-scale items with options ranging from never (0) to always (3). Participants self-report the frequency of actions directed to protect the natural environment, such as recycling, conserving energy and water, avoiding the use of insecticides, etc.

Equity actions were also investigated, utilizing seven items assessing fair, non-discriminatory practices including sexual, age, socioeconomic and racial equity. The scale developed by Corral-Verdugo et al. (2010) was used to determine the degree of agreement with equity statements, using a scale of response that goes from totally disagree (0) to totally agree (4).

Frugality was assessed through a scale developed by Corral and Pinheiro (2004), which evaluates austere behaviors such as reusing clothes, buying what is strictly necessary and living without luxuries. The scale consists of 10 items with four response options ranging from never (0) to always (3).

Procedure

Data was collected by graduate students outside a number of Catholic temples of the city of Hermosillo, Mexico. They were asked to participate in the study and their informed consent was obtained, guaranteeing confidentiality of the obtained information. The administration of the instruments took about twenty minutes.

Data analysis

Results were analyzed using univariate statistics (means, standard deviations and frequencies); the internal consistency of every scale was estimated by calculating Cronbach's alpha with SPSS version 21.0. Interrelations among variables were obtained. A structural equation model was specified and tested, using EQS 6.1. Seven first-order factors were specified: 1) transcendence, 2) religiosity, 3) physical elements of temples, 4) frugality, 5) proecological

behavior, 6) altruism and 7) equity. The first three factors subsequently integrated a second-order factor of "positive transcendental environment", and the last four conformed the second-order factor of "sustainable behavior". The structural model assumed that the transcendental positive environment should significantly influence sustainable behavior.

Results

Table 1 shows the univariate statistics of the scales, as well as their internal consistency. Since the range of responses to pro-ecological, altruistic, frugal, and religious behavior scales ranged from 0 to 3, and the range of responses to the equity and transcendence scales ranged from 0 to 4, we can conclude that the participants reported moderate levels of altruism (M=1.62, *SD*=.47), pro-ecological behavior (M=1.56, *SD*=.39), frugality (M=1.93, *SD*=.43), and religiosity (M=1.60, *SD*=.71), while their report of transcendence produced higher values (M=2.80, *SD*=.68) and even higher were those of equity (M=3.34, *SD*=.59). The level of satisfaction with the temple's physical elements was high (M=8.25, *SD*=1.46; considering a range of response from 0 to 10).

Beauty of the temple, followed by temple's dimensions (size) and good material condition were t*he physical elements of the church* that provided higher satisfaction. Attending mass on Sundays, conducting an examination of conscience, and financially supporting the Church were the *religious actions* most frequently reported by the participants, while the highest means in *transcendence* referred to being grateful for received opportunities in life, perceiving every moment of life as important, feeling that struggling with difficulties enriches own life, and finding strength or inner peace from prayers or meditations. Helping people who fell or hurt, followed by guiding people to find some direction were the most *altruistic* actions enunciated by the participants, while the most self-reported *pro-ecological behaviors* included turning off the air conditioning when leaving a room and waiting to have a full load to use the washing machine. Avoid purchasing jewels was the most recognized facet of practiced *frugality*, while, for *equity*, treating all peers as equals regardless of their social origin and treating indigenous people in the same way respondents treat the rest of people obtained the highest scores. The Cronbach alphas of the scales ranged from .64, the minimum, to .90, the maximum, indicating an adequate level of internal consistency.

Table 1. Univariate statistics and reliabilities of used scales

Scales / items	*Min*	*Max*	*Mean*	*(Sd)*	*Alpha*
Physical elements of the church					
How would you rate the following elements of this temple? 1. Ornaments.	0	10	8.44	1.95	
How would you rate the following elements of this temple? 2.Size	3	10	8.63	1.62	
How would you rate the following elements of this temple? 3.Beauty	4	10	8.66	1.56	
How would you rate the following elements of this temple? 4. Conservation	0	10	8.56	1.66	
How would you rate the following elements of this temple? 5.Flowers	0	10	8.17	2.48	
How would you rate the following elements of this temple? 6. Aesthetic façade	0	10	7.85	2.52	.90
How would you rate the following elements of this temple? 7. Illumination.	0	10	8.46	1.90	
How would you rate the following elements of this temple? 8. Peacefulness	0	10	8.44	1.92	
How would you rate the following elements of this temple? 9. Temperature.	0	10	7.45	2.48	
How would you rate the following elements of this temple? 10. Odor.	0	10	7.84	2.21	
How would you rate the following elements of this temple? 11. Quietness.	0	10	8.31	1.83	
Religiosity					
1. Attend Mass on Sundays and holidays.	0	3	2.01	0.82	
2. Go to confession with the priest.	0	3	1.4	0.94	
3. Commune.	0	3	1.59	0.95	
4. Fast on the days ordered by the Church.	0	3	1.29	1.01	
5. Abstain from meat on days ordered by the Church.	0	3	1.71	1.02	
6. Assist in the economic needs of the Holy Church.	0	3	1.77	0.87	.89
7. Perform self-examination.	0	3	1.92	0.94	
8. Attend Holy Hour.	0	3	1.29	1.01	
9. Pray the Rosary.	0	3	1.47	0.99	
Transcendence					
1. I experienced deep satisfaction and joy trough prayer or meditation.	0	4	3.04	1.04	
2. I find inner strength and/ or peace from my prayers or meditations.	0	4	3.08	1.02	
3. There is a higher plane of consciousness or spirituality that binds all people. all people	0	4	2.73	1.10	.90
4. I pray or meditate to obtain a higher level of spiritual consciousness.	0	4	2.59	1.25	

Table 1. Univariate statistics and reliabilities of used scales - *continued*

Scales / items	*Min*	*Max*	*Mean*	*(Sd)*	*Alpha*
5. When I pray or meditate, I forget about the events of this world.	0	4	2.16	1.17	
6. I feel that I am a part of a bigger cause, exceeding me.	0	4	2.62	1.18	
7. I feel I am a better person due to participating in causes more important than me.	0	4	2.82	1.02	
8. It is worthwhile to subordinate your entire life to a really important cause.	0	4	2.6	1.11	
9. I really admire persons who sacrificed everything for the sake of important causes.	0	4	2.43	1.28	
10. Participating in the realization of important causes gives me a sense of purpose in life.	0	4	2.69	1.12	
11. I am grateful for the chances I have received in my life.	0	4	3.51	0.69	
12. Every moment of my life is important to me.	0	4	3.44	0.80	
13. I feel that fighting with difficulties really enriches me.	0	4	3.08	0.90	
14. World is interesting thanks to including plenty of contradictions.	0	4	2.39	1.05	
15. In many situations, truth is more complicated than it appears.	0	4	2.82	0.95	
16. I am concerned about those who will come after me.	0	4	2.83	0.95	
Frugality					
1. Does not buy a new car if old one functions.	0	3	1.61	1.13	
2. Wears same clothing.	0	3	2.01	0.83	
3. Wouldn't buy jewelry.	0	3	2.43	0.68	
4. Buys lots of shoes.	0	3	2.17	0.83	
5. Buys more food than needed.	0	3	1.74	0.85	.64
6. Uses most earnings for buying clothing.	0	3	2.22	0.71	
7. Always takes meals at home.	0	3	2.08	0.75	
8. Rather walks than drives.	0	3	1.84	1.00	
9. Reuse notebooks and paper.	0	3	1.38	1.03	
10. Likes living lightly.	0	3	1.86	0.88	
Pro-ecological behavior					
1. Waits until having a full load before doing laundry.	0	3	2.18	0.8	
2. I drive on speedways slower than 40 mph	0	3	1.04	0.94	
3. Collects and recycles used paper	0	3	1.17	0.99	
4. Brings empty bottles to a recycling bin.	0	3	1.34	1.05	.70
5. Has pointed out unecological behavior to someone.	0	3	1.43	0.95	
6. Buys convenience foods.	0	3	1.38	0.85	
7. Buys products in refillable packages.	0	3	1.75	0.84	
8. Buys seasonal produce.	0	3	2.08	0.81	

Table 1. Univariate statistics and reliabilities of used scales - *continued*

Scales / items	*Min*	*Max*	*Mean*	*(Sd)*	*Alpha*
9. Uses a clothes dryer.	0	3	1.91	1.23	
10. Reads about environmental issues.	0	3	1.13	0.88	
11. Talks with friends about environmental problems.	0	3	1.14	0.92	
12. I kill insects with a chemical insecticide.	0	3	1.36	0.96	
13. Turns down the air conditioning when leaving place.	0	3	2.58	0.77	
14. Looks for ways to reuse things.	0	3	1.79	0.86	
15. Encourages friends and family to recycle.	0	3	1.36	0.87	
16. Conserves gasoline by walking or bicycling.	0	3	1.41	1.06	
Altruism					
1. Gives clothes to the poor.	0	3	2.01	0.93	
2. Assists people who fall or get hurt.	0	3	2.25	0.75	
3. Contributes financially with the Red Cross.	0	3	1.92	0.82	
4. Visits the sick at hospitals.	0	3	0.86	0.94	
5. Helps a senior citizen crossing the street.	0	3	1.87	1.08	.76
6. Guides persons asking for direction.	0	3	2.2	0.69	
7. Gives money to the homeless.	0	3	1.83	0.81	
8. Participates in fund-collection rallies.	0	3	0.69	0.87	
9. Donates blood in response to campaigns.	0	3	0.55	0.73	
10. Cooperates with colleagues.	0	3	2.06	0.82	
Equity					
1. Wives should have the same rights husbands have at home.	0	4	3.41	0.96	
2. I treat all my companions as my equals, regardless of their social origin.	0	4	3.52	0.72	
3. Children in my home have the same rights as adults in making important decisions.	0	4	2.73	1.08	
4. In my family, men and women have the same cleanup chores.	0	4	3.21	0.88	.83
5. I treat the Native Americans in the same way as people who are not.	0	4	3.47	0.72	
6. I treat rich and poor people equally.	0	4	3.46	0.72	
7. In my family, girls and boys have the same educational opportunities.	0	4	3.59	0.74	

Figure 1 exhibits the results of the structural model evaluating the relationship between the positive transcendental environment and sustainable behavior. The factor loadings that connected the first-order factors with their corresponding indicators were high and significant (p<.05), revealing convergent construct validity for the used measures. Furthermore, all the first-order factors

(transcendence, physical elements of the temple, religiosity, pro ecological behavior, altruism, frugality and equity) correlated significantly with their corresponding second-order factors - positive transcendental environment and sustainable behavior - as revealed by the value and statistical significance (p<.05) of their factorial loadings. The structural coefficient that connects the positive transcendental environment with sustainable behavior (.87) was positive and significant as expected. The indicators of goodness of fit of the model are shown in the lower part of Figure 1. The model presented practical goodness of fit, suggesting that the data support the hypothetical model of relations.

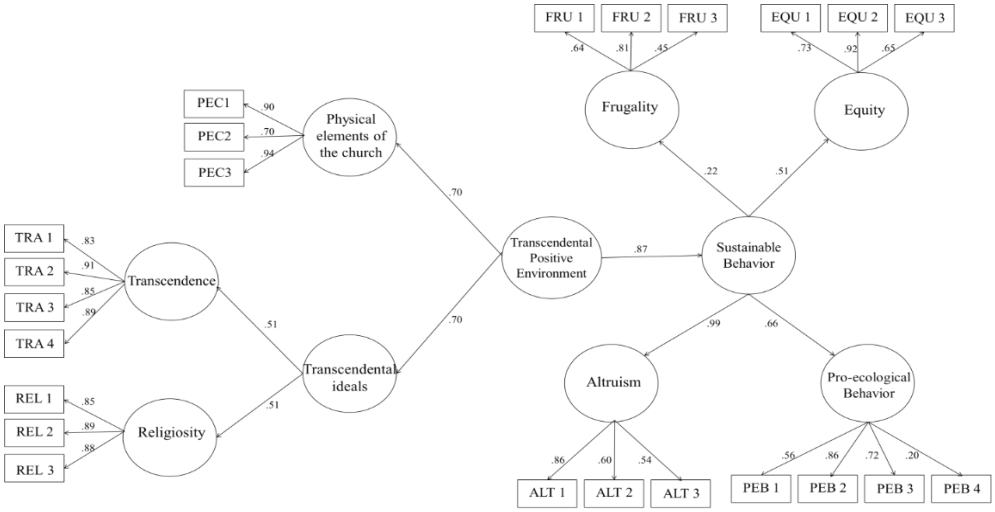

Figure 1. Structural model of sustainable behavior, predicted by the positive transcendental environment. Goodness of fit: X^2=311.18 (172 *df*), p =.000; *CFI*=.92, *RMSEA*=.08. R^2 Sustainable behavior = .77.

Discussion

The model of relationship between a positive transcendental environment and sustainable behavior that was tested in this study revealed a significant association between these two factors. In accordance with this result, it could be assumed that the more a person is immersed in a positive transcendental environment, the more he/she will perform pro-ecological, altruistic, equitable and frugal behaviors.

Although this finding seems to contradict some earlier results indicating that religious people are prone to engage in anti-environmental –or, at least, less

sustainable- behaviors (Eckberg & Blocker, 1996; Dietz, Stern, & Guagnano, 1998; Cui, Jo, & Velasquez, 2015), it agrees with other findings concluding that religious people are more pro-sustainable (Minton, Kahle, Jiuan, & Tambyah, 2016; Felix & Braunsberger, 2016). It also coincides with the conclusions by Saroglou, Pichon, Trompette, Verschueren, and Dernelle (2005) and Stamatoulakis (2013) who point out that a relationship exists between religiosity and prosocial behavior, as well as with the reports by Gutiérrez (1996) and Schultz et al. (2005) that relate transcendence to proecological behavior. Finally, it coincides with the positive and significant relationships found between the virtue of transcendence and the proecological, frugal, altruistic and equitative behaviors reported by Corral-Verdugo, Tapia-Fonllem, and Ortiz-Valdez (2014). It is likely that the negative associations between religiosity and sustainability is due to the presence of components of intolerance and extremism within the religious factor (Dietz et al., 1998; Eckberg & Blocker, 1996). In our study, none of these components was part of the measures used to investigate transcendence, which would explain the positive relationship between that factor and sustainable behavior.

Another difference between previous studies and the one reported here is that former ones focus on studying transcendence as a personal variable that disregard contexts in which spirituality and religiosity occur. Our study approaches transcendence as a state of mind occurring in a special environment, which contributes to mold the sense of connection with a higher power or transcendental entities. By combining the enabling physical elements of those environments with the psychological spiritual experience, a positive transcendental environment factor was modeled, which was highly and significantly associated with the report of sustainable practices. The fact that the spiritual environment explains 77% of sustainable behavior indicates the great importance that protecting the physical and social environment has for people who are immersed in this type of environment. The finding that the transcendental positive environment stimulates the deployment of sustainable behaviors also harmonizes with the study reported by Corral-Verdugo et al. (2015), who tested a model of family environmental positivity. Individuals living in positive families tend to engage in environmentally-protective behaviors.

The present research results offer a guide to implement further studies on the relationship between the components of a transcendental positive environment (religiosity, spirituality), the physical characteristics that enable

spiritual experiences and behaviors aimed at conserving the physical and social environment. Yet, there are also some limitations of this study that have to be considered. From the theoretical perspective of positive environments, environmental positivity is achieved when people obtain benefits from material and social resources provided by that environment, and also when they commit to protect those resources. In this study we assessed actions aimed at protecting the socio-physical environment (sustainable behavior); however, the benefits provided by the transcendental positive environment were not evaluated. Therefore, a prospective study measuring those benefits (well-being, satisfaction, etc.) is necessary to continue this line of research. Although some of the demographic characteristics of the sample studied correspond to those of the general population, we cannot conclude that the participants are representative of the Mexican population from which they were extracted, due to cultural differences (including religious differences) that exist throughout the country. In addition, self-reports were used for assessing transcendental ideals, religiosity, the evaluation of the physical characteristics of the church, and sustainable behaviors of the participants, which may limit the validity of the measures. Moreover, the study used a non-experimental design, making the assumption of a causal relationship difficult. Conducting an experiment wherein participants are asked to engage in transcendental and religious activities and then evaluate a possible increase in sustainable behaviors would be required to assure such causal relationship.

References

Barrera-Hernández, L. F., Corral-Verdugo, V., Tapia-Fonllem, C. O., & Fraijo-Sing, B. S. (2015, September). Psychological meanings of "positive spiritual environment" and places to communicate with God. *European Scientific Journal*, *11*(26), 357-369.

Chairy. (2012, October). Spirituality, Self-Transcendence, and Green Purchase Intention in College Students. *Procedia. Social and Behavioral Sciences*, *57*(1), 243-236.

Corral, V. V. (2010). *Psicología de la sustentabilidad [Psychology of sustainability]. Un análisis de lo que nos hace pro ecológicos y pro sociales*. México: Trillas.

Corral, V. V., & Domínguez, R. G. (2011). El rol de los eventos antecedentes y consecuentes en la conducta sustentable [The role of antecedent and consequent events in sustainable behavior]. *Revista mexicana de análisis de la conducta, 37*, 9-29. doi:10.5514/rmac.v37.i2.26137

Corral, V., Frías, M., Gaxiola, J., Fraijo, B., Tapia, C., & Corral, N. (2014). *Ambientes positivos: Ideando entornos sostenibles para el bienestar humano y la calidad ambiental* [Positive environments: Figuring sustainable environments for human well-being and environmental quality]. México: Pearson.

Corral-Verdugo, V., Durón, F., Frías, M., Tapia, C. O., Fraijo, B., & Gaxiola, J. (2015). Socio-physical environmental factors and sustainable behaviour as indicators of family positivity/Factores ambientales socio-físicos y conducta sostenible como indicadores de positividad familiar. *Psyecology, 6*, 146-168. doi:10.1080/21711976.2015.1026080

Corral-Verdugo, V., Tapia-Fonllem, C., & Ortiz-Valdez, A. (2015). On the relationship between character strengths and sustainable behavior. *Environment and Behavior, 47*, 877-901. doi:10.1177/0013916514530718

Csutora, M., & Zsóka, Á. (2012). *Relation of spirituality to happiness, life satisfaction and sustainable lifestyles*. Retrieved from https://core.ac.uk/download/files/481/12355453.pdf

Cui, J., Jo, H., & Velasquez, M. G. (2015). The influence of christian religiosity on managerial decisions concerning the environment. *Journal of Business Ethics, 132*, 203-231. doi:10.1007/s10551-014-2306-5

Dietz, T., Stern, P. C., & Guagnano, G. A. (1998). Social structural and social psychological bases of environmental concern. *Environment and behavior, 30*, 450-471. doi:10.1177/001391659803000402

Eckberg, D. L., & Blocker, T. J. (1996). Christianity, environmentalism, and the theoretical problem of fundamentalism. *Journal for the Scientific Study of Religion, 35*, 343-355. doi:10.2307/1386410

Felix, R., & Braunsberger, K. (2016). I believe therefore I care: the relationship between religiosity, environmental attitudes, and green product purchase in Mexico. *International Marketing Review, 33*, 137-155. doi:10.1108/IMR-07-2014-0216

Gutierrez, D. K. (1996). Values and their effect on pro-environmental behavior. *Environment and behavior, 28*, 111-133. doi:10.1177/0013916596281006

Ladd, G. W., Buhs, E. S., & Seid, M. (2000). Children's Initial Sentiments about Kindergarten: Is school liking an antecedent of early classroom participation and achievement? *Merrill-Palmer Quarterly, 46*(2), 255-79.

Minton, E. A., Kahle, L. R., Jiuan, T. S., & Tambyah, S. K. (2016). Addressing Criticisms of Global Religion Research: A Consumption Based Exploration of Status and Materialism, Sustainability, and Volunteering Behavior. *Journal for the Scientific Study of Religion, 55,* 365-383. doi:10.1111/jssr.12260

Moser, G. (2012). Cities. In S. Clayton (Ed.). *The Oxford Handbook of Environmental and Conservation Psychology* (203-220). Oxford, UK: Oxford University Press.

Nervi, M. A. (2011, October). Espiritualidad, Religiosidad y Bienestar. Una aproximación empírica a las diferencias entre espiritualidad y religiosidad y su relación con otras variables. Reduciendo la controversia. [Spirituality, Religiosity and Well-being. An empirical approach to the differences between spirituality and religiosity and its relation with other variables]. *Revista Psicologia.com.* Retrieved from http://www.psiquiatria.com/revistas/index.php/psicologiacom/article/viewFile/1302/1196

Peterson, C., & Seligman, M. (2004). *Character Strengths and Virtues*. USA: American Psychological Association and Oxford University Press

Piedmont, R. L. (1999). Does Spirituality Represent the Sixth Factor of Personality? Spiritual Transcendence and the Five-Factor Model. *Journal of Personality, 67*, 985-1013. doi:10.1111/1467-6494.00080

Piotrowski, J., Skrzypinska, K., & Zemojtel-Piotrowska, M. (2013). The scale of spiritual trascendence: Construction and validation. *Roczniki Psychologiczne Annals of Psychology, 16*(3), 469-485.

Puchalski, C., Ferrell, B., Virani, R., Otis-Green, S., Baird, P., Bull, J., . . . Sulmasy, D. (2011). La mejora de la calidad de los cuidados espirituales como una dimensión de los cuidados paliativos: el informe de la Conferencia de Consenso [Improving the quality of spiritual care as a dimension of palliative care: the report of the Consensus Conference]. *Medicina Paliativa, 18*, 20-40. doi:10.1016/S1134-248X(11)70006-4

Salanova, M. S., & Chaufeli, W. B. (2004). El Engagement de los empleados: un reto emergente para la dirección de recursos humanos [Engagement of

employees: an emerging challenge for human resources management]. *Estudios Financieros, 261*, 109-138.

Saroglou, V., Pichon, I., Trompette, L., Verschueren, M., & Dernelle, R. (2005). Prosocial behavior and religion: New evidence based on projective measures and peer ratings. *Journal for the Scientific Study of Religion*, *44,* 323-348. doi:10.1111/j.1468-5906.2005.00289.x

Schultz, W. P., Gouveia, V. V., Cameron, L. D., Tankha, G., Schmuck, P., & Franek, M. (2005).Values and their Relationship to Environmental Concern and Conservation Behavior. *Journal of Cross-Cultural Psychology*, *36,* 457-475. doi:10.1177/0022022105275962

Sheridan, S. M., & Burt, J. D. (2009). Family Centered positive psychology. En S. J. Lopez & C. R. Snyder (Eds.), *The oxford Handbook of Positive Psychology* (pp. 551-559). New York: Oxford University Press.

Stamatoulakis, K. K. (2013). Religiosity and Prosociality. *Procedia-Social and Behavioral Sciences, 82*, 830-834. doi:10.1016/j.sbspro.2013.06.357

Tapia, C., Corral, V., Fraijo, B., & Durón, F. (2013). Assessing sustainable behavior and its correlates: a measure of pro-ecological, frugal, altruistic and equitable actions. *Sustainability, 5,* 711-723. doi:10.3390/su5020711

Tapia, C., Fraijo, B., Corral, V., Gutiérrez, C., & y Tirado, H. (2006). Validación de una escala de orientación hacia la sustentabilidad [Validation of a scale of orientation towards sustainability]. In B. Fraijo, S. Echeverría & C. Tapia (Eds.), Desierto y mar. *Estudios sociales en Sonora*. Cd. Obregón, México: Instituto Tecnológico de Sonora.

Valera, S., & Vidal, T. (2017). Some clues for a positive environmental psychology agenda. In G. Fleury-Bahi, E. Pol, & O. Navarro (Eds.), *Handbook of Environmental Psychology and Quality of Life Research* (pp. 41-63). Heidelberg & New York: Springer.

Zinnbauer, B. J., Pargament, K. I., Cole, B., Rye, M. S., Butter, E. M., Belavich, T. G., . . . Kadar, J. L. (1997). Religion and Spirituality: Unfuzzying the fuzzy. *Journal for the scientific study of religion*, *36,* 549-564. doi:10.2307/1387689

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