

Direct and mediated associations between religious coping, spirituality, and youth violence in El Salvador

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ABSTRACT

Objective. To examine the direct and mediated relationships between religious coping, spirituality, social developmental factors, and violence among high-risk and gang-involved youth in a high-crime, Latin American country.

Methods. Using a community sample of 290 high-risk and gang-involved youth in San Salvador, El Salvador, structural equation modeling was employed to examine the relationships between religious coping, spirituality, social developmental factors (e.g., antisocial bond and antisocial beliefs), and violence.

Results. Religious coping ($\beta = -0.14$, $P < 0.05$) and spirituality ($\beta = -0.20$, $P < 0.01$) were both significantly associated with antisocial bond. Antisocial bond, in turn, was directly associated with violence ($\beta = 0.70$, $P < 0.001$) and was associated with antisocial beliefs ($\beta = 0.54$, $P < 0.001$); however, the path from antisocial beliefs to violence was not statistically significant. No direct paths were identified from religiosity and spirituality to violence. The goodness-of-fit statistics (root mean square error of approximation, 0.034; comparative fit index, 0.974; and Tucker-Lewis index, 0.966) suggest that the final model had acceptable fit.

Conclusions. This study is among the first to shed light on the relationship between religiosity, spirituality, and youth violence in the Latin American context. Elevated levels of religious coping and spirituality are associated with less antisocial bonding, which, in turn, is associated with lower levels of violent behavior among high-risk and gang-involved Salvadoran youth. Study findings suggest that religious coping and spirituality are indirectly protective for youth violence among this high-risk population.

Key words

Violence; adolescent; religion; adaptation, psychological; spirituality; El Salvador; Latin America.

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While a growing body of research points to religiosity and spirituality as protective factors for youth violence in the United States (1, 2), relatively little is known about the universality of these effects. Evidence suggests that youth public participation in religious services and private religious commitment are associated with the decreased likelihood of participation in a variety of violent behaviors such as fighting (3), weapon

carrying (4), and weapon-related violent behavior (5). However, the overwhelming majority of studies on the relationship between religiosity, spirituality, and youth violence have been conducted in economically developed Western nations. Therefore, much remains to be understood in terms of the general effect and nature of these relationships in Latin American countries, particularly those that experience severely elevated

rates of youth violence, such as El Salvador (6). Given the tremendous social costs of violence (7) and the salience of religiosity and spirituality throughout Latin America (8), an understanding of these relationships is of great relevance to public health and the well-being of young people across the hemisphere.

This study tested the direct and mediated relationships between religious coping, spirituality, and violence among high-risk and gang-involved youth in El Salvador. Drawing from the theoretical framework of the social development model (SDM) (9), the authors examined the relationship between religious coping, spirituality, and social developmental factors of relevance to violent comportment among young people in a notoriously violent developing world context. Two interrelated research questions were addressed: 1) Do religious coping and spirituality serve to buffer against violence in the lives of high-risk and gang-involved Salvadoran youth? and 2) What is the role of social developmental factors in terms of mediating the relationship between religious coping, spirituality, and violence?

Religiosity, spirituality, and youth violence in El Salvador

For nearly a decade, El Salvador has consistently been identified as one of the most violent countries in the world (10). The country's current homicide rate of 66 homicides per 100 000 inhabitants is nearly 10 times greater than the rate worldwide and roughly 300% that of Latin America overall (6). El Salvador's most prominent street gangs—*La Mara Salvatrucha* ("MS-13") and *El Barrio 18* (the "18th Street Gang")—are widely believed to play an important role in the perpetration of violence (11). Indeed, conservative estimates suggest that Salvadoran gang members may be responsible for as much as 25% of the nation's homicides (12, 13). Recent studies have found youth gang members in El Salvador to be substantially more likely than their non-gang peers to be involved in violence and crime (14, 15). Attempts by the Salvadoran government to address the issue via the implementation of hard-line anti-gang policies have coincided not with a reduction, but rather precipitous increases in homicides and violence (10). The volatility of the situation has raised concern about the impact of Salvadoran gangs on El Salvador's proximal

national neighbors and, more generally, the sociopolitical stability of the region as a whole (16).

Longitudinal and nationally representative studies conducted in the United States have identified religiosity as an important protective factor for the involvement of youth in a wide range of violent behaviors (3–5, 17–20). Despite the abundance of studies in the North American context, there is a dearth of systematic, quantitative studies examining the protective effect of religiosity and spirituality on youth violence in Latin America. This research gap is particularly noteworthy with regard to El Salvador, as demographic research has revealed that religiosity and spirituality are important factors in the lives of many Salvadoran youth (21). A recent study (22) suggests that more than three out of four (77.6%) Salvadoran youth consider religious engagement a "very important" aspect of their lives and development. Not only do Salvadoran youth express interest in religion, but they also are actively engaged in religious activity, with religious youth groups second only to athletic teams in terms of national participation rates (22).

Religiosity and spirituality have been found to be of relevance not only to the general population, but also to young Central Americans involved in youth gangs and criminal behavior (23, 24). Active gang members have been found to express interest in religious themes and imagery (25) and religious conversion has been identified as one of few viable avenues for gang exit (26, 27). Religious communities and faith-based organizations appear to target high-risk and gang-involved youth, as churches are more common in Central American communities with high rates of gang involvement (28) and the vast majority of social service organizations offering assistance to gang-involved youth have some degree of religious affiliation (29). While few studies have examined the protective effect of religiosity and spirituality on youth violence, due in part to the difficulties sampling this population, research suggests the possibility that religion may be of interest to high-risk Salvadoran youth.

Theoretical framework

The theoretical framework used for this study (the SDM (9)) draws from

social learning theory, social control theory, and differential association theory to explain the development of pro- and antisocial behaviors, including violence. The SDM hypothesizes that individuals learn behaviors through a process of socialization and bonding with key socializing units such as family, school, peers, and other community groups. According to the SDM, when youth perceive opportunities to take part in social activities or interactions (pro- or antisocial) and have sufficient skills to participate successfully over time, a process of social bonding ensues. Once such bonds are established, the bonds themselves have the capacity to subsequently influence beliefs and behaviors as youth seek to conform to the basic pro- or antisocial norms of the bonded group.

Scholars have often highlighted the importance of social relationships and social bonding as mediating factors between religiosity, spirituality, and problem behaviors (30–33). Studies utilizing this approach have consistently found that the relationship between religiosity, spirituality, and problem behavior is mediated by such social developmental factors. The virtue of the SDM is that it allows for the integration of relational concepts of relevance to religiosity, spirituality, and violence into a single, well-validated theoretical framework. The SDM facilitates an examination of religiosity and spirituality as they relate to antisocial bonding and, in turn, to the antisocial beliefs that are understood as emerging as a result of said bonding. The analysis of the role of such mediating factors is important, as scholars have noted that the protective effect of religiosity and spirituality may not be entirely direct in nature (34). The SDM provides a useful theoretical framework for examining the ways in which religiosity and spirituality affect key social and relational factors that, in turn, have been found to be associated with involvement in a variety of particularly prominent youth problem behaviors.

Given the pressing reality of youth violence and gangs in El Salvador as well as the cultural importance of religiosity and spirituality among Salvadoran youth, this study aimed to examine the protective effect of religious engagement on the involvement of high-risk and gang-involved Salvadoran youth in violent behavior. Rooted in the conceptual framework of the SDM (9), this

study examines the direct and mediated associations between religious coping, spirituality, social developmental factors (e.g., social bonding and social beliefs), and violence, based on two primary hypotheses:

- H_1 : Greater religious coping and spirituality are associated with lower levels of involvement in violent behavior
- H_2 : Antisocial bond and antisocial beliefs mediate the relationship between religious coping/spirituality and violent behavior.

While a good deal of evidence suggests that religiosity and spirituality may be important protective factors, few, if any, studies have systematically examined these relationships among youth on the margins of Salvadoran society, or in Latin America in general. Testing these hypotheses extends prior research on the associations between religious coping, spirituality, and violence by examining the relationships in a high-risk and under-researched population.

MATERIALS AND METHODS

Sampling

This study examined survey data from a community sample of high-risk and gang-involved youth in San Salvador, El Salvador, collected through chain-referral sampling between June and November 2011. The study was carried out in collaboration with a Salvadoran youth development organization that works closely with active gang members and high-risk youth across El Salvador. Participants involved in the youth development organization were recruited to participate and were encouraged to recruit high-risk, gang-involved neighbors, peers, friends, and family members living in their local community to participate in the study as well. This is an appropriate sampling strategy given the difficulty in accessing gang-involved Salvadoran youth (35). Study participation was restricted to youth 11–25 years old ($n = 290$), an age group that is commonly active in street gangs (36).

Data collection

Data were collected in community-based youth development centers in a variety of marginalized communities in

San Salvador. Given the dangers involved in Salvadoran gang members traveling beyond their designated communities, on-site data collection was essential to gain access to gang-involved youth. Surveys were administered individually and in small groups by a team of three Salvadoran youth development staff members trained at the university level in the social sciences and survey methodology. For the majority of youth, the survey required 30–45 minutes to complete. Youth who were identified as having difficulties in terms of concentration, reading, or writing were administered the survey individually by a member of the research team. All respondents were given US\$ 5.00 for their participation. All respondents who agreed to the informed consent procedure participated fully in the survey administration. The Institutional Review Board of the corresponding university approved all study protocols.

Measures

Religiosity and spirituality. The measure of religiosity ($\alpha = 0.80$) comprised four positive religious coping items derived from the Measure of Religious Coping (RCOPE) (37). Sample items included: “I look to God for strength, support, and guidance in crises” and “I work together with God as partners to get through hard times” and had four possible response categories: 1 (“not at all”); 2 (“somewhat”); 3 (“quite a bit”); and 4 (“a great deal”). The Intrinsic Spirituality Scale (38), designed to measure spirituality as a motivational construct for theistic and nontheistic populations, was used as the spirituality measure ($\alpha = 0.91$). In the English version of the scale, three items were reverse-coded; however, previous research with Salvadoran high-risk youth has indicated the importance that all items be positively phrased (39). Sample items included: “My spiritual beliefs affect [...]” and had response categories ranging from 0 (“no aspect of my life”) to 10 (“absolutely every aspect of my life”). Respondents with scores in the highest quartile for religiosity and spirituality were identified as “highly religious” or “highly spiritual” and coded as “1” respectively. All remaining respondents were considered to have normative religiosity/spirituality and were coded as “0.”

Family life. The positive family life variable was a binary measure (0 = “No”; 1 = “Yes”) of the respondents’ family life experience.

Youth who lived with their family of origin and reported no significant problems at home were coded as “1” (with all others coded as “0”); youth who reported having grown up with a single mother were coded as “1” (with all others coded as “0”).

Antisocial peer bond. The measure of antisocial peer bond ($\alpha = 0.78$) was a two-item measure that examined the degree to which a youth’s peers tacitly endorsed and actively carried out illegal or antisocial activities.

Antisocial beliefs. The measure of antisocial beliefs ($\alpha = 0.71$) was derived from two binary items relating to carrying out behaviors believed to be “wrong” to achieve a self-serving end. These items included “taking risks for fun” and doing “exciting things that can get you in trouble.”

Violence. The measure of violence ($\alpha = 0.81$) was a composite measure comprising seven dichotomous (0 = “No”; 1 = “Yes”) items relating to violent behaviors, such as throwing objects to harm others, hitting, starting fights, and severe/homicidal violent attacks.

Analysis

Structural equation modeling. Structural equation modeling (SEM) analyses were conducted using Stata 12.1 software (Stata-Corp LP, College Station, Texas, USA) (40). Two SEM models were examined: 1) a preliminary model in which antisocial bond and antisocial belief completely mediated the relationship between the exogenous factors and the dependent variable and 2) a model based upon modification indices and substantive theory in which relevant measurement error terms were allowed to covary and an additional path from antisocial bond to violence was specified. In both models, antisocial behavior, antisocial beliefs, and violence were measured as latent variables. The remainder, including religious coping and spirituality, were included as observed indicators. Consistent with the analytic approach used in studies employing the SDM to examine the associations between exogenous factors, mediating variables, and outcome variables, the modeling allowed for key socio-demographic factors to be associated with the primary mediating factor (in this case, antisocial bond) as well as all additional mediating and outcome variables.

In assessing the goodness of fit of the hypothesized and modified structural

equation models, multiple indicators are typically examined. The chi-squared statistic, although strongly influenced by sample size and other factors, should have a value close to the number of degrees of freedom and a probability value greater than 0.05 (41). However, given the instability of the chi-squared statistic, other measures—such as the root mean square error of approximation (RMSEA), the comparative fit index (CFI), and the Tucker-Lewis index (TLI)—should also be considered in determining goodness of fit (42). It is recommended that the RMSEA value be below 0.05 and no greater than 0.08, and that the CFI and TLI both be above 0.90 (43).

RESULTS

Given that study participants' age spans two developmental periods, careful attention was given to examining the socio-demographic and behavioral characteristics of adolescents and young adults in the sample. Table 1 presents descriptive statistics for the socio-

demographic and risk/protective factors among study respondents as categorized by developmental age group. Figure 1 displays the prevalence of violent behaviors among adolescents and young adults. With the exception of violent outbursts and severe/homicidal violence, the prevalence of most violent behaviors examined in this study were between roughly 30% and 50% for both adolescents and young adults. For most behaviors, the difference in prevalence between adolescents and young adults was consistently less than 5%, but larger differences were observed in terms of rock throwing and severe/homicidal violence. Overall, the minimal group socio-demographic and behavioral differences, in tandem with the overarching effect of gang membership functioning as an organizing principle, provides support for the acceptability of combining adolescents and young adults into a single analytic sample.

Figure 2 presents the path diagram for the final SEM model. The goodness-of-fit statistics (RMSEA = 0.034; CFI = 0.974;

TLI = 0.966) suggest that this adapted model had acceptable fit. In terms of the standardized path coefficients, antisocial bond—but not antisocial beliefs—completely mediated the association between religiosity, spirituality, and violence. Religiosity ($\beta = -0.14$, $P < 0.05$) and spirituality ($\beta = -0.20$, $P < 0.01$) were both significantly associated with antisocial bond. Antisocial bond, in turn, was directly associated with violence ($\beta = 0.70$, $P < 0.001$) and was associated with antisocial beliefs ($\beta = 0.54$, $P < 0.001$); however, the path from antisocial beliefs to violence was not statistically significant. Family life and single mother household status were also indirectly associated with violence via antisocial bond.

DISCUSSION

While a number of studies in the United States suggest that religiosity and spirituality are protective for youth violence (1, 3, 17–22), far less is known about the nature of these relationships in Latin American countries such as El Sal-

TABLE 1. Socio-demographic characteristics and risk/protective factors among adolescents (11–17 years old) and young adults (18–25 years old) ($n = 290$), San Salvador, El Salvador, 2011

Variable	Adolescents ($n = 116$)			Young adults ($n = 174$)			t / χ^2 ^b
	Mean (SD) ^a	%	Range	Mean (SD)	%	Range	
Demographic							
Age (years)	15.17 (1.7)		(11–17)	20.64 (2.1) ^c		(18–25)	–56.98 ^d
Male		76.7	(0–1) ^e		83.2 ^c	(0–1)	11.28 ^f
Have a child		26.9	(0–1)		51.2 ^c	(0–1)	99.83 ^d
Academic and vocational							
Enrolled in school		58.0 ^c	(0–1)		31.4	(0–1)	106.82 ^d
Years of education	7.09 (3.4) ^c			6.47 (4.6)			3.04 ^f
Trouble in school		24.5 ^c	(0–1)		17.7	(0–1)	11.53 ^f
Reading trouble		32.2	(0–1)		33.3	(1–3) ^g	0.28
School dropout		43.7	(0–1)		49.9	(0–1)	0.96
Employed		33.3	(0–1)		49.0 ^c	(0–1)	13.09 ^d
Family and peer							
Positive family		49.2	(0–1)		50.1	(0–1)	0.13
Single mother		64.5	(0–1)		61.0	(0–1)	2.14
Delinquent peers	0.67 (0.8)			0.75 (0.9) ^c		(0–2) ^h	6.20 ⁱ
Individual							
Religiosity	7.88 (3.2) ^c		(4–16) ^j	7.25 (2.9)		(4–16)	4.20 ^d
Spirituality	34.00 (12.8)		(0–50) ^k	37.60 (11.5) ^c		(0–50)	–6.12 ^d
Risk beliefs	0.95 (0.9)		(0–2)	0.91 (0.9)		(0–2)	0.84

^a SD: standard deviation.

^b Student's t -test / chi-squared test statistic.

^c Statistically significant differences at $P < 0.05$ or lower.

^d $P < 0.001$.

^e "Yes"/"No."

^f $P < 0.01$.

^g 1 = "never"; 2 = "seldom"; 3 = "always."

^h 0 = no antisocial peer association; 1 = one form of antisocial peer association; 2 = two forms of antisocial peer association.

ⁱ $P < 0.05$.

^j 4 = low religious coping; 16 = high religious coping.

^k 0 = low spirituality; 50 = high spirituality.

FIGURE 1. Prevalence of violent behavior among adolescent (12–17 years old) and young adult (18–25 years old) high-risk youth and gang members, San Salvador, El Salvador, 2011

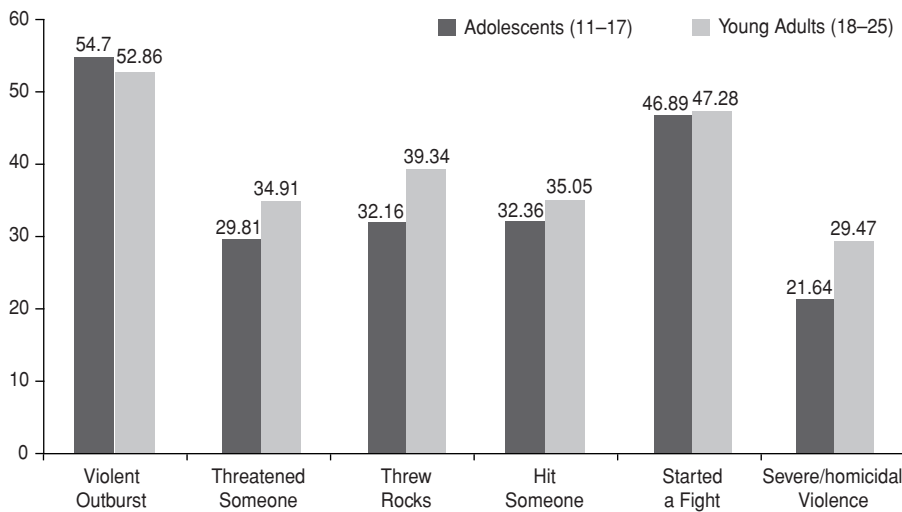
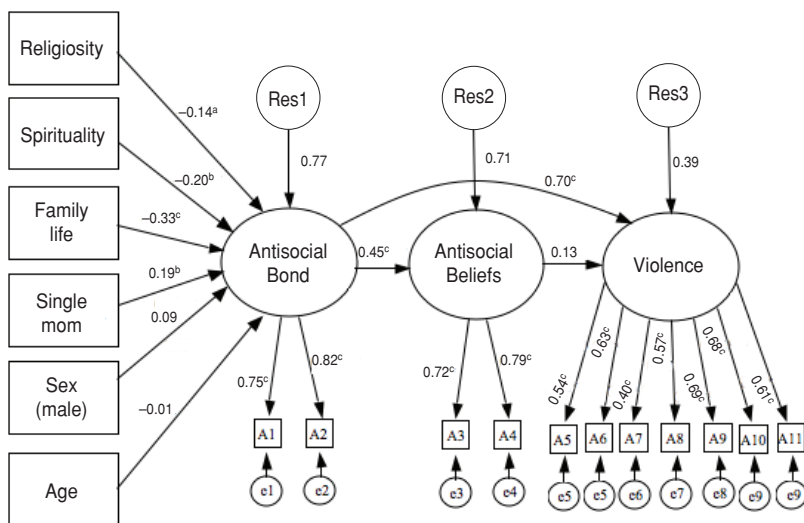


FIGURE 2. Structural equation model (SEM) for relationship between religiosity, spirituality, and violence, San Salvador, El Salvador, 2011



A1 = peer endorsement of illegal behavior; A2 = peer illegal behavior; A3 = take risk for fun; A4 = exciting to do things that get you into trouble; A5 = hit someone; A6 = start fight; A7 = violent outburst; A8 = threatened someone; A9 = violent attack; A10 = hit to hurt; A11 = throw rocks.
 χ^2 (degrees of freedom) = 124.84^a (94); root mean square error of approximation = 0.034; comparative fit index = 0.974; Tucker-Lewis index = 0.966; R² = 0.230
^a P < 0.05.
^b P < 0.01.
^c P < 0.001.

vador. Results of this analysis indicate that religious coping and spirituality have important implications in terms of the involvement of Salvadoran youth in violent behaviors. Religious coping and spirituality were both significantly associated with social developmental factors that, in turn, were associated with youth violence. However, while the path from antisocial bond to antisocial beliefs was significant, the path from antisocial be-

liefs to violence was not significant. Coupled with the strong direct association between antisocial bond and violence, these results suggests that the indirect relationships between religious coping, spirituality, and violence were primarily mediated by antisocial bonding, not antisocial beliefs. While antisocial peer involvement was also associated with the development of antisocial beliefs, the empirical support for a relationship

between antisocial beliefs and violence is lacking.

It should be noted that in examining the mediating effect of social developmental factors, direct relationships between religious coping, spirituality, and violence were not identified. This suggests that religious coping and spirituality are indeed important factors in relation to violence, but that their association to violence is exclusively via their relationship to the aforementioned social developmental factors. This completely mediated relationship is consistent with the theoretical framework of the SDM, which hypothesizes that the relationship between exogenous independent variables and endogenous dependent variables are completely mediated by social developmental factors such as bonding and youth beliefs (9). Simply put, religious coping and spirituality seem to matter in terms of violence, but this relationship is not direct but rather mediated primarily by the relationship between religious coping and spirituality with antisocial peer bonding, which, in turn, is associated with violent behavior.

Study strengths and limitations

This study had two important strengths that make it unique compared to previous investigations. First, the sample comprises a sizable proportion of active Salvadoran gang members residing in their home communities. This is unusual because studies of gangs in Central America typically interview former or incarcerated gang members and therefore are lacking in terms of the examination of the concurrent associations between gang membership and problem behavior. Second, the measures of religious coping and spirituality used in this study were more psychometrically complex than is typically the case in studies examining the relationship between religiosity/spirituality and problem behavior (2). This is noteworthy because scholars have cautioned against the common practice of using single-item and non-standardized measures of religiosity and spirituality, as such measures may be lacking in reliability and validity (43).

Despite these strengths, findings from this study should be interpreted in light of several limitations. First, the study data are cross-sectional and therefore causal conclusions regarding the relationship between religious coping, spiri-

tuality, and violence cannot be drawn. Second, data were collected by means of a nonrandomized purposive sampling methodology, so the generalizability of the findings is limited. Third, the relatively diminutive sample size ($n = 290$) and the distribution of key demographic variables such as gender and age created limitations in terms of multi-group comparisons. Given that the age of study participants spans two distinct developmental periods (e.g., adolescence and young adulthood), this limitation is noteworthy. Finally, no measure of religious service attendance was included in the study. This variable was omitted because many gang-involved Salvadoran youth are effectively barred from formal religious involvement. Nevertheless, this omission is noteworthy as religious service attendance is an important component of religious engagement.

Conclusions

While previous research suggests many Salvadoran youth are interested and involved in religion and religious communities, this study is among the first to shed light on the relationship between religious coping, spirituality, and youth violence in the Latin American context. Study findings indicate that religious coping and spirituality are indirectly protective for youth violence among high-risk and gang-involved Salvadoran youth. More precisely, greater interest in religious coping and spirituality is associated with the decreased likelihood of antisocial peer bonding. Antisocial peer bonding, in turn, is robustly associated with the likelihood of participation in violent behaviors. Findings from this study are preliminary and should be interpreted with caution. However, the

results seem to indicate that religious coping and spirituality function as important protective factors in the lives of high-risk and gang-involved youth in El Salvador. The associations identified in this study may be of relevance to youth development organizations interested in the integration of religious or spiritual content into violence prevention efforts in the region. For example, interventions may be designed that help interested youth to cultivate their religious or spiritual lives and to draw links between such interests and youth violence. Given the severity of El Salvador's current problems with youth violence and the salience of religiosity and spirituality within Salvadoran culture, the identification of such protective relationships is certainly noteworthy and warrants further investigation.

Conflicts of interest. None.

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RESUMEN

Asociaciones directas y mediadas entre el afrontamiento religioso, la espiritualidad y la violencia juvenil en El Salvador

Objetivo. Analizar las relaciones directas y mediadas entre el afrontamiento religioso, la espiritualidad, los factores de desarrollo social, y la violencia en jóvenes de alto riesgo y pertenecientes a pandillas de un país latinoamericano con una alta incidencia de criminalidad.

Métodos. Se seleccionó una muestra de la comunidad de 290 jóvenes de alto riesgo y pertenecientes a pandillas de San Salvador (El Salvador). Mediante el modelado de ecuaciones estructurales se analizaron las relaciones entre el afrontamiento religioso, la espiritualidad, los factores de desarrollo social (por ejemplo, el vínculo antisocial y las creencias antisociales), y la violencia.

Resultados. El afrontamiento religioso ($\beta = -0,14$, $P < 0,05$) y la espiritualidad ($\beta = -0,20$, $P < 0,01$) se asociaron ambos significativamente con el vínculo antisocial. El vínculo antisocial, a su vez, se asoció directamente con la violencia ($\beta = 0,70$, $P < 0,001$) y también se asoció con las creencias antisociales ($\beta = 0,54$, $P < 0,001$); sin embargo, la vía de las creencias antisociales a la violencia no fue estadísticamente significativa. No se identificaron vías directas de la religiosidad y la espiritualidad a la violencia. La prueba estadística de bondad de ajuste (error de aproximación cuadrático medio, 0,034; índice de ajuste comparativo, 0,974; índice de Tucker-Lewis, 0,966) indica que el modelo final mostraba un ajuste aceptable.

Conclusiones. Este estudio es uno de los primeros en clarificar la relación entre la religiosidad, la espiritualidad y la violencia juvenil en el entorno latinoamericano. Los niveles elevados de afrontamiento religioso y espiritualidad se asocian con vínculos menos antisociales que, a su vez, se asocian con menores niveles de comportamiento violento entre los jóvenes salvadoreños de alto riesgo y pertenecientes a pandillas. Los resultados de este estudio indican que el afrontamiento religioso y la espiritualidad son protectores indirectos de la violencia juvenil en esta población de alto riesgo.

Palabras clave

Violencia; adolescente; religión; adaptación psicológica; espiritualidad; El Salvador; América Latina.