Actualidades en Psicología, 38(137), july-december, 2024, 18-32
DOI: 10.15517/ap.v38i137.58610

ISSN 2215-3535

Actualidades enPsicología

Universidad de Costa Rica

www.revistas.ucr.ac.cr/index.php/actualidades

Effect of Spiritual Health and Resilience on Aggressiveness in a Sample of Active Christian Young Adults

El efecto de la salud espiritual y la resiliencia en la agresividad en una muestra de jóvenes adultos cristianos activos

Ruth Priscila Badilla Torres [1]
https://orcid.org/0009-0003-9509-511X

Zandra Covarrubias [3]
https://orcid.org/0000-0002-4685-1359

Carlos Marcelo Moroni [2]
https://orcid.org/0000-0003-4148-7663

Raúl Rodríguez [4]
https://orcid.org/0000-0001-6766-4133

[1,2,3,4] Facultad de Psicología, Universidad de Montemorelos, Nuevo León, México

[1] ruthbadilla@um.edu.mx [2] carlosmarcelo@um.edu.mx [3] zcovarr@um.edu.mx [4] rrodriguez@um.edu.mx

Received: January 30th, 2024. Accepted: July 18th, 2024.

Abstract. *Objective.* This study evaluated the adequacy of a structural equation model examining the relationship between spiritual health, resilience, and aggressiveness. *Method.* Four hundred young individuals (aged 18-30) from Costa Rica and Mexico (66.5% females, 33.5% males) actively involved in religious congregations completed Spiritual Health, Mexican Resilience, and Aggression Questionnaire scales. Data was analyzed using a structural equation model. The analysis revealed a statistically significant but suboptimal fit (χ^2 = 224.333, *df* = 51, *p* < .001). Nevertheless, the estimated fit indices exhibited reasonably satisfactory fit (CFI = .912, TLI = .886, RMSEA = .092, SRMR = .060). *Results.* Spiritual health positively affects resilience and negatively affects aggressiveness, while resilience negatively impacts aggressiveness. Consequently, fostering spiritual health may enhance the positive response in challenging situations.

Keywords. Spiritual health, resilience, aggressiveness, young adults, structural equation model

Resumen. *Objetivo.* Este estudio evaluó el ajuste de un modelo de ecuaciones estructurales que examina la relación entre la salud espiritual, la resiliencia y la agresividad. *Método.* Cuatrocientos jóvenes (de 18 a 30 años) de Costa Rica y México (66.5% mujeres, 33.5% hombres) activamente involucrados en congregaciones religiosas completaron las escalas de Salud Espiritual, Resiliencia Mexicana y Cuestionario de Agresión. Los datos fueron analizados utilizando un modelo de ecuaciones estructurales. El análisis reveló un ajuste estadísticamente significativo pero subóptimo (χ^2 = 224.333, gl = 51, *p* < .001). No obstante, los índices de ajuste estimados mostraron un ajuste razonablemente satisfactorio (CFI = .912, TLI = .886, RMSEA = .092, SRMR = .060). *Resultados.* La salud espiritual afecta positivamente la resiliencia y negativamente la agresividad, mientras que la resiliencia impacta negativamente en la agresividad. En consecuencia, fomentar la salud espiritual puede mejorar la respuesta positiva en situaciones desafiantes.

Palabras clave. Salud espiritual, resiliencia, agresividad, jóvenes adultos, modelo de ecuaciones estructurales

Introduction

As individuals mature, they gradually develop skills that enhance their decision-making ability and solve problems. Interaction with external factors, such as support from their social and familial networks, reinforces specific skills. Conversely, others evolve intrinsically, as seen in attributes like personal security, organization, strength, structure, and social competence. Authors like Palomar and Gómez (2010) have proposed these concepts when defining the dimensions of resilience, which they characterize as the capacity to effectively confront and surmount challenges, ultimately leading to personal growth and increased strength.

In the Latin American context, numerous adverse experiences are encountered due to high levels of aggressiveness. According to the findings of Dalby et al. (2022), an examination of the rankings for the most violent cities in the world in 2021 reveals that a significant majority of the cities with the highest homicide rates, precisely 38 out of the top 50, were in this particular region. Notably, Mexico emerged as the leader in this ranking, with nine out of the top 10 cities and 17 cities within the top 50. Consequently, Mexico can be considered the global epicenter of urban homicidal violence, with a homicide rate of 26.1 per 100,000 inhabitants (Pérez, 2023).

Regarding Costa Rica, there has been a concerning surge in violence in recent years. The homicide rate escalated from 12.5 per 100,000 inhabitants in 2022 to 17.2 in 2023, representing a 38% annual increase nationwide. However, when examined by specific regions, the province of Limón registered a rate of 45 per 100,000 inhabitants, and the increase in violence for San José, the country's capital, was 86% (Pérez, 2024). Some experts indicate a direct influence between the national homicide trends in México and those in Central America over the last decade (Pérez, 2023). Furthermore, it is noteworthy that Latin America and the Caribbean region collectively contribute to 44% of the total number of homicides worldwide despite comprising only 8% of the global population (Muggah & Aguirre, 2018).

Unfortunately, these conditions significantly influence the emergence of aggressive behaviors, as highlighted by previous research (Aroyewum et al., 2022; Ferguson et al., 2009). Aggressiveness, a complex and multifaceted phenomenon elucidated by Card and Little (2007), involves a spectrum of actions directed at causing harm to others (Sadeghifard et al., 2020). This encompassing concept manifests in diverse forms, such as physical aggressiveness, verbal aggressiveness, as well as expressions of anger and hostility (Buss & Perry, 1992).

The demographic most significantly affected by these circumstances is the younger generation. According to Muggah and Aguirre (2018), a study conducted in 2017 revealed that nearly 50% of homicide victims in Latin America belonged to the age group of teenagers and young adults, specifically ranging from 15 to 29 years old. Notably, the age distribution of the perpetrators exhibited a similar pattern. Consequently, a noticeable increase in aggressive behavior occurs during youth, peaking in early adulthood.

For this reason, protective factors are of vital importance (Miranda et al., 2019), and among these factors is the protective influence of spirituality in mitigating interpersonal violence (Gonçalves et al., 2023), which is usually present in the context of material and existential insecurity (Turrell and Almási-Szabó, 2022). Spirituality, as a protective factor, not only helps to reduce the incidence of violent behaviors but also provides a framework of reference and emotional support that contributes to the overall well-being of individuals in situations of adversity.

Some organizations have a primary objective of promoting positive engagement among young individuals. Specifically, religious groups implement leadership and service initiatives to strengthen their spiritual health. Studying specifically spiritual health, rather than simply spirituality, is crucial due to this concept's complexity and comprehensive nature. Spiritual health is defined as "a state of well-being in which the individual is in harmony with what they consider sacred or superior, with themselves, with others, and with nature. It involves experiencing a

transcendent sense of life and an ultimate purpose according to their belief system" (Korniejczuk et al., 2020, p. 570). This holistic approach acknowledges the interconnectedness of personal, communal, environmental, and transcendental domains, ultimately contributing to overall health and well-being. Recognizing and nurturing spiritual health can thus help individuals achieve greater harmony within themselves, their communities, and the natural world, leading to a more fulfilled and balanced life (Fisher, 2011).

This state of well-being encompasses three fundamental dimensions: the relationship with a Supreme Being, the relationship with oneself, and the relationship with the environment (Moroni et al., 2021). The relationship with a Supreme Being involves devotion and connection with a higher entity, providing strength and a transcendent sense of life in times of difficulty. The relationship with oneself is based on knowledge and coherence with one's values and principles, generating harmony and inner peace. On the other hand, the relationship with the environment focuses on commitment and compassion towards others and nature, promoting patience, respect, and love (Moroni et al., 2022).

Numerous research studies have investigated the impact of the variables mentioned above. For instance, Borji et al. (2019) identified spirituality as a significant factor in promoting resilience. They discovered that spirituality is closely linked to religious coping, encompassing practices and beliefs that positively affect various health dimensions during stress. The authors utilized factorial analysis to examine the relationship between spiritual health, resilience, and self-esteem in their study. While they did not find a significant direct association between spiritual health and resilience, they did observe a strong correlation between these two constructs (r^2 = 0.45). As a result, the researchers suggest that further investigation is necessary to explore this connection in greater depth, especially considering the potential mediating influence of self-esteem.

Other researchers have emphasized the connection between spirituality and resilience, as demonstrated by studies conducted by Crawford et al. (2006), Jones et al. (2015), and Schwalm et al. (2021). Additionally, Zardoshtian et al. (2017) conducted research that unveiled the pivotal role of resilience as a mediator in the relationship between spiritual intelligence and aggression. To be more specific, the study found that resilience acts as a mitigating factor for aggressiveness by fostering increased tolerance towards adversities and stress, thereby harnessing the potential of spiritual intelligence.

Resilience has been highlighted in the literature as a protective feature against aggressiveness, as indicated by substantial negative associations observed in several studies, including those conducted by Kim et al. (2015), Pachi et al. (2023), and Sadeghifard et al. (2020). Likewise, the inclusion of spirituality has been acknowledged as a factor that provides a safeguard against violent behavior, as indicated by statistically significant inverse associations in several studies, including those done by Baloochi et al. (2018), Kong & Seo (2010), and Shorey et al. (2016).

This research aimed to evaluate the adequacy of a structural equation model examining the relationship between spiritual health, resilience, and aggressiveness in a sample of active Christian young adults. The study focused on a cohort of individuals actively involved in a Christian religious organization between 18 and 30 years of age. Data collection for this study occurred during the fourth quarter of 2022. In this study, the researchers proposed four hypotheses (see Figure 1):

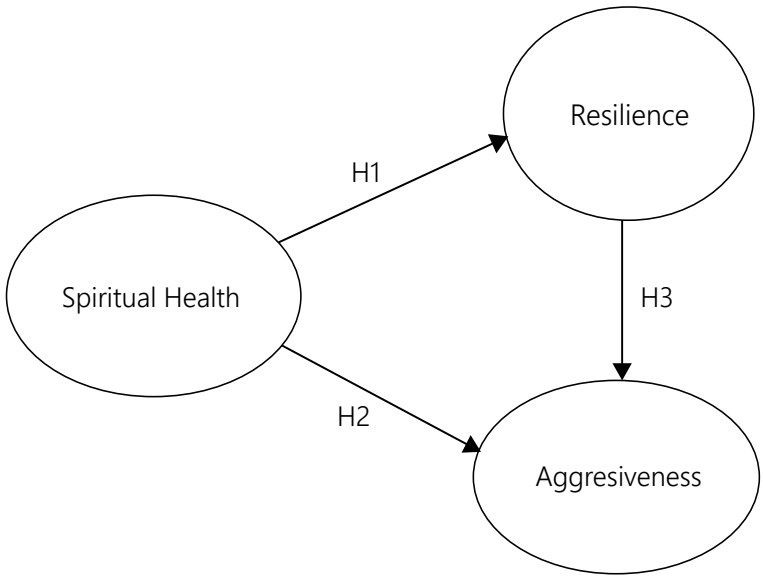
H1: Spiritual health has a direct and positive effect on resilience.

H2: Spiritual health has a direct and negative effect on aggressiveness.

H3: Resilience has a direct and adverse effect on aggressiveness.

H4: Resilience serves as a mediator in the relationship between spiritual health and aggressiveness.

Figure 1. Proposed research model



Method

Research design

This research used a non-experimental cross-sectional design (Spector, 2019; Thompson & Panacek, 2007) and employed structural equation modeling. Consequently, this study can be classified as predictive correlational research since its primary objective is to assess the extent of the relationship between different constructs (Hernández-Sampieri et al., 2014).

Participants

Four hundred individuals from a Christian religious organization participated in this study. They reported active involvement in spiritual activities and living in 18 Mexican Republic states and seven Costa Rica provinces. The demographic information can be seen in Table 1.

According to Hoelter (1983), researchers should consider a sample size of 200 or more cases adequate for evaluating a structural equation model. Kline (2011) mentions that this sample size threshold corresponds to a medium sample size for structural equation modeling studies. Furthermore, based on the computational recommendations of Preacher and Coffman (2006), assuming a statistical power of .80, a null hypothesis value for the RMSEA of .06, 50 degrees of freedom, and a significance level of .05, a minimum sample size of 389 cases was obtained. Therefore, the sample size obtained for this study was considered sufficient.

The decision to include participants of both nationalities was based on previous research on samples from the same organization, where similar results were found for all three variables. In the case of Mexico, Covarrubias and Aguilar (2022) identified the following values: (a) spiritual health (M = 135.86, SD = 19.00), (b) resilience (M = 141.00, SD = 18.40) and (c) aggressiveness (M = 53.20, SD = 13.56). As for Costa Rica, Moroni et al. (2023), the results were: (a) spiritual health (M = 131.82, SD = 20.38), (b) resilience (M = 141.49, SD = 18.86) and (c) aggressiveness (M = 58.08, SD = 13.41).

Table 1. Demographic information

Demographics	Description	Number	Percentage
Age	18-20	138	35.4
	21-25	162	40.5
	26-30	48	25.0
	Total	400	100.0
Gender	Male	134	33.5
	Female	266	66.5
Country	México	200	50.0
	Costa Rica	200	50.0
	Total	400	100.0
Religion	Seventh Day Adventist	400	100

Materials

Spiritual Health Scale

The spiritual health assessment was conducted using the Spiritual Health Scale, developed by Korniejczuk et al. (2020). This scale consists of 39 items categorized into three dimensions. Participants were required to indicate their level of agreement with each item on a five-point Likert scale, ranging from "strongly disagree" (0) to "strongly agree" (4).

For the assessment of internal consistency validity, the authors reported the following Cronbach's alpha values: (a) Relationship with a Supreme Being and spiritual beliefs (SESS) α = .949, (b) Relationship with oneself (SECM) α = .938, and (c) Relationship with others and with nature (SECE) α = .921. The total internal consistency index had a value of α = .901.

Mexican Resilience Scale (RESI-M)

The assessment of resilience level was conducted using the Mexican Resilience Scale, a tool developed by Palomar and Gómez (2010). This scale consists of 43 items categorized into five dimensions. Participants were asked to indicate their agreement level with each item on a five-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5).

For the evaluation of internal consistency validity, the authors reported the following Cronbach's alpha values: (a) strength and self-confidence (REFO) α = .92, (b) social competence (RECS) α = .87, (c) family support (REAF) α = .87, (d) social support (REAS) α = .84, and (e) structure (REES) α = .79. The total internal consistency index had a value of α = .93.

Aggression Questionnaire

The aggressiveness was evaluated using the Aggression Questionnaire, a tool developed by Buss and Perry (1992). This questionnaire consists of 29 items divided into four dimensions. Participants were required to express their level of agreement with each item on a five-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5).

For the assessment of internal consistency validity, the authors reported the following Cronbach's alpha values: (a) Physical Aggression (AGAF) α = .85, (b) Verbal Aggression (AGAV) α = .72, (c) Anger (AGEN) α = .83, and (d) Hostility (AGHO) α = .77. The total internal consistency index had a value of α = .89.

Procedures and analysis

For data collection, the youth leaders of a religious organization were contacted. They received a brief about the research and informed consent previously approved by the university's Ethics Committee of the researchers. This consent encompassed information regarding the objectives, procedures, privacy and confidentiality measures, potential risks, voluntary participation, and information about the researchers.

Upon obtaining the approval of youth leaders, the form was shared with the participants during virtual meetings throughout the last quarter of 2022. They were briefed on the purpose of the research and invited to participate voluntarily. The form initially presented the informed consent, and only those who agreed could proceed to the subsequent sections containing the instruments. The platform used was Google Forms.

In terms of data analysis, a robust approach was employed, using computational tools to process and interpret the gathered information, including IBM SPSS Statistics (Version 25), R (R Core Team, 2023), the Lavaan package for R (Rosseel, 2012), and Microsoft Excel®.

Results

The study's findings suggest that all three measurement instruments exhibited satisfactory levels of internal consistency reliability, as assessed through Cronbach's Alpha and McDonald's Omega. Additionally, the study revealed satisfactory convergent validity for the three measurement scales used, as evidenced by Average Variance Extracted (AVE) values exceeding .50, as Hair et al. (2014) recommend.

Moreover, the Fornell-Larcker criterion was employed to establish the presence of satisfactory discriminant validity. This criterion compares the Average Variance Extracted (AVE) square root with the correlations between different constructs. In line with Fornell and Larcker (1981), the results indicated in Table 2 showed that the square root of the AVE for each scale exceeds the correlations between the constructs, confirming acceptable discriminant validity.

Before estimating the model parameters, the assumption of multivariate normality was assessed using the multivariate Shapiro-Wilk test. The results of this analysis indicated a violation of the normality assumption (W = .925, p < .001). Consequently, the fit of both the measurement and structural models was evaluated using Maximum Likelihood estimation with robust standard errors, and the Satorra-Bentler scaled Chi-square test (Satorra & Bentler, 1994).

The analysis revealed substantial evidence that the test statistic for the measurement model's fit with the sample data was statistically significant, suggesting suboptimal fit (χ^2 = 224.333, df = 51, p < .001). Nevertheless, based on the estimated fit indices, the measurement model exhibited reasonably satisfactory fit (Comparative Fit Index [CFI] = .912, Tucker-Lewis Index [TLI] = .886, Root Mean Square Error

Table 2. Descriptive statistics and intercorrelations of the study variables

Variable	*M*	*SD*	α	ω	AVE	Correlations		
						1	2	3
1. Spiritual Health	133.32	19.596	.901	.917	.793	**.891**		
2. Resilience	141.61	18.360	.722	.807	.547	.555	**.739**	
3. Aggressiveness	55.87	13.937	.837	.850	.594	-.332	-.350	**.771**

Note. *M*: mean, *SD*: standard deviation, α: Cronbach's Alpha, ω: McDonald's Omega, AVE: Average Variance Extracted. The values in bold on the diagonal represent the square roots of the Average Variance Extracted (AVE).

Table 3. Values for selected tests about measurement invariance for samples from México and Costa Rica

Model	χ^2	*df*	CFI	ΔCFI	SRMR	RMSEA (90% CI)
Unconstrained	224.333*	51	.912		.060	.092(.081, .092)
Configural invariance	272.358*	102	.915	.003	.061	.091(.080, .103)
Metric invariance	301.418*	111	.904	-.011	.074	.093(.081, .104)
Scalar invariance	337.836*	120	.893	-.011	.077	.095(.084, .106)

*$p < .001$

of Approximation [RMSEA] = .092 [.081, .103], Standardized Root Mean Square Residual [SRMR] = .060).

Because the sample included participants from two countries, a set of invariance tests for the measurement model (configural, metric, and scalar) were performed using Multigroup Confirmatory Factor Analysis. These tests check the change in the goodness-of-fit index when cross-group constraints are set for the measurement model (Cheung & Rensvold, 2002; Kline, 2011). Configural invariance was tested by specifying the same measurement model across the two groups, but no constraints were imposed. For this test, the chi-squared statistic was significant (see Table 3). Nevertheless, approximated goodness-of-fit indices were calculated because of the well-known sample dependence of the chi-square statistic, which could reject acceptable models. These indices suggest acceptable configural invariance, which means that the factor structure is similar for the two groups of participants (CFI = .912, TLI = .886, and SRMR= .060).

Construct-level metric invariance was tested by imposing cross-group equality constraints on the factor loadings (Kline, 2011) and comparing the chi-squared difference test for the configural and metric models. Scalar invariance was tested by constraining the intercepts of the regression equations for the observed variables to be similar across the two groups (Schmitt & Kuljanin, 2008) and by comparing the chi-squared difference test for the metric and the scalar models. The results showed that both the chi-square difference between the configural and metric invariance models and the chi-square difference between the metric and scalar invariance models were statistically significant ($\chi^2 = 28.654$, $df = 9$, $p < .001$; $\chi^2 = 43.426$, $df = 9$, $p < .001$, respectively).

On the other hand, Cheung and Rensvold (2002) suggest that changes less than or equal to .01 for the CFI values indicate that the null hypothesis of invariance should not be rejected. Therefore, changes in the CFI index (ΔCFI) were calculated between the following pairs of models: configural-metric and metric-scalar. For both cases, the value of ΔCFI is slightly greater than the threshold value of .01 (see Table 3). In addition, values for the SRMR and RMSEA indices were calculated for the configural, metric, and scalar models (see Table 3). For all the cases, the values of the SRMR indices are lower than the desired value of .08, meaning an acceptable fit of the models (Hu and Bentler, 1999). On the other hand, the RMSEA index is greater than the threshold of .06, as recommended by Hu and Bentler (1999) for a good fit of the models. However, it is less than the value of .10, which indicates that the models cannot be considered to have a poor fit (Tabachnick and Fidell, 2013).

Based on the previous results, it can be concluded that the measurement model shows acceptable configural invariance, which is the baseline model against the metric and scalar models are compared. Standardized estimates of factor

loadings for this model are provided in Table 4. In addition, some evidence was found for not rejecting the hypothesis of metric and scalar invariance of the measurement model.

Table 4. Standardized parameter estimates of the configural model of Mexican and Costa Rican responses to Spiritual Health, Resilience, and Aggressiveness items

Variable	Costa Rica	México
AGAF	.65	.74
AGAV	.80	.75
AGEN	.82	.86
AGHO	.74	.80
SECE	.77	.86
SECM	.95	.94
SESS	.86	.91
REAF	.60	.67
REAS	.51	.59
RECS	.67	.68
REES	.56	.77
REFO	.85	.75

The indicator variables used to validate the structural model were the total scores obtained for the items within each dimension of the three constructs included in the model, as shown in Figure 2. Reviewing the model fit, it was decided to correlate the Family Support (REAF) and Social Support (REAS) dimensions, considering that the attachment formed from early childhood is fundamental for the subsequent emotional development of the individual (Bowlby, 1969). As people grow, they seek and depend on different sources of support within their social environment (Bowlby, 1980). From the life cycle theory perspective, McGoldrick and Carter (2011) describe how youth is a stage where both the primary network (family) and the secondary network (social support) significantly influence well-being and help in facing adversities.

The analysis of the global Chi-square statistic indicated no significant evidence to support the hypothesis that the sample covariance matrix is a good fit for the theoretical model covariance matrix (χ^2 = 201.891, *df* = 50, p < .001). An analysis of the approximate fit indicators revealed the generally acceptable fit quality (CFI = .923, TLI = .898, RMSEA = .087 [.076, .099], SRMR = .058).

Moreover, the statistical significance of the regression coefficients for the structural relations, included in the model as shown in Table 5, validates the formulated hypotheses. This study's findings indicate a strong relationship between spiritual health and resilience, as well as a negative relationship between spiritual health and aggression. Additionally, a negative association was found between resilience and aggressiveness.

The present study concludes by examining the standardized indirect effect of spiritual health on aggression, with resilience acting as a mediator. Using the values reported in Table 5, this effect was estimated as the product of the two paths, resulting in .656 x -.249 = -.163. Furthermore, the overall standardized effect of spiritual health on aggressiveness is determined to be -.351. Conversely, the unstandardized indirect effect of spiritual health on aggression is .307 x -.338 = -.103. This suggests that aggressiveness decreases by approximately 0.10 points for each point increase in the variable of spiritual health in its original metric, mediated through its prior effect on resilience.

The Sobel test (Baron & Kenny, 1986; Kline, 2011) was utilized to assess the significance of the indirect effect. This analysis used the unstandardized regression coefficients and standard errors in Table 5. The results indicated that the indirect effect of spiritual health on aggressiveness, with resilience as a mediator, was significant (Z = -2.669, p = .008). Moreover, because the assumption that the product of the coefficients for the indirect effect follows a normal distribution, which is required for the Sobel test, may not be valid, a bootstrap resampling with a replacement approach was performed (Hayes & Scharkow, 2013; Preacher & Hayes, 2004).

Figure 2. Standardized parameter estimates of the structural model

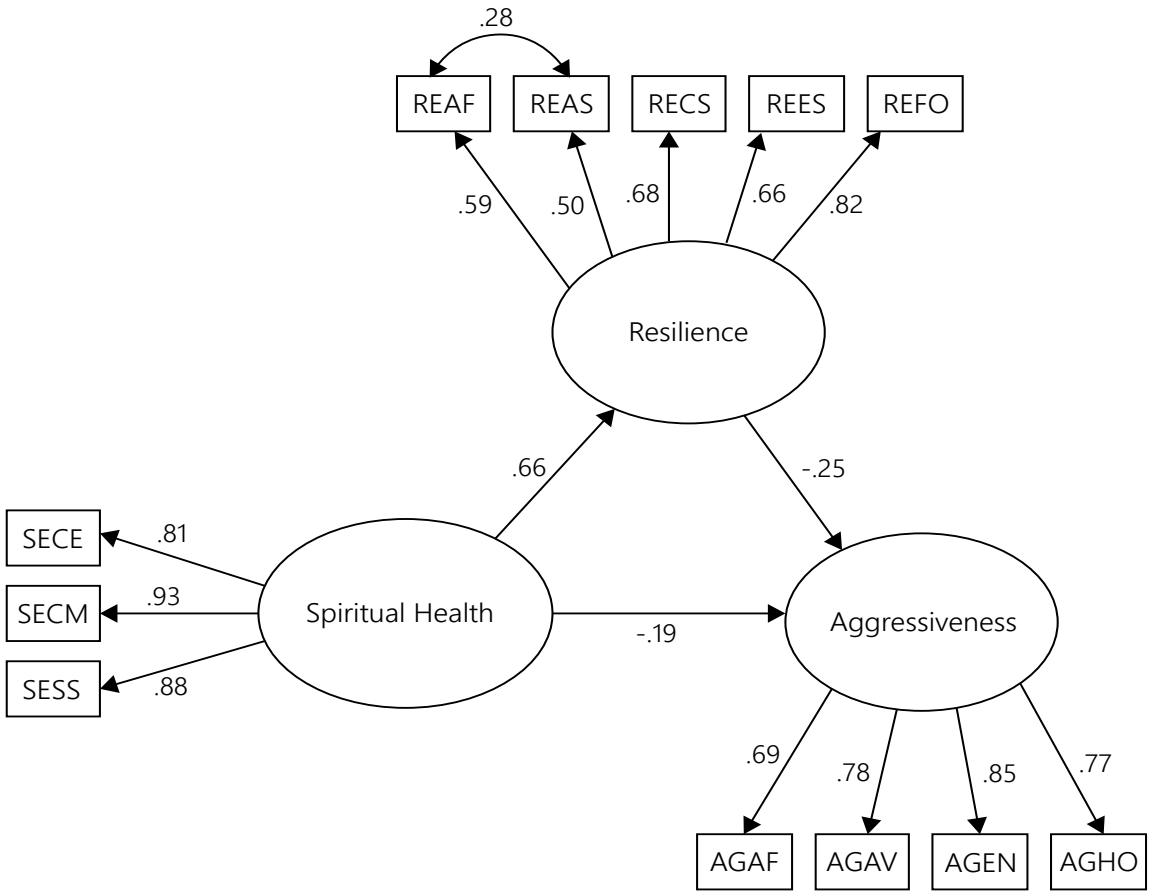


Table 5. Structural relationships between variables

Hypothesis	Relationship	β1	*SE*	β2	*p*
H1	Spiritual Health → Resilience	.307	.044	.656	< .001
H2	Spiritual Health → Aggressiveness	-.119	.048	-.188	.013
H3	Resilience → Aggressiveness	-.338	.117	-.249	.004

Note. β1: Unstandardized regression coefficient; *SE*: Standard Error; β2: Standardized regression coefficient.

Using 1000 bootstrap samples, the indirect effect of spiritual health on aggression, with resilience acting as a mediator, was estimated as -.104, 95% CI [-.190, -.022]. Since this confidence interval does not contain zero, it can be concluded that the indirect effect is significantly different from zero.

Discussion

This study aimed to evaluate the adequacy of a structural equation model examining the relationship between spiritual health, resilience, and aggressiveness in a sample of active Christian young adults. To address the research objectives, the study formu-

lated the following hypotheses: (a) spiritual health positively affects resilience; (b) spiritual health negatively affects aggressiveness; (c) resilience negatively affects aggressiveness; and (d) resilience acts as a mediator connecting spiritual health with aggressiveness. The information obtained from the sample data supported all the hypotheses and the model.

These findings suggest a significant relationship between spiritual health and resilience, primarily when individuals draw upon their spiritual resources during challenging circumstances. According to Huerta and Rivera (2017), higher levels of spiritual health are positively correlated with an increased wealth of resources, highlighting the fundamental role of spiritual health in fostering effective coping strategies.

Furthermore, as observed by Brooks and Goldstein (2004), it fosters the development of qualities that benefit the broader social structure. This includes promoting empathy, generating proactive and meaningful contributions to society, and cultivating a purposeful existence driven by intentional values. Moreover, it encourages a constructive perception of individuality, characterized by a reduced focus on oneself, thereby significantly amplifying its impact through the promotion of personal agency.

Similarly, Cosmas et al. (2022) highlight the intricate interrelationship between resilience and spirituality in their connection to quality of life. Their research unveils a substantially relevant interaction, thus emphasizing that robust spirituality facilitates more effective time management, heightened motivation, adept emotional handling, and more effective social interaction. This set of skills leads to more enriching relationships with oneself and others.

The current study's findings align with the research of Alorani and Alradaydeh (2017), which found that spirituality plays a crucial role in reducing aggressive behavior. The study's results demonstrated a statistically significant inverse relationship between elevated levels of spiritual health and reduced levels of aggression across its four dimensions.

Additionally, Jang et al. (2018) emphasize that spirituality strongly correlates with qualities such as compassion, forgiveness, gratitude, a sense of divine purpose, and appreciation toward a higher authority. These characteristics clearly distinguish themselves from negative emotional states and deliberate hostile behaviors.

In conjunction with maintaining spiritual health, resilience plays a pivotal role in regulating aggressive tendencies. The development of resilience, encompassing attributes such as strength, self-assurance, and interpersonal skills, contributes to the acquisition of proficient problem-solving capabilities and emotional regulation aptitude. It enhances the capacity of people to cope effectively with stress and navigate interpersonal conflicts, thereby fostering the development of positive behaviors, as evidenced by the findings of Reich et al. (2010).

Both spiritual health and resilience are significantly influenced by external sources of support, as exemplified by the initiatives undertaken by religious organizations. These programs play a fundamental role as protective elements, effectively mitigating the emergence of aggressive behaviors, a notion corroborated by the research of García-Vega and Domínguez-de la Ossa (2013).

Concerning the final hypothesis, findings indicate that resilience can indeed be considered a mediating variable for mitigating aggressiveness in this sample. This may be attributed to resilience, enabling young individuals to manage stress and conflict situations better, leading to less aggressive behavior (Williams & Taylor, 2021). Other studies have also examined resilience as a mediator, such as Cerquera et al. (2020), who concluded that it can mediate the relationship between coping strategies and aggressiveness, and Aldao et al. (2010), who suggest that resilience plays a significant role in how individuals cope with stressful life events, such as the death of a loved one.

Among the limitations of this study is that the findings are specific to Christian young adults actively engaged in religious congregations, which may constrain the generalizability of the results to other populations. The inherent characteristics of the

sample, including high levels of spiritual health and resilience, may have influenced the outcomes. Moreover, the reliance on self-reported data introduces potential biases, such as social desirability and subjective interpretation of survey questions. Future research should consider incorporating diverse samples and objective measures to validate these findings. Additionally, comparing the results of this research by including religions other than Christianity would be beneficial.

Some researchers have examined additional factors associated with spirituality and aggression that could potentially serve as mediators for future investigations. These factors include happiness, as explored by Kong and Seo (2010), self-esteem, as investigated by Borji et al. (2019), and moral identity, as examined by Hardy et al. (2012). Finally, substantial evidence has been found regarding negative correlations between aggressiveness and self-control (Peker & Yildiz, 2021), prosocial behavior, and empathy (Llorca et al., 2014), as well as self-esteem (Rill et al., 2009).

Furthermore, it is essential to continue exploring the specific mechanisms through which spiritual resources enhance survival strategies. Investigating these mechanisms could yield valuable insights for developing targeted interventions to strengthen spiritual health to promote resilience.

Recognizing the role of external support, especially from religious organizations, in influencing spiritual health and resilience, practitioners and policymakers should collaborate with these entities to design and implement programs that promote spiritual health and resilience. These initiatives may involve educational seminars, community engagement activities, and support networks to effectively enhance individuals' capacity to address challenges.

Finally, longitudinal studies that allow for a more comprehensive exploration of the nature and direction of the relationship between spiritual health and aggression over time should be conducted. Similarly, specific interventions to strengthen spiritual health are proposed as a potential strategy for reducing aggression in clinical and community settings. These recommendations aim to enrich understanding of the interaction between the spiritual dimension and aggressive behavior and guide the development of effective interventions in this domain.

This study underscores the significant roles of spiritual health and resilience in reducing aggressive behaviors among young Christian adults actively involved in religious congregations. These insights suggest that fostering spiritual health through targeted interventions may be an effective strategy for promoting resilience and mitigating aggression. Collaboration between practitioners, policymakers, and religious organizations is essential to design and implement programs that enhance spiritual health and resilience, ultimately contributing to positive behavioral outcomes.

References

Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review*, *30*, 217-237.

Alorani, O. I., & Alradaydeh, M. F. (2017). Depression, aggression and spiritual well-being among the university students in Jordan. *European Scientific Journal January*, *13*(2), 269-280. http://dx.doi.org/10.19044/esj.2016.v13n2p269

Aroyewum, B. A., Adeyemo, S. O., & Nnbuko, D. C. (2022). Aggressive behavior: Examining the psychological and demographic factors among university students in Nigeria. *Cogent Psychology*, *10*(1), 2154916. https://doi.org/10.1080/23311908.2022.2154916

Baloochi, A., Abazari, F., & Mirzaee, M. (2018). The relationship between spiritual intelligence and aggression in medical science students in the southeast of Iran. *International Journal of Adolescent Medicine and Health*, *32*(3), 20170174. https://doi.org/10.1515/ijamh-2017-0174

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, *51*(6), 1173-1182. http://doi.org/10.1037//0022-3514.51.6.1173

Borji, M., Memaryan, N., Khorrami, Z., Farshadnia, E., & Sadighpour, M. (2019). Spiritual health and resilience among university students: The mediating role of self-esteem. *Pastoral Psychology*, *69*(1), 1-10. https://doi.org/10.1007/s11089-019-00889-y

Bowlby, J. (1969). *Attachment and Loss: Volume 1. Attachment*. Basic Books

Bowlby, J. (1980). *Attachment and Loss: Vol. 3. Loss. Sadness and Depression*. Basic Books

Brooks, R., & Goldstein, S. (2004). *The Power of Resilience*. McGraw-Hill.

Buss, A. H., & Perry, M. (1992). The aggression questionnaire. *Journal of Personality and Social Psychology*, *63*(3), 452-459. https://doi.org/10.1037/0022-3514.63.3.452

Card, N. A., & Little, T. D. (2007). Studying aggression with structural equation modeling. In D. Flannery, A. Vazsonyi & I. Waldman (Eds.), *The Cambridge Handbook of Violent Behavior and Aggression* (pp. 727-739). Cambridge University Press. https://doi.org/10.1017/CBO9780511816840.038

Cerquera, A. M., Matajira, Y. J., & Peña, A. J. (2020). Estrategias de afrontamiento y nivel de resiliencia presentes en adultos jóvenes víctimas del conflicto armado colombiano: un estudio correlacional. *Psykhe*, *29*(2), 1-14. https://dx.doi.org/10.7764/psykhe.29.2.1513

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, *9*(2), 233-255. https://doi.org/10.1207/S15328007SEM0902_5

Cosmas, G., Gussago, L., Seok, C. B., & Ading, C. (2022). The effects of resiliency on university students' happiness and life effectiveness amid the COVID-19 pandemic: Religious faith stands as a moderator. *The International Journal of Religion and Spirituality in Society*, *12*(2), 29-41. https://doi.org/10.18848/2154-8633/CGP/v12i02/29-41

Crawford, E., O'Dougherty, M., & Masten, A. S. (2006). Resilience and spirituality in youth. In E. C. Roehkepartian, P. E. King & P. L. Benson (Eds.), *The Handbook of Spiritual Development in Childhood and Adolescence* (pp. 355-370). Sage Publications.

Covarrubias, Z. E., & Aguilar, F. L. (2022). Salud espiritual, agresividad y resiliencia en una muestra de jóvenes adventistas mexicanos. *Psico Sophia*, *4*(1), 16-22. http://psicosophia.um.edu.mx/ojs/index.php/psicosophia/article/view/40/32

Dalby, C., Asmann, P., & Gorder, G. (2022, March 24). Why does Latin America dominate the World's most violent cities list? *InSight Crime*. https://insightcrime.org/news/latin-america-stranglehold-world-most-violent-cities-list/

Ferguson, C., San Miguel, C., & Hartley, R. D. (2009). A multivariate analysis of youth violence and aggression: The influence of family, peers, depression, and media violence. *The Journal of Pediatrics*, *155*(6), 904-908. https://doi.org/10.1016/j.jpeds.2009.06.021

Fisher, J. (2011). The Four Domains Model: Connecting spirituality, health and well-being. *Religions*, *2*(1), 17-28. https://doi.org/10.3390/rel2010017

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39-50. https://doi.org/10.1177/002224378101800104

García-Vega, M. C., & Domínguez-de la Ossa, E. (2013). Desarrollo teórico de la resiliencia y su aplicación en situaciones adversas: una revisión analítica. *Revista Latinoamericana de Ciencias Sociales, Niñez y Juventud*, *11*(1), 63-77. https://doi.org/10.11600/1692715x.1113300812

Gonçalves, J. P. B., Lucchetti, G., Maraldi, E. O., Fernandez, P. E. L., Menezes, P. R., & Vallada, H. (2023). The role of religiosity and spirituality in interpersonal violence: A systematic review and meta-analysis. *Brazilian Journal of Psychiatry*, *45*(2), 162-181. https://doi.org/10.47626/1516-4446-2022-2832

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate Data Analysis* (7th ed.). Pearson Education Limited.

Hardy, S. A., Walker, L. J., Rackham, D. D., & Olsen, J. A. (2012). Religiosity and adolescent empathy and aggression: The mediating role of moral identity. *Psychology of Religion and Spirituality*, *4*(3), 237-248. https://doi.org/10.1037/a0027566

Hayes, A. F., & Scharkow, M. (2013). The relative trustworthiness of inferential tests of the indirect effect in statistical mediation analysis: Does method really matter? *Psychological Science*, *24*(10), 1918-1927. https://doi.org/10.1177/0956797613480187

Hernández-Sampieri, R., Fernández, C., & Baptista, M. P. (2014). *Metodología de la investigación* (6a ed.). McGraw Hill Education.

Hoelter, J. W. (1983). Factorial invariance and self-esteem: Reassessing race and sex differences. *Social Forces*, *61*(3), 834-846. https://doi.org/10.2307/2578137

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1-55. https://doi.org/10.1080/10705519909540118

Huerta, Y., & Rivera, M. E. (2017). Resiliencia, recursos familiares y espirituales en cuidadores de niños con discapacidad. *Journal of Behavior, Health & Social Issues*, *9*(2), 70-81. https://doi.org/10.1016/j.jbhsi.2018.01.005

Jang, S. J., Johnson, B. R., Hays, J., Hallett, M., & Duwe, G. (2018). Existential and virtuous effects of religiosity on mental health and aggressiveness among offenders. *Religions*, *9*(6), 182. https://doi.org/10.3390/rel9060182

Jones, K., Simpson, G. K., Briggs, L., & Dorsett, P. (2015). Does spirituality facilitate adjustment and resilience among individuals and families after SCI? *Disability and Rehabilitation*, *38*(10), 921-935. https://doi.org/10.3109/09638288.2015.1066884

Kim, J., Seok J., Choi, K., Jon, D., Hong, J. H., Hong, N., & Lee, E. (2015). The protective role of resilience in attenuating emotional distress and aggression associated with early-life stress in young enlisted military service candidates. *Journal of Korean Medical Science*, *30*(11), 1667-1674. https://doi.org/10.3346/jkms.2015.30.11.1667

Kline, R. B. (2011). *Principles and Practice of Structural Equation Modeling* (3a ed.). The Guilford Press.

Kong, E. S., & Seo, H. S. (2010). A study on the relationship among spiritual well-being, aggression, and happiness of the students in Christian universities. *Journal of the Korean Society of School Health*, *23*(2), 266-275. http://www.jkssh.or.kr/journal/view.html?spage=266&volume=23&number=2

Korniejczuk, V. A., Moroni, C. M., Quiyono, E., Rodríguez, J., Valderrama, A., Charles-Marcel, Z. L., Barriguete, J. A., & Córdova, J. Á. (2020). La salud espiritual, su evaluación y su papel en la obesidad, la diabetes mellitus y otras enfermedades crónicas no transmisibles. En J. M. Abdo, C. A. Aguilar, F. Alillaire & T. Barrientos (Comps.), *Nutrición, obesidad, BDM, HTA, dislipidemias, TCA y salud mental* (pp. 561-586). Producciones Sin Sentido Común.

Llorca, A., Mesurado, B., & Samper, P. (2014). El rol mediador de la empatía, la conducta prosocial y la conducta agresiva en la depresión y la ansiedad. *Ansiedad y estrés*, *20*(2), 245-256. https://ri.conicet.gov.ar/bitstream/handle/11336/33565/CONICET_Digital_Nro.e8e64be6-3e95-4e65-b995-990e3c-69da86_A.pdf?sequence=2&isAllowed=y

McGoldrick, M., & Carter, B. (2011). *The expanded family life cycle: Individual, family, and social perspectives*. Pearson Education

Miranda, R., Oriol, X., & Amutio, A. (2019). Risk and protective factors at school: Reducing bullies and promoting positive bystanders' behaviors in adolescence. *Scandinavian Journal of Psychology*, *60*(2), 106-115. https://doi.org/10.1111/sjop.12513

Moroni, C. M., Olmedo, L. A., & Korniejczuk, V. (2022). Salud espiritual, clima organizacional y funcionamiento familiar. *Revista de Psicoterapia*, *33*(122), 143-156. https://doi.org/10.33898/rdp.v33i122.994

Moroni, C. M., Olmedo, L. A., Manzano, M., Korniejczuk, V. A., Guerrero, D. A., Quiyono, E., & Gugliandolo, M. C. (2021). Spiritual health, family functioning and symptoms of depression and anxiety among adults from a sample of northeastern Mexico. *Cogent Psy-*

chology, *8*(1), 1980259. https://doi.org/10.1080/23311908.2021.1980259

Moroni, C. M., Covarrubias, Z., & Badilla, R. P. (2023). Spiritual health, aggression and resilience in a sample of young Costa Ricans. *South Florida Journal of Health*, *4*(1), 45-60. https://doi.org/10.46981/sfjhv4n1-005

Muggah, R., & Aguirre, K. (2018). *Citizen Security in Latin America: Facts and figures*. Igarapé Institute. https://igarape.org.br/wp-content/uploads/2018/04/Citizen-Security-in-Latin-America-Facts-and-Figures.pdf

Pachi, A., Kavourgia, E., Bratis, D., Fytsilis, K., Papageorgiu, S. M., Lekka, D., Sikaras, C., & Tselebis, A. (2023). Anger and aggression in relation to psychological resilience and alcohol abuse among health professionals during the first pandemic wave. *Healthcare*, *11*(14), 1-25. https://doi.org/10.3390/healthcare11142031

Palomar, J., & Gómez, N. (2010). Desarrollo de una escala de medición de la resiliencia con mexicanos (RESI-M). *Interdisciplinaria*, *27*(1), 7-22. http://www.scielo.org.ar/scielo.php?script=sci_arttext&pid=S1668-70272010000100002

Peker, A., & Yildiz, M. N. (2021). Mediating role of self-control in the relationship between aggressiveness and cyber bullying. *Psychiatry and Behavioral Sciences*, *11*(1), 40-49. https://doi.org/10.5455/PBS.20210114051215

Pérez, M. (2023, December 11). México, con la novena tasa más alta de homicidios en América. *El Economista*. https://www.eleconomista.com.mx/politica/Mexico-con-la-novena-tasa-mas-alta-de-homicidios-en-America-20231211-0013.html

Preacher, K. J., & Coffman, D. L. (2006). *Computing power and minimum sample size for RMSEA* [Computer software]. http://quantpsy.org/

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers, 36*(4), 717-773. https://doi.org/10.3758/BF03206553

R Core Team. (2023). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. https://www.R-project.org/

Reich, J. W., Zautra, A. J., & Stuart, J. (2010). *Handbook of Adult Resilience*. The Guilford Press.

Pérez, M. (2024, January 02). Costa Rica cierra el 2023 como el año más violento de su historia. *El Economista*. https://www.eleconomista.com.mx/politica/Mexico-con-la-novena-tasa-mas-alta-de-homicidios-en-America-20231211-0013.html

Rill, L., Baiocchi, E., Hopper, M., Denker, K., & Olson, L. N. (2009). Exploration of the relationship between self-esteem, commitment, and verbal aggressiveness in romantic dating relationships. *Communication Reports*, *22*(2), 102-113. https://doi.org/10.1080/08934210903061587

Rosseel, Y. (2012). Lavaan: An R Package for structural equation modeling. *Journal of Statistical Software*, *48*(2), 1-36. https://doi.org/10.18637/jss.v048.i02

Satorra, A., & Bentler, P. M. (1994). Correction to test statistics and standard errors in covariance structure analysis. In A. Von Eye & C. C. Clogg (Eds.), *Latent Variable Analysis: Applications for Developmental Research* (pp. 399-419). Sage Publications.

Sadeghifard, Y. Z., Veisani, Y., Mohamadian, F., Azizifar, A., Naghipour, S., & Aibod, S. (2020). Relationship between aggression and individual resilience with the mediating role of spirituality in academic students. A path analysis. *Journal of Education and Health Promotion*, *9*(1), 1-6. https://doi.org/10.4103/jehp.jehp_324_19

Schwalm, F. D., Zandavalli, R. B., de Castro, E. D., & Lucchetti, G. (2021). Is there a relationship between spirituality/religiosity and resilience? A systematic review and meta-analysis of observational studies. *Journal of Health Psychology*, *27*(5), 1218-1232. https://doi.org/10.1177/1359105320984537

Schmitt, N., & Kuljanin, G. (2008). Measurement invariance: Review of practice and implications. *Human Resource Management Review*, *18*(4), 210-222. https://doi.org/10.1016/j.hrmr.2008.03.003

Shorey, R. C., Elmquist, J., Anderson, S., & Stuart, G. L. (2016). The relationship between spirituality and aggression in a sample of men in residential substance use treatment. *International Journal of Mental Health and Addiction*, *14*(1), 23-30. https://doi.org/10.1007/s11469-015-9565-y

Spector, P. E. (2019). Do not cross me: Optimizing the use of cross-sectional designs. *Journal of Business and Psychology*, *34*(1), 125-137. https://doi.org/10.1007/s10869-018-09613-8

Tabachnick, B. G., & Fidell, L. S. (2013). *Using Multivariate Statistics* (6th ed.). Pearson.

Thompson, C. B., & Panacek, E. A. (2007). Research study designs: Non-experimental. *Air Medical Journal*, *26*(1), 18-22. https://doi.org/10.1016/j.amj.2006.10.003

Turrell, J., & Almási-Szabó, L. (2022). Insecurity and religiosity in Central America: A comparative study. *The International Journal of Religion and Spirituality in Society*, *13*(1), 79-97. https://doi.org/10.18848/2154-8633/CGP/v13i01/79-97

Williams, R., & Taylor, M. (2021). Psychological resilience and aggression in emerging adulthood. *Developmental Psychology*, *57*(4), 210-225. https://doi.org/10.9101/dp.2021.78901

Zardoshtian, S., Karimi, J., & Hosseini, M. (2017). Explain the relationship between spiritual intelligence and aggression with mediating role of resiliency in between Asian Kung Fu workers. *Organizational Behavior Management in Sport Studies*, *5*(1), 55-62. https://journals.pnu.ac.ir/article_3594_4f65d7e81cc0a8276f1d7f03729fb0dc.pdf