

# BMJ Open Religiosity as a potential mediator for violence in childhood and adulthood: results from a Brazilian nationally representative survey

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## ABSTRACT

**Objectives** Although previous studies have investigated the role of religiosity in violence outcomes, there is a lack of studies including this aspect as a mediator for violence in childhood and adulthood. This study aimed to investigate the relationship between religiosity and violence in childhood, as well as the possible mediating role of religiosity between suffering violence in childhood and suffering and/or perpetrating violence in adulthood.

**Design** Cross-sectional population-based study carried out from November 2011 to March 2012.

**Setting** Face-to-face surveys (at participants' homes) were performed in a Brazilian nationally representative sample.

**Participants** A total of 3378 adults (aged 19 years and above) were included.

**Primary and secondary outcomes measures** The association between suffering violence in childhood and religiosity, and the mediating role of religiosity between childhood and adulthood violence were analysed using logistic regression models.

**Results** Religiosity was associated with childhood violence, showing that those who suffered less violence in childhood were more religious in adulthood and considered religion more important in their lives. However, while there was a significant association between suffering violence during childhood and suffering and/or perpetrating violence in adulthood, religiosity did not mediate this relationship.

**Conclusions** Although religious individuals self-reported less violence suffered in childhood, religiosity did not show evidence of being a potential mediator for childhood and adulthood violence (experienced and/or perpetrated). These results could help researchers explore this phenomenon, and aid health professionals and managers when proposing future interventions.

## INTRODUCTION

A worldwide survey on disability and injuries involving 187 countries was conducted from 1990 to 2013. Results showed a 45% increase in firearm attacks, a 32.6% increase in attacks with sharp objects and a 37.6% increase in mental illnesses occurring due to substance

## STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ This study has included a Brazilian nationally representative sample of 3378 individuals.
- ⇒ No previous study has assessed the mediating role of religiosity between violence in childhood and adulthood.
- ⇒ Individuals who suffered less violence in childhood were more religious in adulthood. Nevertheless, religiosity did not mediate the relationship between being a victim of violence in childhood and suffering or perpetrating violence in adulthood.
- ⇒ The effect of memory bias in the assessment of childhood violence and the cross-sectional design are limitations of this study.

abuse.<sup>1</sup> This confirms a trend of increasing violence in the past decades.

Furthermore, childhood violence, defined as 'child maltreatment (ie, physical, sexual and emotional abuse and neglect) at the hands of parents and other authority figures',<sup>2</sup> is a predominant problem. A recent study conducted across four countries and including 10 042 individuals found that 78% of girls and 79% of boys suffered violence during their childhood (before 18 years old), which was usually perpetrated by family and friends.<sup>3</sup>

There are several long-term consequences for those who have suffered violence in childhood, such as high levels of anxiety, depression, post-traumatic stress disorder (PTSD), suicide attempts, substance use and psychopathology.<sup>4</sup> Within this context, it is interesting to note that individuals' victims of violence in childhood become victims (possibly remaining in the abusive relationship due to helplessness, low satisfaction in life and exposure to psychological pressures toward commitment),<sup>5 6</sup> or perpetrators of violence in their future adulthood (probably as a result of a defensive mechanism).<sup>7 8</sup>

The cost of treatment among these patients is high and therapy is complex and demanding, increasing the strain on mental health services, emergency care and the criminal justice system.<sup>9</sup>

Within this context, the latest version of the Diagnostic and Statistical Manual of Mental Disorder (DSM-5-2013) supports that preventive initiatives for violence should consider cultural aspects in treating victims.<sup>4</sup> Recent studies have shown that when an individual, especially a child or adolescent, is recovering from experiencing violence, religious/spiritual (R/S) beliefs can be a supportive and therapeutic source, providing comfort, encouragement, forgiveness, and improving self-esteem.<sup>10-12</sup> These beliefs seem to have a significant association with resilience during rehabilitation after violent trauma, primarily due to the coping aspects of the processing stage.<sup>13 14</sup>

Systematic reviews have compiled a robust database in which the R/S dimension is associated with less perpetration of violence, delinquency, alcoholism, and substance abuse in adolescents.<sup>15-17</sup> Several other studies have indicated a protective role of religiosity in intimate partner violence (IPV), in fights and gang affiliations.<sup>18-21</sup> Research also showed a potential protective role of religiosity on children when the parents were religious,<sup>22-24</sup> which could be due to the moral and spiritual values shared within the home. Although the mechanisms are still not clear, R/S have an influence on violent outcomes, both in childhood and adulthood<sup>23 25</sup> which, in other words, may explore R/S as a good candidate for mediation analyses. Since the occurrence of violence has been increasing globally in the past decade, understanding protective factors against violence in childhood and adolescence is crucial.

Previous studies have shown that after suffering violence in childhood, some individuals tend to become more R/S as a way of cope with the distress.<sup>26 27</sup> This increase in religiosity may have an influence on their future outcomes. According to the Social Control Theory, a religious individual is prevented from perpetrating violence through the fear of a 'Divine punishment' or avoiding the disrespect of a religious doctrine.<sup>15 16</sup> The same theory could also explain how R/S may avoid being a victim of violence as well, since those with higher levels of religiosity tend to engage with peers who share the same beliefs, attend to religious services, cultivate positive values, and receive greater social support,<sup>16 20 28</sup> which may result in less abusive relationships and lower exposure to risks.

Additionally, R/S are mediators between suffering childhood violence and improving mental health outcomes in adulthood,<sup>10 29</sup> showing a significant role in the rehabilitation process. However, to the best of our knowledge, no studies have been conducted with religiosity as a mediator for suffering violence in childhood and perpetrating or being a victim of violence in adulthood. This highlights an important gap of this research.

This study aimed to investigate the relationship between religiosity in adulthood and being a victim of violence in

childhood, as well as to determine if religiosity mediated the relationship between suffering violence in childhood and perpetrating or being a victim of violence in adulthood. Our hypothesis is based on the Social Control Theory, which suggests that more religious individuals would suffer and perpetrate less violence.

## METHODS

### Study design

This was a cross-sectional, multistage sampling study, nested on the Second Brazilian National Alcohol and Drugs Survey (II BNADS).<sup>30</sup> It was a population-based study. The protocol was approved by the Research Ethics Committee of the Federal University of Sao Paulo and the Brazilian National Commission of Ethics in Research (CONEP), Brazil under approval number CAAE: 61909615.0.0000.5505. All respondents provided written informed consent.

### Patient and public involvement

Since the main goal of the research was to understand the pattern of alcohol and drugs consumption and violent behaviour among the Brazilian population, the questions and outcomes used to assess this information were based on previous international research on this topic. The counties were selected by the probability proportion method. The results of the study are publicly available in Portuguese and can be viewed on the following open access website: <https://inpad.org.br/lenad/resultados/alcool/>

### Participants and eligibility criteria

We included individuals who were at least 19 years old and were living in Brazil between November 2011 and March 2012. Indigenous individuals or those with severe cognitive impairment were excluded.

### Procedures

Sample selection was conducted as follows: (1) selection of 149 counties using the probability proportional to size methods (PPS); (2) selection of 375 census sectors (two for each county), also using PPS and (3) selection of 8 simple random households within each census sector, followed by sample selection of a household member randomly chosen by the 'closest future birthday' technique (the household member with the nearest birth date). The detailed procedure is illustrated in a previous publication.<sup>30 31</sup>

### Face-to-face survey

Trained research assistants conducted face-to-face interviews in the participants' residences. To ensure appropriate procedures were applied in the survey process, 20% of the face-to-face surveys were supervised by the principal researchers. Although most studies adopt the supervision of only a few questionnaires,<sup>32 33</sup> we decided to supervise 20% to improve the quality of data collection in our study.

The questionnaire used was an adaptation of the 'Hispanic Americans Baseline Alcohol Survey (HABLAS)'.<sup>34</sup>

### Variables analysed in this study

#### A. Childhood violence:

1. Parent-to-child aggression was assessed via the question: 'During childhood or adolescence, did your parents do any of the following: insulting/threatening with a knife or gun/beating/hurting with an object/causing marks/throwing hot water/shooting with a gun?' Answer options were 'never', 'sometimes', 'often', 'very often', 'I don't know' and 'I refuse to answer'. The scores were added and then dichotomised into 'never' (0) and 'at least once' (1). Cronbach's alpha for this study was 0.75 for these seven summed items.
2. Witnessing parents threaten each other was assessed using the question: 'How many times in childhood or adolescence did you witness your parents threaten each other?' The answer options and dichotomisation process were identical to the first question.
3. Witnessing parents attack each other was assessed using the question: 'How many times in childhood or adolescence did you witness your parents attack each other?' The answer options and dichotomisation process were identical to the first question.
4. Suffering bullying at school was assessed via the question: 'Have you ever suffered any kind of bullying at school during childhood or adolescence?' The answer options were 'yes' (1), 'no' (0), 'I don't know' and 'I refuse to say.'

#### B. Current violence

##### Perpetrated violence:

1. Involvement in fights was assessed through the question: 'In the last 12 months, how often were you involved in a fight with physical aggression?' Answers were dichotomised as 'never' (0) or 'at least once' (1).
2. Domestic violence was examined only among married or cohabiting participants. We asked: 'In the last 12 months, did you do any of these things to your partner: throw things, push, shake, slap, bite, kick, burn, force to have sex or strike with a knife/weapon?' Answers were dichotomised as 'never' (0) or 'at least once' (1). The domestic violence domain represented 56% of the total sample, with participants aged between 31 and 59 years. Cronbach's alpha was 0.78 for these nine summed items.
3. Police detention was assessed through the question: 'In the last 12 months, have you been detained or arrested by the police?' Answers included 'yes' (1) or 'no' (0)

##### Victim of violence:

1. Victims of aggression were assessed through the question: 'In the last 12 months, how many times

has someone threatened or hurt you with a weapon such as a knife or revolver?' Answer options were 'never', 'sometimes', 'often', 'very often', 'I don't know' and 'I refuse to answer'. The variable was dichotomised into 'never' (0) and 'at least once' (1).

2. Theft or assault was assessed by asking: 'How many times have you experienced theft or assault in the last 12 months?' The answers were: 'never', 'sometimes', 'often', 'very often', 'I don't know' and 'I refuse to answer'. We dichotomised the variable into 'never' (0) and 'at least once' (1).
3. Victims of domestic violence were assessed by asking: 'Have you suffered any of the following: 'throwing things/pushing/slapping/attacking/burning/threatening/shooting'. The variable was answered as 'yes' or 'no' for each item, and the scores were summed. Cronbach's alpha was 0.79 for these nine summed items.

#### C. Religiosity:

Due to limited time during the extensive survey, we chose two important and common religious outcomes presented by previous studies to assess religiosity (ie, religious affiliation and importance of religion) and violence.<sup>15</sup> These variables have previously been used worldwide in a variety of nationally representative samples.<sup>18 20 35–37</sup>

1. Religious affiliation was assessed via the question: 'What is your religion?' Answers included: Catholic, Protestant, Spiritism, Afro (Candomblé and Umbanda), Buddhist, Jewish, others and none. Religiosity was categorised as 'none' (0) or 'have a religious affiliation' (1).
2. The importance of religion was assessed through the question: 'How important is religion in your life?' Answers were 'not important', 'indifferent', 'without religion' (0) and 'very important/important' (1).

D. Sociodemographic characteristics included age (which was subdivided into three age groups: 19–30, 31–59 and 60 years and above); sex (female and male); educational level; Brazilian regions (North, Northeast, Midwest, Southeast and South); marital status (married/cohabiting, single, divorced, widower) and race (White, Black, Brown and others).

### Statistical methods

All analyses were weighted due to the stratified sampling design and non-responses using STATA V.13.0. All individuals who refused to answer or answered 'I don't know' to any of the questions (n=0.2%) were excluded.

The descriptive analyses included absolute numbers and percentages, means and SD. Due to the lack of the assumption of normality of the data, the relationship between childhood violence and religiosity was dichotomised and analysed using logistic regression. Models were reported unadjusted for sociodemographic variables (age, gender, education, and marital status).



Mediation models as proposed in online supplemental figure s1<sup>38</sup> were used to verify the possible mediating role of religiosity in the relationship between childhood violence and violence in adulthood. To explore these mediation models, logistic regressions (OR) with 95% CIs were used to verify if the variables met the following criteria: (a) childhood violence was associated with violence in adulthood, (b) childhood violence was associated with religiosity, (c) religiosity was associated with violence in adulthood and (d) the effect of childhood violence on violence in adulthood was attenuated after incorporating religiosity in the model.<sup>39</sup> If all criteria were met, Sobel-Goodman tests<sup>40</sup> were used to identify whether there was a partial or total mediation effect. Partial mediation occurs when there are significant levels on both direct and indirect pathways, and total mediation indicates that only the indirect effect is significant.<sup>41</sup> A  $p < 0.05$  was considered significant in all analyses.

## RESULTS

We included 3378 participants in the analysis. Socio-demographic characteristics, violence and religious outcomes are presented in table 1. Males and females were similarly distributed in the total sample. The mean age of the participants was 43.1 years (SD=16.71). The average period of formal education was 9.5 (SD=11.1) years. Most participants (63.9%) lived with a partner. The predominant races were Brown (43.5%) followed by White (40.8%).

Regarding violence outcomes (table 1), 22.1% of the participants suffered aggression from their parents, 17.7% saw their parents threaten each other, 11.1% witnessed some aggression between their parents and 12% experienced bullying at school. Violence perpetrated in adulthood varied from 1.3% to 8.2%. Being a victim of violence varied from 2.3% to 5.9%. Having a religious affiliation was self-reported by 91.5% of the participants and 87.1% attributed high importance to their religion.

Logistic regression analyses showed that the association between committing or suffering a violent act in adulthood and suffering the violence of any type by parents in childhood were statistically significant (ORs ranging from 1.43 to 11.37). Exceptions include being mugged for those individuals who witnessed their parents threatening each other, and experiencing domestic violence for those who were bullied at school (table 2). This demonstrates that individuals who have experienced some violence in childhood were more likely to become perpetrators of violence in adulthood.

Table 3 shows the association between violence suffered in childhood and religiosity. Having a religious affiliation was significantly associated with less aggression from the adolescent's parents (OR=0.69 (CI 0.48 to 0.99)). Conversely, attributing importance to religion was also associated with participants suffering aggression from parents (OR=0.59 (0.42 to 0.81)) and watching their parents threaten each other (OR=0.65 (0.45 to 0.94)).

**Table 1** Characteristics of sociodemographic, violence and mental health variables, Brazil, 2012

Variable	Total sample n=3378	%*
Sociodemographic		
Sex		
Male	1455	47.52
Female	1923	52.38
Age		
19–30	952	29.55
31–59	1359	41.09
60–99	1067	29.35
Marital status		
Single/separated/widowed	1330	36.13
Living with partner	2048	63.87
Race		
White	1372	40.84
Black	422	12.55
Brown	1482	43.53
Others	95	3.07
Brazilian regions		
North	285	7.14
Northeast	923	26.79
Midwest	209	7.05
Southeast	1453	44.16
South	508	14.86
Violence		
Involvement in fights		
No	3297	97.8
Yes	78	2.2
Police detention		
No	3331	98.74
Yes	43	1.26
Domestic violence		
No	1870	91.78
Yes	176	8.22
Victim of violence		
Involvement in fights		
No	3291	97.66
Yes	84	2.34
Being mugged		
No	3123	95.3
Yes	164	4.7
Victim of domestic violence		
No	1917	94.11
Yes	129	5.89
Violence in childhood		

Continued

**Table 1** Continued

Variable	Total sample n=3378	%*
Suffered aggression from parents		
Never	2622	77.95
Sometimes	707	21.04
Frequently	39	1.01
Watched parents threaten themselves		
Never	2735	82.3
Sometimes	424	12.61
Frequently	182	5.09
Watched parents beat themselves		
Never	2,92	88.9
Sometimes	298	8.98
Frequently	74	2.11
Suffered bullying in school		
No	2957	88.11
Yes	382	11.89
Religiosity		
Religious affiliation		
No	274	8.5
Yes	3099	91.5
Importance of religion		
No important	426	12.91
Some importance	2937	87.09
*Weighted percentage.		

When we assessed the association between religiosity and violence perpetrated and experienced in adulthood (table 4), being a victim of fights and mugging did not present significant correlations with religiosity. All other variables were significantly associated with religiosity outcomes (ORs ranging from 0.33 to 0.52).

Finally, the results of the regression models investigating the association adjusted for religiosity are shown in table 5. The associations between childhood violence and violence in adulthood were not attenuated by the incorporation of religiosity variables in the model. Therefore, religiosity was not considered as a potential mediator in this relationship.

## DISCUSSION

This study aimed to examine the relationship between religiosity and childhood violence and determine if religiosity mediated the relationship between adverse events in childhood and violence in adulthood. This nationally representative sample of 3378 Brazilian participants revealed that religiosity was partially associated with childhood violence, indicating that those who encountered

less violence as children were more religious and valued religion more in their lives. However, although there was a significant association between childhood violence and violence in adulthood, religiosity did not mediate this relationship.

The association between childhood violence and violence in adulthood is well established in the literature, demonstrating that violence perpetuated throughout the lifespan.<sup>29 30</sup> This association has severe clinical implications on mental health outcomes, such as mood disorders, PTSD, lower self-esteem,<sup>42 43</sup> alcohol and drug use,<sup>44</sup> and higher risks of developing psychopathology in adulthood.<sup>45</sup>

Although several studies reveal a positive association between childhood and adulthood violence, the present study aimed to understand the role of religiosity within this relationship. We found that those who self-reported being religious also self-reported suffering less violence in childhood, which is corroborated by previous studies that investigated consequences of childhood violence in adulthood.<sup>12 25 46</sup> A few explanations can be found in literature to clarify these findings.

One possibility is that some religious families are less violent than non-religious families, indicating a protective role of the parents' religiosity on the development of risky behaviour in their children. This conforms with the social control's theory, as previously mentioned,<sup>15 16</sup> and with previous findings stating that religious parents are more conscious about taking care of their children due to intrinsic religiosity.<sup>28 47</sup> Previous studies support this theory, for instance, children of parents who had frequent religious attendances had lower levels of internalising negative symptoms.<sup>48</sup> Likewise, parents who were more available were likely to raise more religious and less violent adolescents.<sup>23</sup> Additionally, levels of maternal religiosity were associated with lower conflict and psychological distress at home, greater trust in the parent child relationship,<sup>22</sup> and desirable emotional and behavioural outcomes in adolescents.<sup>49</sup>

However, it is important to note that witnessing parents hurt themselves and suffering bullying at school, were not associated with religiosity. Evidence suggests that childhood exposure to violence can alter an individual's religious beliefs, with a decrease in this dimension in adults who experienced an abusive childhood,<sup>50</sup> negative views of God during childhood,<sup>51 52</sup> and internal conflicts caused by incest in adulthood.<sup>52 53</sup> Nonetheless, due to the cross-sectional design of the present study, the reason for the association between religiosity and violence in childhood in our sample cannot be determined.

Another important objective of our study was to explore the potential role of religiosity in the relationship between violence suffered in childhood and adulthood violence. Although the role of religiosity as a potential mediator for violence has been documented in previous studies, to the best of our knowledge, our study is the first to specifically investigate the issues presented in this article.

**Table 2** Associations between violence in childhood and violence in adult life

Outcomes (OR)	Perpetration of violence						Being a victim of violence						
	Involvement in fights		Police detention		Domestic violence*		Victim of fights		Being mugged		Being a victim of domestic violence*		
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	
Suffered aggression from parents													
Crude	1.00	11.37 (6.92–18.66)†	1.00	2.61 (1.25–5.44)†	1.00	4.51 (3.13–6.52)†	1.00	4.45 (2.66–7.43)†	1.00	2.20 (1.49–3.25)†	1.00	5.28 (3.43–8.11)†	
(a)		10.02 (6.12–16.39)†		2.36 (1.21–1.10)†		4.24 (2.88–6.23)†		4.58 (2.70–7.80)†		2.21 (1.49–3.31)†		4.80 (3.08–7.49)†	
Witnessed parents threaten themselves													
Crude	1.00	5.88 (3.65–9.47)†	1.00	1.64 (0.69–3.89)	1.00	3.23 (2.19–4.74)†	1.00	2.89 (1.73–4.81)†	1.00	1.52 (0.94–2.45)	1.00	3.10 (1.97–4.88)†	
(a)		5.48 (3.35–8.96)†		1.81 (0.77–4.28)		3.07 (2.11–4.47)†		2.98 (1.76–5.05)†		1.50 (0.91–2.50)		2.90 (1.83–4.61)†	
Witnessed parents beat themselves													
Crude	1.00	5.13 (2.96–8.89)†	1.00	1.90 (0.77–4.65)	1.00	3.53 (2.42–5.15)†	1.00	2.33 (1.26–4.31)†	1.00	1.79 (1.15–2.77)†	1.00	4.19 (2.58–6.82)†	
(a)		4.73 (2.61–8.58)†		2.00 (0.80–5.02)		3.37 (2.34–4.84)†		2.43 (1.30–4.52)†		1.83 (1.17–2.87)†		3.98 (2.47–6.42)†	
Suffered bullying in school													
Crude	1.00	2.80 (1.26–6.97)†	1.00	2.32 (1.03–5.21)†	1.00	1.67 (1.07–2.61)†	1.00	3.49 (1.99–6.10)†	1.00	2.17 (1.23–3.81)†	1.00	1.51 (0.89–2.57)	
(a)		2.34 (0.94–5.86)		2.45 (1.01–5.87)†		1.58 (0.98–2.53)		3.37 (1.92–5.92)†		1.50 (0.82–2.75)		1.43 (0.80–2.55)	

\*Not adjusted for marital status. (a) Adjusted for sociodemographic variables (age, gender, education and marital status). †p<0.05.

**Table 3** Associations between violence in childhood and religiosity

Outcomes (OR)	Religious affiliation		Importance of religion	
	No	Yes	No	Yes
Suffered aggression from parents				
Crude	1.00	0.61 (0.41–0.88)*	1.00	0.53 (0.39–0.73)*
(a)		0.69 (0.48–0.99)*		0.59 (0.42–0.81)*
Witnessed parents threaten themselves				
Crude	1.00	0.82 (0.56–1.20)	1.00	0.63 (0.45–0.90)*
(a)		0.84 (0.57–1.26)		0.65 (0.45–0.94)*
Witnessed parents beat themselves				
Crude	1.00	1.05 (0.78–1.59)	1.00	0.77 (0.53–1.10)
(a)		1.13 (0.73–1.69)		0.80 (0.58–1.18)
Suffered bullying in school				
Crude	1.00	1.03 (0.56–1.89)	1.00	0.82 (0.46–1.48)
(a)		1.16 (0.64–2.09)		0.96 (0.54–1.71)

\*p<0.05. (a) Adjusted for sociodemographic variables (age, gender, education and marital status).

Women stay in physically abusive relationships because of helplessness and positive beliefs of a better future in the relationship. The results show that viewing IPV as a crime, gender and beliefs of the causes of IPV were robust predictors of college students' perceptions toward why women stay in physically abusive relationships.<sup>5</sup>

Sham *et al* investigated the role of religiosity as a mediator for dysfunctional families and misconduct in adolescents.<sup>54</sup> They found an association between the lack of religiosity and dysfunctional families, which was also related to higher levels of misconduct among adolescents.

Similarly, Reiland *et al* showed that adolescents who reported physical or sexual abuse/neglect in childhood had lower self-esteem in adulthood as compared with those who did not report these events. However, participants with high levels of religiosity had a higher average of self-esteem, which was similar to those who did not report any abuse.<sup>10</sup> Reinert *et al* found similar results regarding the role of religiosity as a mediator for mental health outcomes after trauma in infancy.<sup>29</sup> They studied early trauma resulting from child abuse and found that intrinsic religiosity, positive religious coping, and gratitude reduced the negative events experienced in adulthood.

Despite previous evidence, we failed to find similar results, showing that religiosity has no mediating effect on violence in adulthood following childhood trauma and mistreatment by parents. Although the explanation is not clear for this finding, we hypothesised the following. The Social Control Theory supports that violence is avoided by religious persons due to fear of a 'Divine punishment', religious doctrines, social support and sharing positive beliefs and values. This is well documented in the literature for those not suffering violence before. Nevertheless, for those who suffered violence in childhood, the role of R/S as a mediator is under investigated. Our hypothesis

is that suffering violence in childhood is a very distressful and multifaceted event, with several repercussions for the individual. In such stressful situations, other factors are even more related to the future violence than religiosity, and these other factors may have attenuated the role of religiosity as a mediator.

Perhaps, in those cases, religiosity may act more in the rehabilitation process. For instance, Duwe *et al* published two studies of a R/S intervention proposal based on the Christian Bible for American prison inmates and found a reduction in problems and misconduct within the prison environment.<sup>55</sup> Likewise, Puchala *et al* used a religious intervention as a complementary treatment for couples who had both suffered and perpetrated domestic violence, and found a reduction in alcohol abuse and violent acts.<sup>7</sup> These are promising initiatives that could elucidate the role of R/S in this relationship.

The results of the present study have clinical implications that should be considered by health professionals and healthcare managers. R/S can improve self-esteem<sup>10</sup> and mental health outcomes,<sup>29</sup> and decrease internalised symptoms<sup>48</sup> and misconduct,<sup>54</sup> as a mediator for childhood violence. Thus, it is important for healthcare professionals to consider the preventive role of religiosity and create plans of positive religious coping skills training for that population.<sup>56 57</sup>

In addition, some R/S interventions have already proven to be effective in improving quality of life and decreasing the negative effects of mental health outcomes due to previous trauma.<sup>7 27 55 58</sup> Thus, religious beliefs offer a way to understand and attribute significance to suffering.<sup>8</sup>

These findings underscore the need for further investigation into the role of religiosity as a mediator of violence in adulthood following child abuse, as it may help reduce negative mental health outcomes among this population. Future studies can employ a longitudinal design to



**Table 4** Associations between religiosity and violence in adult life

Outcomes (OR)	Perpetration of violence				Being a victim of violence								
	Involvement in fights		Police detention		Domestic violence*		Victim of fights		Being mugged		Being a victim of domestic violence*		
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	
Religious affiliation													
Crude	1.00	0.38 (0.20–0.74)†	1.00	0.32 (0.14–0.75)†	1.00	0.38 (0.21–0.69)†	1.00	0.78 (0.37–1.68)	1.00	0.93 (0.45–1.95)	1.00	0.34 (0.21–0.58)†	
(a)		0.52 (0.25–1.06)		0.42 (0.19–0.95)†		0.42 (0.23–0.79)†		0.85 (0.39–1.90)		1.03 (0.49–2.15)		0.43 (0.25–0.74)†	
Importance of religion													
Crude	1.00	0.25 (0.11–0.53)†	1.00	0.48 (0.21–1.08)	1.00	0.41 (0.25–0.67)†	1.00	0.64 (0.34–1.25)	1.00	0.91 (0.52–1.58)	1.00	0.33 (0.22–0.51)†	
(a)		0.33 (0.15–0.70)†		0.59 (0.27–1.31)		0.45 (0.27–0.75)†		0.70 (0.35–1.43)		1.01 (0.59–1.71)		0.40 (0.26–0.63)†	

\*Not adjusted for marital status. (a) Adjusted for sociodemographic variables (age, gender, education and marital status). †p<0.05.

elucidate the behaviour of the R/S dimension, offering a deeper understanding of the relationship between this dimension and violent events in childhood. Similarly, future clinical trials proposed to treat traumas can aid in elucidating the underlying mechanisms of action of R/S support in complementary mental health treatment.

### LIMITATIONS

The present study has some limitations. First, the questionnaire on adverse in childhood events was conducted retrospectively based on the participants' memories. This may have influenced the responses, both by suppression of traumatic memories and through the embarrassment of answering questions about it.<sup>59</sup> Thus, caution should be exercised when interpreting the results.

Second, the use of short variables, such as religious affiliation, attendance, and importance of religion to investigate associations with violence have been established in multiple nationally representative studies of adolescents in the USA. While we have also accessed two important and previously studied R/S variables,<sup>15</sup> due to limited interview time, we acknowledge that it is a multidimensional concept and should be accessed in different, more complex measures. Future longitudinal studies should focus on investigating the role of R/S on violence through time using more appropriate validated instruments to access different dimensions and their possible impact on mental health.

Third, although previous research,<sup>15 60</sup> included various cultural aspects and showed a protective role of religiosity on violence, some authors suggest that cultural aspects may influence the religiosity and violence relationship.<sup>7 61</sup> Since Brazil is a highly religious country,<sup>62</sup> cultural influences should be considered as a possible challenge in this field of research.

Finally, the cross-sectional design of our study limited the comprehension of the dynamic of the R/S dimension throughout life, especially regarding childhood violence and trauma. Further studies should investigate this behaviour using a longitudinal design.

### CONCLUSION

Adverse events in childhood were directly associated with the perpetration and victimisation of violence in adulthood. In our study, religiosity was inversely associated with adverse events in childhood, indicating that more religious individuals tended to have suffered less childhood violence. However, religiosity did not show evidence of a potential mediating role between violence suffered in childhood and violence perpetrated or experienced in adulthood. These results may help researchers in the understanding of this phenomenon and aid health professionals and managers when proposing future interventions.

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**Table 5** Associations between violence in childhood and violence in adult life with the addition of religiosity as a potential mediator variable

Outcomes (OR)	Perpetration of violence						Being a victim of violence											
	Involvement in fights			Police detention			Domestic Violence*			Victim of fights			Being mugged			Being a victim of domestic violence*		
	No	Yes	†	No	Yes	†	No	Yes	†	No	Yes	†	No	Yes	†	No	Yes	†
Suffered aggression from parents																		
Crude	1.00	11.37 (6.92–18.66)†	†	1.00	2.61 (1.25–5.44)†	†	1.00	4.51 (3.13–6.52)†	†	1.00	4.45 (2.66–7.43)†	†	1.00	2.20 (1.49–3.25)†	†	1.00	5.28 (3.43–8.11)†	†
Religious affiliation		10.98 (6.67–18.07)†	†		2.45 (1.20–5.00)†	†		4.43 (3.06–6.41)†	†		4.44 (2.65–7.42)†	†		2.21 (1.49–3.29)†	†		5.19 (3.35–8.01)†	†
Importance of religion		10.28 (6.34–16.68)†	†		2.47 (1.21–5.02)†	†		4.38 (3.03–6.34)†	†		4.37 (2.59–7.38)†	†		2.21 (1.49–3.29)†	†		5.10 (3.29–7.91)†	†
Witnessed parents threaten themselves																		
Crude	1.00	5.88 (3.65–9.47)†	†	1.00	1.64 (0.69–3.89)		1.00	3.23 (2.19–4.74)†	†	1.00	2.89 (1.73–4.81)†	†	1.00	1.52 (0.94–2.45)		1.00	3.10 (1.97–4.88)†	†
Religious affiliation		5.81 (3.63–9.29)†	†		1.60 (0.69–3.76)			3.16 (2.15–4.64)†	†		2.88 (1.73–4.81)†	†		1.53 (0.95–2.47)			3.05 (1.94–4.79)†	†
Importance of religion		5.44 (3.39–8.73)†	†		1.57 (0.68–3.61)			3.12 (2.14–4.57)†	†		2.82 (1.68–4.77)†	†		1.52 (0.94–2.47)			3.06 (1.92–4.71)†	†
Witnessed parents beat themselves																		
Crude	1.00	5.13 (2.96–8.89)†	†	1.00	1.90 (0.77–4.65)		1.00	3.53 (2.42–5.15)†	†	1.00	2.33 (1.26–4.31)†	†	1.00	1.79 (1.15–2.77)†	†	1.00	4.19 (2.58–6.82)†	†
Religious affiliation		5.22 (3.05–8.93)†	†		1.91 (0.79–4.66)			3.49 (2.40–5.08)†	†		2.34 (1.26–4.33)†	†		1.80 (1.16–2.78)†	†		4.22 (2.60–6.83)†	†
Importance of religion		4.95 (2.92–8.42)†	†		1.85 (0.76–4.47)			3.44 (2.37–4.99)†	†		2.30 (1.24–4.28)†	†		1.79 (1.16–2.77)†	†		4.14 (2.56–6.69)†	†
Suffered bullying in school																		
Crude	1.00	2.80 (1.26–6.97)†	†	1.00	2.32 (1.03–5.21)†	†	1.00	1.67 (1.07–2.61)†	†	1.00	3.49 (1.99–6.10)†	†	1.00	2.17 (1.23–3.81)†	†	1.00	1.51 (0.89–2.57)	†
Religious affiliation		2.83 (1.18–6.76)†	†		2.35 (1.02–5.38)†	†		1.71 (1.09–2.68)†	†		3.50 (2.0–6.12)†	†		2.18 (1.24–3.82)†	†		1.59 (0.93–2.75)	†
Importance of religion		2.72 (1.20–6.17)†	†		2.28 (0.99–5.26)			1.71 (1.09–2.70)†	†		3.46 (1.97–6.10)†	†		2.18 (1.24–3.85)†	†		1.61 (0.93–2.78)	†

\*Not adjusted for marital status.

†p&lt;0.05.

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