

Does Religiosity Buffer the Effects of Adverse Childhood Experiences among Pakistani Women?

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It is now well recognized that adverse childhood experiences (ACEs) are associated with mental health problems in adulthood. However, most of the related work has been conducted in the United States. The central purpose of the present study was to collect reports of ACEs and trauma symptoms in Pakistan. In addition, we hypothesized that religiosity would serve as a buffer for those mental health problems. Toward those ends, 100 female university students completed three surveys. Less than one-third (29%) of the women reported one or more ACE. Trauma symptoms ranged widely, but were significantly correlated with ACE scores. Across the sample, the women rated their religiosity as either high or very high. In terms of the buffering hypothesis, a significant interaction was found. In contrast to our prediction, those in the very religiosity group who had experienced one or more ACE reported more trauma symptoms than the other women. The implications and limitations of these results are discussed.

Keywords: religiosity, adverse childhood experiences, trauma, women

The mental health and well-being of individuals is an important goal for all societies. Two of the most common obstacles for the mental health are anxiety and depression. The prevalence of those two problems in Pakistan were reviewed by Mirza and Jenkins (2004). Based on 17 studies, the prevalence estimates of anxiety and depression was estimated to be between 30.4% to 53.6%, respectively. The rate was found to depend on the participant's gender, the sample, and the assessment method.

Khalily (2011) argued that the prevalence of mental health problems is probably much higher in certain parts of the country (e.g., Swat Valley in Khyber Pukhtoonkhwa) due to exposure to terrorists and the disruption of social structures. Pakistan is also prone to violence against children according to Hyder and Malik (2007), due to a confluence of factors. They argue that poverty, illiteracy, poor legal protection create an enabling environment for violence against children.

Violence against children and other negative childhood experiences is a key source of adult mental health problems. A landmark study, conducted in the United States, has clearly documented the links. The Adverse Childhood Experiences study (ACE) was originally conducted in the mid-1990s with more than 18,000 participants (Anda et al., 2006). Negative experiences in childhood, whether they involved maltreatment or dysfunctional homes, were linked to mental health problems in adults. Furthermore, the impact of adverse experiences was cumulative, in that the greater the number of problems, the more severe the mental health problems (Felitti & Anda, 2014).

However, a difficult childhood does not necessarily result in adult psychological problems. These risk factors or "challenges" can be balanced by "resilience" or resources and assets held by the individual (Schultze-Lutter, Schimmelmann, & Schmidt, 2016). The resilience literature has identified a number of variables that can

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mediate the association between adverse childhood experiences and mental health problems, such as an individual's personality, the presence of supportive adults, or therapeutic interventions (e.g., Masten, 2014). In some countries such as Pakistan, one prominent protector factor is religion. Individuals with a strong faith (or high religiosity) have been found to deal with negative life experiences better than other people (e.g., Holden & Williamson, 2014; Tilliouine, 2014).

In order to better understand the extent and nature of adult mental health problems in Pakistan, the present research had two goals. The descriptive goal was twofold: to assess the frequency of adverse childhood experiences in a sample of Pakistani women, and to measure three key indices of mental health problems (anxiety, depression, & trauma symptoms). The second goal was to test whether adverse childhood experiences were related to current mental health; we predicted they would be. The third goal was to test the hypothesis that greater religiosity would protect (or buffer) some women from negative psychological impact of adverse childhood experiences compared to women with lower levels of religiosity.

Method

Participants

Total 100 women participated. They were all students enrolled at Shaheed Benazir Bhutto Women University in Peshawar. The mean age of the women was 21.70 ($SD = 1.7$, range 20 to 35). A majority of the participants (68%) were taking psychology classes and the others were taking Urdu classes. Most (94%) of the students were in a M.A./M.S.C. program; the remaining students were enrolled in a B.S. degree program.

Materials

Three surveys were used in this study: The Adverse Childhood Experiences (Felitti et al., 1998), The Trauma Symptoms Inventory (TSC-33, Briere & Runtz, 1989), and the Moslem Attitude toward Religiosity Scale (MARS, Wilde & Joseph, 1997).

The Adverse Childhood Experiences (ACE, Felitti et al., 1998) is a widely used index of childhood experiences. It consisted of 10 items assessing experiences (prior to age 18) of child maltreatment (physical, sexual, & psychological abuse, neglect), and family problems (poverty, divorce). Because alcohol is outlawed in Pakistan, the two items that contained the phrases "being drunk" or "problem drinker or alcoholic" were changed to "used drugs" and "any kind of drug," respectively. Participants responded to each item as to whether it did or did not occur. Cronbach's alpha for this sample was found to be .70.

To assess the presence of psychological symptoms, the Trauma Symptom Checklist (TSC-33; Briere & Runtz, 1989) was used. This popular, 33-item survey consisted of four subscales: Dissociative Symptoms, Anxious Symptoms, Depressive Symptoms, and Sleep Disturbance. We selected this instrument because it is a widely-used index of trauma symptoms and very highly correlated ($r = .99$) with the longer version, the TSC-40 (Elliott & Briere, 1992). Questions addressed the frequency that symptoms of trauma or mental health problems (e.g., anxiety, sadness, insomnia, headaches) had been experienced in the past two months. Each item was responded to on a 4-point Likert-type scale (1 = never, 2 = occasionally, 3 = fairly often, 4 = very often). Coefficient alpha ranged from .72 to .83 across subscales and was .93 for the total scale.

To assess religiosity, the Muslim Attitude Toward Religiosity Scale (MARS, Wilde & Joseph, 1997) was used. The 14 questions (e.g., Allah helps me; Islam helps me lead a better life; I pray five times a day) are responded to on a 5-point Likert-type agreement scale (1 = strongly disagree; 5 = strongly agree). Cronbach's alpha for this scale was lower than desirable ($\alpha = .67$), due to the lack of variability.

Procedure

The ethics of this study was reviewed and approved by the SMU Institutional Review Board (IRB) prior to the start of data collection. Participants were recruited from the Psychology and Urdu departments at Shaheed Benazir Bhutto Woman University in Peshawar. Research assistants visited classes to recruit participants. Once in the classrooms, they described the study and invited participation. They then passed out the informed consent form. Once the forms were signed, the questionnaires were distributed. Participants were asked to answer each

question honestly and as completely as possible. They were assured that the data would be kept confidential and used only for academic purposes. The research assistants remained in the classroom until the last survey was collected. The ACE and TSC-33 were given in English, in their original forms. The Moslem scale was available in English and Urdu because it had previously been published in both languages. Participation lasted about 20 minutes, on average.

Results

Adverse childhood experiences were experienced by 29% of the women. Of those, 19% reported that they had experienced one ACE, 6% experienced two ACEs, and 4% experienced 3 or more ACEs. The most commonly reported ACE was “feeling unloved” (reported by 13% of the women), followed by physical violence from a parent or adult in the household, unwanted sexual touches from an adult or person at least 5 years older than the participant, and having a family member that was mentally ill or attempted suicide, each of which was reported by 7% of the participants.

Trauma symptom reports ranged from 0 to 76, with an average of 30.14 ($SD = 18.11$). The trauma symptom subscales were highly correlated (median $r = .78$, $p < .001$). The means for each of the four trauma subscales can be found in Table 1. As expected, ACEs were positively associated with total trauma symptoms, and with three of the four subscales. ACE scores were not significantly associated with the Anxious Symptoms subscale.

Table 1
Descriptive Statistics and Bivariate Correlations

	<i>M (SD)</i>	1.	2.	3.	4.	5.	6.
1. ACE (0-None, 1-Any)	.29 (.46)	-					
2. Religiosity (0-Religious, 1- Very Religious)	.74 (.44)	-.17 [†]	-				
3. Dissociative Symptoms	6.74 (4.49)	.20*	-.24*	-			
4. Anxious Symptoms	8.25 (5.77)	.10	-.12	.81***	-		
5. Depressive Symptoms	8.24 (5.34)	.20*	-.16	.79***	.78***	-	
6. Sleep Disturbance	4.68 (2.87)	.20*	-.17 [†]	.57***	.59***	.78***	-
7. Total Trauma Symptoms	30.14 (18.11)	.21*	-.19 [†]	.90***	.90***	.93***	.75***

Notes. $N = 100$. [†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

With regard to the Religiosity scale, there was a ceiling effect as the entire sample reported high levels of religiosity ($M = 38.38$, $SD = 1.39$, range = 31 to 39). Consequently, the sample was divided into a “highly religious” group (those women who endorsed the highest possible value on every item; 74%) and a “religious” group (those individuals who endorsed at least one item at less than the highest possible value; 26%).

In terms of relations between religiosity and trauma, a trend was found between religiosity and total trauma symptoms ($r = -.19$, $p < .10$) as well as religiosity and sleep disturbance ($r = -.17$, $p < .10$). However, a negative relationship between religiosity and trauma only reached statistical significance for the dissociative symptoms subscale ($r = -.24$, $p < .05$).

Interestingly, the correlation between ACE and religiosity approached significance ($r = -.17$, $p < .10$). To further evaluate this relation, we conducted a chi-square analysis of these variables. Results revealed that among those individuals with an ACE ($n = 29$), 62% ($n = 18$) were in the very religious group. In contrast, among those women without an ACE ($n = 71$), most (79%, $n = 56$) were in the very religious group, $\chi^2(1, 100) = 3.02$, $p = .08$.

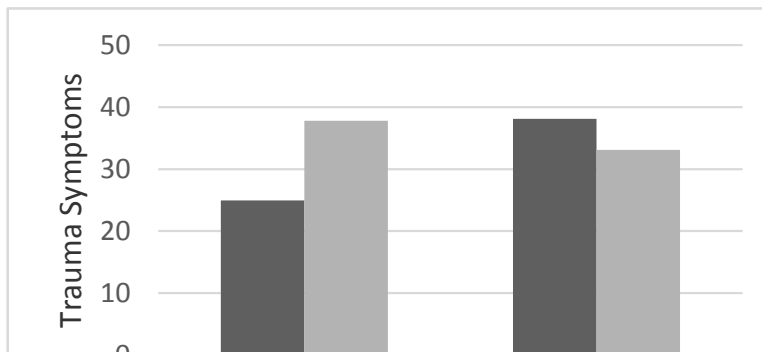
To test the hypothesis that religiosity would buffer the effect of ACEs on trauma symptoms, the total trauma symptoms score was regressed onto dummy variables for ACE (0 = no ACE, 1 = any ACE) and religiosity (0

= religious, 1 = very religious), and the ACE \times Religiosity interaction. Presence of an ACE was not associated with trauma symptoms, $b = -5.04$, $SE = 6.88$, $t = .73$, $p = .47$ and high religiosity was associated with lower trauma symptoms, $b = -13.17$, $SE = 5.04$, $t = 2.61$, $p = .01$. The ACE \times Religiosity interaction was also significant, $b = 17.86$, $SE = 8.33$, $t = 2.14$, $p = .04$, and the model explained significant variance in trauma symptoms $R^2 = .11$, $F(3, 96) = 4.00$, $p = .01$. To better understand the interaction, we calculated the simple slopes for the effect of ACE presence when religiosity was high or very high. When religiosity was high, presence of any ACE was non-significantly associated with trauma symptoms, $b = -5.40$, $SE = 7.27$, $t = .69$, $p = .49$, $R^2 = .02$, $F(1, 24) = .48$, $p = .49$. When religiosity was very high, presence of any ACE was positively associated with trauma symptoms, $b = 12.81$, $SE = 4.61$, $t = 2.78$, $p = .007$, $R^2 = .10$, $F(1, 72) = 7.73$, $p = .007$. Thus, extremely high religiosity appeared to exacerbate the effects of ACE on trauma, rather than buffer them, as hypothesized.

To illustrate the relations, the results are graphed in Figure 1. Among women who were very religious, experience of an ACE was associated with more severe trauma symptoms, $M = 37.78$, $SD = 20.46$, compared to those with no ACE history, $M = 24.96$, $SD = 15.79$, $t(72) = 2.78$, $p = .007$, $d = .70$. In contrast, among women who were religious, trauma symptoms among those with ACE history ($M = 33.09$, $SD = 14.98$), were not significantly different from those without an ACE history $M = 38.13$, $SD = 20.34$, $d = .28$.

Figure 1

Trauma Symptoms by report of one or more ACE and Religiosity



Notes. Ns: Very religious with ACE: $n = 18$; Very religious, no ACE: $n = 56$.
Religious with ACE: $n = 11$; Religious with no ACE: $n = 15$.

Discussion

In this sample, 29% of the women reported one or more ACEs. That is in contrast to the United States, where, according to a recent national study 46% of children experience one or more ACE (Child Trends, 2014). If those reports are accurate, and we have no reason to believe they are not, then this finding indicates some good news, at least in this sample. However, the present sample consists of women attending a university. It is likely that a sample of women from the community who are not attending a university may report significantly higher rates of ACEs. We are currently collecting data to test that expectation.

With regard to trauma symptoms, the average trauma symptoms reported by the Pakistani women ($M = 30.14$) was higher than two samples of U.S. non-abused women ($M_s = 16.26$ & 27.28) and higher than a community sample of sexually abused women ($M = 23.22$) but lower than a sample of women who visited a crisis intervention center ($M = 39.97$) (Briere & Runtz, 1989). Although there is no specific cut-off line for what score reflects psychological problems, given the relatively high average from a university sample, that mean is concerning. That finding suggests Khalily's (2011) call for mental health care services is well-founded.

The most surprising results of the study occurred with the religiosity variable. Although it was not surprising that Pakistani women scored high on the religiosity scale, we did expect more variability. The uniformly high levels of religiosity resulted in placing all the women in either a "high" or "very high" religiosity

group. This restricted range or response is a limitation to the study. The problem, of course, was with the instrument used that resulted in a ceiling effect. An instrument that is able to identify more subtle differences in faith would perhaps be more revealing, particularly in a highly religious country such as Pakistan.

In the present study, we did obtain one finding that was opposite to our predictions. In line with the literature (e.g., Holden & Williamson, 2014), we predicted a buffering or protective effect of religion on women who experienced ACEs. Instead, we found that those who had experienced one or more ACEs and were highly religious reported more psychological problems. We can only speculate about what this means. One explanation is that the women who had one or more ACEs may have rationalized the experience as a punishment for their prior behavior. Therefore, their strong religious beliefs did not mediate the trauma. This finding needs to be replicated and perhaps investigated with a qualitative study.

Despite the interesting results, there were four limitations to this study that need to be recognized. One limitation was already mentioned, the lack of variability on the Islam scale. A second limitation is with the sample. Our sample was limited to women enrolled in a university. We are currently expanding the sample by collecting data from men and individuals in the community. A third limitation is that this is a cross-sectional study. We assume that the childhood adverse experiences reported were causally linked to the trauma symptoms. However, without conducting an expensive longitudinal study, that only remains an assumption.

Future research can address these limitations in various ways, such as by sampling men as well as women from different socio-economic classes and other backgrounds. Data should also be collect from other cities and provinces in Pakistan. Although Pakistan is a highly religious country, it is likely there is more variability in religiosity in larger cities and outside of PKB.

In sum, we found valuable information about the adverse childhood experiences, trauma symptoms, and how they related to religious beliefs in a sample of women from Pakistan. It is clear from this study that mental health resources are needed in Pakistan, just as they are in every part of the world.

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