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Can Spiritual Experiences Promote Empathy in the Context of Past Adverse Childhood Experiences?

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By

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Abstract

Previous research suggests that adverse childhood experiences (ACEs) can greatly impact a child's physical, mental, and emotional wellbeing later in life. ACE exposure has been associated with lower levels of empathy in the literature. Spirituality is often associated with a number of positive outcomes, including those associated with empathy, like prosocial behaviors. The present study examines spirituality as a buffer against reduced empathy in those with exposure to adverse events in childhood. Participants for this study were recruited through the SONA research platform at East Tennessee State University as part of a larger research project, the REACH (Religions, Emotions, and Current Health) study. Results of this study did not support the working hypotheses that we would find a negative correlation between ACEs and empathy, as well as a moderation relationship via spirituality between ACEs and empathy. However, we did find that empathy was positively associated with spirituality, and ACEs were negatively associated with spirituality. Future research should dig deeper into the relationship between ACEs and empathy, as well as search for other possible protective factors for the effects of ACEs.

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Introduction

Over the past decades, research on childhood adversity has been an increasing area of interest since the seminal Kaiser Permanente study examining the relationship between Adverse Childhood Experiences (ACEs) and negative health outcomes (Felitti et al., 1998). Impacts of early traumas, such as those encompassed by ACEs, have been related to developmental impairments on all fronts (Danese & McEwen, 2012). Research has indicated ACEs are associated with negative outcomes across physical, mental, social, emotional, and spiritual domains (Anderson, 2014; Ashton, Bellis, & Hughes, 2016; Brown et al, 2009; Danese & McEwen, 2012; Dube et al., 2001a; Dube et al., 2001b; Dube et al., 2003; Felitti et al., 1998; Kaess et al., 2013; Layne et al., 2014). One such negative outcome that has been related to ACE exposure is reduced empathy as research suggests that a child's sense of security may influence empathic development in childhood (Mikulincer & Shaver, 2005). Chronic stress within a child's developmental context may mean relational security is a limited resource, leading to impairment in empathic responding in adulthood. Indeed, a large body of literature supports the negative association between ACEs and empathy, such that the more ACEs one experiences, the lower the level of empathy they report (Das & Shah, 2012; Eisenberg, Wentzel & Harris, 1998; Nagamine et al., 2018; Nietlisbach, Maercker, Rösler, & Haker, 2010; Olapegba, 2010; Parlar et al., 2014; Van Lissa, Hawk, & Meeus, 2017). Religiosity/spirituality may be a possible protective factor for empathic abilities in distressed children, as some literature suggests that the presence of religiosity/spirituality cultivates the development of empathy and altruism (Campbell, 2015; Huber & Macdonald, 2012; Kristeller & Johnson, 2005; Lai, Pathak, & Chaturvedi, 2017;

Neugebauer et al., 2020; Saslow et al., 2013; Wachholtz & Pargament, 2005; Yoon & Lee, 2006). Therefore, the purpose of this study is to examine whether the relationship between ACEs and decreased empathy is buffered by religiosity/spirituality.

Adverse Childhood Experiences (ACEs)

Throughout childhood, people are exposed to various environmental stimuli and experiences that impact their developing sense of self and the world around them. These childhood experiences can either positively or negatively impact individuals, depending on the nature of the experience. Situations of acute stress are normative and even beneficial, such as participating in organized sports or classroom competitions. However, chronic stress during youth, such as abuse or neglect, can be detrimental to development (Danese & McEwen, 2012). The seminal study by Felitti et al. (1998) coined the term "Adverse Childhood Experiences" (ACEs) to refer to such negative experiences occurring in the first 18 years of life. This monumental study found evidence that early traumas, including physical, emotional, and/or sexual trauma, or household dysfunction, impact health risk behaviors related to the leading causes of death in adults. While this study was not the first to study childhood maltreatment, it was one of the first to connect childhood trauma to negative physical and mental health outcomes in adulthood. Results suggested that childhood trauma significantly increased a person's likelihood of developing health risk behaviors (e.g. smoking, alcoholism, drug use, etc.). These behaviors not only negatively impact the lives of those who use them in short-term, such as obesity, hypertension, or high-cholesterol (Brown et al., 2009), but the study also found that childhood maltreatment correlated directly to the leading causes of death in adults, such as ischemic heart disease, cancer, stroke, COPD, and diabetes (Felitti et al., 1998).

The acquisition of such health risk behaviors stemming from early ACE exposure, is also known as the "cascading effect" (Layne et al., 2014). One mechanism through which early ACEs lead to health risk behaviors and poorer physical health outcomes is through their impact on mental health (Brown et al, 2009; Dube et al., 2001a; Dube et al., 2001b; Dube et al., 2003). For example, ACEs have now been tied to internalizing symptoms (Chapman et al., 2004), low mental wellbeing (Ashton et al., 2016), and self-injurious behaviors (Kaess et al., 2013). The widespread effects of ACE exposure are a public health concern, as more than half of the participants in the original ACE study (52%) reported at least one ACE (Felitti et al., 1998). A more recent meta-analysis, which compiled both retrospective and longitudinal studies from 2000-2016, reflected a similar prevalence rate of 62% (Merrick, Ford, Ports & Guinn, 2018). These numbers indicate approximately 50-60% of the general population experience one or more ACEs. Given their implications on both physical and psychological health in adulthood, the importance of research directed at clearly understanding ACEs, preventative factors, and resilience factors is evident.

Empathy

When considering outcomes of ACEs, empathy is a relevant area of study given its connection to early adversity (Mikulincer & Shaver, 2005) and later social-emotional wellbeing (Armour & Ardell, 2004; Caza & Caza, 2008; Eisenberg et al., 1998; Eisenberg & Fabes, 1992; Gurtherie et al., 1997; Telle & Pfister, 2016;). It is worth noting that there are discrepancies in the literature regarding how to best define empathy (Telle & Pfister, 2016). It has been defined as "an affective response to another person, which some believe entails sharing that person's emotional state" (Lamm, Batson & Decety, 2007, p. 42), "a function of one individual's experiencing the same feelings as another individual through an appreciation of similarity,"

(Oberman & Ramachandran, 2007, p. 316), as well as "an emotional reaction that is based on the apprehension of another's emotional state or condition and that involves feelings of concern and sorrow for the other person (rather than merely a reflection of the other person's emotional state)" (Eisenberg et al., 1994, p. 776). For the sake of the current study, we will utilize a definition put forth by Spreng, McKinnon, Mar and Levine (2009) as it is compatible with subsequent constructs and measures within the current study: Empathy is defined as "an intellectual or imaginative apprehension of another's emotional state, often described as overlapping with the construct of theory of mind (understanding the thoughts and feelings of others)" (Spreng et al., 2009, p. 62). Regardless of specific wording, it is clear that, across definitions, empathy necessitates an other-focused emotional reaction to the feelings of another person.

Empathy is correlated with many positive outcomes in adulthood. Some of these include positive emotions and immune defenses (Armour & Ardell, 2004; Caza & Caza, 2008), emotion regulation (Eisenberg & Fabes, 1992; Eisenberg et al., 1998; Telle & Pfister, 2016), prosocial behavior (Eisenberg et al., 1998), and resilience (Gurtherie et al., 1997). Other research has connected empathy to increased happiness and self-esteem, even in people with anxious tendencies (Mongrain, Chin, & Shapira, 2011). There have been other findings to suggest that empathy may be linked to wholeness, whereas emotional distancing could lead to feelings of loneliness and loss of hopefulness (McGrath & Kearsley, 2001). Given the positive outcomes associated with empathy in the literature, it follows that empathy may have the ability to improve a person's quality of life.

Emerging technology in the field of neuroscience have also suggested a neurobiological indicator for empathic development, through the connection of the "mirror neurons" in the brain

(Pavlocich & Krahnke, 2012). The theory postulates that the same neurons that fire if the individual experiences pain themselves also fire in response to another individual's pain. Evolutionarily, this would be beneficial for learning skills from living ancestors in efforts to mimic what they do, thus increasing chances of survival. If a person's ability to show empathy was dependent on the proper connection of these nerves, this would suggest that adequate brain development in childhood is necessary for empathic maturity in adulthood. It may be possible that childhood trauma could impede this development, leaving the child at an emotional disadvantage. Given the positive implications of empathy, understanding what causes its development and inhibitions is crucial to encouraging resilience in those who have experienced ACEs.

ACEs and Empathy

Given that the attribute of empathy is correlated with so many positive outcomes, many researchers have wondered about the developmental sequela that might lead to reduced levels of empathy; such as ACE exposure. One theory in the literature claims that a sense of security in childhood may set the foundation for the cultivation of empathy (Mikulincer & Shaver, 2005). Indeed, ACEs such as household dysfunction and childhood abuse may impact a child's sense of security, which may therefore impact their empathic development. Another corroborating piece of evidence that indicates trauma may impact empathic responding is research linking impairments in empathy with the development of post-traumatic stress disorder (PTSD) (Nietlisbach et al., 2010; Parlar et al., 2014).

Related to the link between PTSD symptoms and empathy is one's experience of personal distress in reaction to others' negative emotional states, rather than endorsing empathic

responding (Parlar et al., 2014). Personal distress differs significantly from empathy as it is "a self-focused, aversive emotional reaction to the vicarious experiencing of another's emotion that frequently stems from exposure to another's state or condition and may result from accessing from memory stored information relevant to the other person's situation (or occasionally from perspective taking)" (Eisenberg et al., 1998, p. 507). This theory suggests that one might experience personal distress if they encounter someone experiencing a similar emotion or situation to those encoded in their own memory. The memories and emotions that resurface during this experience of personal distress cause the person to focus more on their own personal emotions than the discomfort of the other person. Research has suggested that a person endorsing empathic responding will attempt to meet the needs of another person; whereas a person experiencing personal distress will react in a way that most quickly and efficiently regulates their own emotional reaction (Eisenberg et al., 1998). Further, and not surprisingly, empathy is associated with prosocial behavior and positive emotional responses, whereas personal distress is associated with negative social behavior and emotional responses (Eisenberg et al., 1998).

Personal distress may result from defense mechanisms individuals develop to protect against reminders of their negative past experiences, including those from childhood trauma. This hypothesis is compatible with the theory that empathic development is threatened by a lack of security and safety (Mikulincer & Shaver, 2005). Therefore, if empathy is challenged by threatening situations, and personal distress is a result of situations triggering negative emotionally-charged memories, persons with a history of trauma may tend to feel personal distress, rather than engaging in empathic responding. Indeed, the evidence that negative past experiences impacts a person's ability to show empathy and alternatively causing personal distress is quite extensive (Das & Shah, 2012; Nagamine et al., 2018; Nietlisbach et al., 2010;

Olapegba, 2010; Parlar et al., 2014). This has also been studied in samples beyond those with a PTSD diagnosis. For example, studies examining outcomes in a sample of adolescents who reported negative parent-child interactions also found significantly reduced empathy (Das & Shah, 2012; Van Lissa et al., 2017). This suggests that many forms of trauma impact empathic abilities, including those typified by household dysfunction. Of course, not all children with a history of trauma experience low levels of empathy, so it follows that there must be protective factors that could buffer that link. It is crucial to understand these resilience factors in order to help children who have experienced such maltreatment overcome the barriers they face in order to best improve their quality of life in the future.

Religiosity and Spirituality in Adulthood

There are various protective factors that could be explored as buffers for the link between childhood maltreatment and impairments in empathy development. It may be that experiences associated with greater prosocial behavior would be protective against the impact of ACEs on empathic development. One variable explored in the literature by scientists that has yielded positive outcomes in a variety of contexts, including higher levels of prosocial behavior, is religiosity and spirituality (Fetzer Institute, 1999; Huber & Macdonald, 2012; Kristeller & Johnson, 2005; Lai et al., 2017; Neugebauer et al., 2020; Saslow et al., 2013). In the past, there has been a lack of consensus in the scientific community regarding a concrete definition and validated measurement strategies for these constructs. Often in the literature, measurements of these constructs are conjoined (Fetzer Institute, 1999). However, there have been suggestions that the two are not synonymous. Typically, religiosity refers to commitment to a certain religion and participation in its religious practices (Fetzer Institute, 1999; Saslow et al., 2013). These religious practices may include attending religious gatherings, participating in rituals, or

conformity to specific religious doctrine. Alternatively, spirituality typically refers to beliefs that "there is more to life than what we see or fully understand" (Fetzer Institute, 1999, p. 2). Spirituality might include meditation or prayer. The presence of one characteristic does not necessitate the other. A person may believe in a higher power without conforming to one specific religion. Also, a person could attend religious services or subscribe to a particular religion based on their culture without experiencing self-transcendence, a hallmark of spirituality. However, the two constructs are not mutually exclusive and often coincide. One manuscript explained spirituality to be the "personal and emotional aspects of religion, or an emotional connection with something transcendent or sacred" (Saslow et al., 2013, p. 203). They explained religiosity to be more "rooted in the rituals, behaviors, practices, and beliefs of the sacred within the traditions of a religious community" (Saslow et al., 2013, p. 203). Their similarities and differences are notable and can help explain their various impacts on people's lives, behavior, and cognitions. Regardless of the similarities and differences between these two concepts, the literature commonly links the two in both description and measurement practices.

Due to the various benefits of religiosity and spirituality reflected in the literature, some have hypothesized that religiosity/spirituality could pose as protective factors against a variety of negative outcomes (Campbell, 2015; Wachholtz & Pargament, 2005; Yoon & Lee, 2006). Studies suggest that religious/spiritual practices are related to reduced internalizing symptoms, increased pain tolerance, as well as improvement in overall wellbeing and quality of life (Wachholtz & Pargament, 2005; Yoon & Lee, 2006). Another study found that spiritual practices, such as prayer, could aid students in stress management (Campbell, 2015). Lastly, spirituality has been identified as a quality that fosters empathy, thus increasing acts of altruism (Huber &

Macdonald, 2012; Kristeller & Johnson, 2005; Lai et al., 2017; Neugebauer et al., 2020; Saslow et al., 2013).

Several research studies shed light on whether and how religiosity/spirituality may be linked with empathy. For example, one study found a positive association between spirituality, empathy, and altruistic behaviors *and* that these associations were not due to trait qualities associated with the type of people who may be spiritual, such as agreeableness (Saslow et al., 2013). Further, Kristellar and Johnson (2005) established a theory regarding the mechanism of how spirituality could increase empathy and altruism. They postulated that in a spiritual mindset, one first reflects upon the self, then upon others and the universe as a whole. This reflection from the inside out, also known as "loving-kindness," was suggested to be the mechanism by which spirituality breeds empathy (Kristellar & Johson, 2005). Research to support this theory has found that those who identify themselves as religious or spiritual are four times more likely to experience empathy than nonbelievers (Neugebauer et al., 2020) and that religiosity/spirituality may be a point of intervention to foster empathy in people who are low in empathy (Huber & MacDonald, 2012). Given that ACEs measure early life stressors linked to poor overall health, low empathic abilities, and a host of other negative outcomes, religiosity/spirituality seem a promising prospect for protective factors of childhood trauma.

Present Study Aims and Hypotheses

Examination of the literature has indicated a host of negative outcomes associated with ACE exposure, including those regarding mental and emotional health (Ashton et al., 2016; Brown et al., 2009; Danese & McEwen, 2012; Dube et al., 2001a; Dube et al., 2001b; Dube et al., 2003; Felitti et al., 1998; Kaess et al., 2013; Layne et al., 2014). The literature consistently shows that ACE exposure is related to a number of negative outcomes in adulthood including

decreased empathy (Eisenberg et al., 1998; Mikulincer & Shaver, 2005; Nietlisbach et al., 2010; Parlar et al., 2014). The literature also indicates there is evidence to suggest that religiosity/spirituality can cultivate empathy in people who possess low empathic abilities (Campbell, 2015; Huber & Macdonald, 2012; Kristeller & Johnson, 2005; Lai et al., 2017; Neugebauer et al., 2020; Saslow et al., 2013; Wachholtz & Pargament, 2005; Yoon & Lee, 2006). This suggests that religiosity/spirituality may be a protective factor against decreased empathy in those with ACE exposure; however, no known study, to date, has examined whether religiosity/spirituality buffer the link between ACEs and empathy. The present study hypotheses are as follows:

Hypothesis 1. It is hypothesized there is a negative relationship between ACEs and empathy.

Hypothesis 2. It is hypothesized that spirituality will moderate the link between ACEs and empathy, such that the link between ACEs and empathy will be weaker in the context of high spirituality.

Methods

Participants

The sample for this study is part of a larger research project called the Religions, Emotions, and Current Heath (REACH) study. Our sample was comprised of East Tennessee State University undergraduate and graduate students (N = 766). A vast majority of the participants were undergraduates (98.8%); however, there were five participants who reported they were graduate students (.9%). Of those who indicated an undergraduate status, 52.5% declared they were in their freshman year. Ages of the participants ranged from 18-55 (M =

20.43, SD = 4.51). Regarding gender, 70.9% (n = 543) identified as female, 28.1% (n = 215) identified as male, while 1.2% (n = 8) of the participants identified as gender-nonconforming (including those who identified as transgender and genderqueer). Regarding sexual orientation, 86.2% (n = 655) of the sample identified as heterosexual, 2% (n = 15) identified as gay, 2.1% (n = 16) identified as lesbian, 5.1% (n = 39) identified as bisexual, 2.1% (n = 16) identified as pansexual, .8% (n = 6) identified as asexual, and 1.8% (n = 13) identified as "other" or indicated they were questioning their sexual orientation. Regarding race and ethnicity, 80.1% (n = 616) of participants were White, 10.7% (n = 82) were Black, 3.4% (n = 26) were Latino or Hispanic, 3% (n = 23) were Asian or Pacific Islander, and 7.1% (n = 47) indicated they were another ethnicity not listed.

Procedure

The participants in this study was comprised of students at a mid-sized public university in northeast Tennessee. They were recruited and surveyed using an online platform called SONA. SONA is used by university researchers to collect data from a pool of participants seeking to sign up for research studies to receive course credit in various capacities. All participants in this study chose from a number of different research projects to participate in and were made fully aware that their participation was completely voluntary. Those who elected to participate in the study were administered electronic informed consent forms and routed to an internet survey portal, called REDCap (Harris et al., 2009), where they could complete the questionnaires anonymously. It took approximately 90 minutes for participants to complete the surveys. This study received institutional IRB approval prior to data collection.

Measures

Adverse Childhood Experiences (ACE) Questionnaire

The Adverse Childhood Experiences (ACE) questionnaire (Felitti et al., 1998) was used to measure exposure to chronic stress in childhood. This survey is comprised of 10 items that assess three separate forms of abuse, including physical and psychological abuse, neglect, and adversity related to household dysfunction. One point is given for each ACE of the ten experiences presented, leaving a total of 10 possible points. Higher scores indicate greater levels of adversity. This measure has demonstrated good internal consistency both in the literature (α = .88; Murphy et al. 2014) as well as within our own study (α = .81).

Toronto Empathy Questionnaire (TEQ)

The Toronto Empathy Questionnaire (TEQ) was used to measure empathic responding in adulthood (Spreng et al., 2009). The questionnaire is comprised of 16 items which are scored on a 5-point Likert scale indicating the frequency of their empathic responding ('never'= 1, 'rarely'= 2, 'sometimes'= 3, 'often'= 4, or 'always'= 5). Possible scores range from 16-80, where higher scores indicate greater levels of empathy. The literature suggested the measure has good internal consistency (α = .85; Spreng et al., 2009; α = .72; Kourmousi et al., 2017), and our own analysis yielded similar results (α = .91).

Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS)

The Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS) was used to measure levels of religiosity/spirituality (R/S) in adulthood (Fetzer Institute, 1999). This measure is composed of 38 items split between subsections which all had varying levels of reliability in the validation study; these include Daily Spiritual Experiences (α = .91), Values/Beliefs (α = .64), Forgiveness (α = .66), Private Religious Practices (α = .72),

Religious/Spiritual Coping (Positive- α = .81; Negative- α = .54), Religious Support (Benefits– α = .86; Problems– α = .64), Religious/Spiritual History, Commitment, Organizational Religiousness (α = .82), Religious Preference, and Overall Self-Ranking (α = .77; Fetzer Institute, 1999). Please see Appendix A for a list of the BMMRS items.

Traditionally, the BMMRS combines the constructs of religiosity/spirituality. However, given that the literature revealed a greater impact on empathic responding with spirituality, rather than religiosity, we examined correlations between the items to see if certain items on the indicated that the Religious/Spiritual History subscale items (28-30) were not as strongly related to the other items in correlation nor in spirituality based content. Further, the items from the Commitment subscale (items 31-33) were open-ended in nature, so they could not be analyzed in the same model with the other items. Finally, organizational religiousness and religious preference were not of interest in this study, but rather spirituality. Therefore, items 34-36 were excluded. In sum, the total spirituality score in the present study was compiled from summing all BMMRS items except for items 7-8, 24-30, 32-36 (see Appendix A) and this composite showed good internal consistency (α = .94).

Results

All analyses were conducted using the Statistical Package for the Social Sciences (SPSS), Version 25. To better understand our sample, we examined the mean (μ = 2), median (η =1), and mode (mode = 0) for ACE scores within our sample. Of the REACH study participants 35.1% endorsed 0 ACEs, 24.5% endorsed 1 ACE, 12% endorsed 2 ACEs, 6.6% endorsed 3 ACEs, and 21.7% endorsed 4 or more ACEs. Similar results for each number of reported ACEs were found in the original ACE study (36.1% reported 0 ACEs, 26% reported 1 ACE, 15.9% reported 2 ACEs, 9.5% reported 3 ACEs, and 12.5% reported 4 or more ACEs; Felitti et al., 1998).

Pearson's bivariate correlations indicated that, contrary to our working hypothesis (H1), ACE incidence in our sample did not have a significant negative correlation with empathic responding (r = -.06, p = .19). There was a significant positive correlation with between spirituality and empathy (r = .11, p = .01). Total ACE scores were negatively correlated with the spirituality measure (r = -.24, p < 001). See results in Table 1 below.

Table 1		1	2	3
1. Spirituality	Pearson Correlation	1	-.24**	.11*
	Sig. (2-tailed)	-	.00	.01
2. Total ACE Score	Pearson Correlation	-.24**	1	-.06
	Sig. (2-tailed)	.00	-	.19
3. TEQ Total	Pearson Correlation	.11*	-.06	1
	Sig. (2-tailed)	.01	.19	-

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Within SPSS, the Hayes PROCESS Macro (Hayes, 2013) was used to run a hierarchal multiple regression analysis to test for simple moderation effect (see Table 2). Spirituality was examined as a potential moderator of the relationship between ACEs and empathy. Results of the hierarchal multiple regression analyses did not support the hypothesis (H2) that spirituality or the R/S combination would mitigate the relationship between ACEs and empathy. Results indicated the overall model was significant (b =1.00, SE = .47, t = 2.12, p = .035, *95% CI* = .07 to 1.92). Within the full model, ACEs were not a significant predictor of empathy, spirituality significantly predicted empathy, and no support was found for moderation as reflected by the non-significant interaction term (b = -.08, SE = .15, p = .60, *95% CI* = -.38 to .22). Approximately 2% of the variance in empathic responding was explained by the full model (R^2 = .019, p = .04). See Table 2 below.

Table 2

Model Summary

R	*R*-sq	MSE	*F*	df1	df2	*p*
.14	.02	84.87	2.72	3.00	431.00	.04

	B	se	*t*	*p*	LLCI	ULCI
Constant	52.18	1.93	27.02	.00	48.38	55.97
ACEs	.10	.56	.18	.85	-1.00	1.21
Spirituality	1.00	.47	2.12	.03	.07	1.92
Int_1	-.08	.15	-.52	.60	-.38	.22

Test(s) of highest order unconditional interaction(s):

	*R*2-chng	*F*	df1	df2	*p*
X*W	.00	.27	1.00	431.00	.60

Discussion

Adverse childhood experiences (ACEs) are chronically stressful stimuli that can harm a child's development in a variety of ways. The literature establishes the vast consequences these experiences can have on the life of an individual, and therefore verifies the importance of continued research to explore new ways we can combat their effects. Past research has suggested that empathy could be a skill that is impacted by experiencing adversity early in life (Mikulincer & Shaver, 2005). However, not all children who experience adversity endorse impaired empathic responding in adulthood. As such, it is important to continue to search for the knowledge that might help us understand these interactions.

The goal of the current study was to determine whether spirituality was a factor that could buffer the hypothesized negative relationship between early ACE exposure and empathic responding in adulthood. In this study, we hypothesized that spirituality may be a protective factor in those with ACE exposure. However, the results of this study did not confirm our

hypothesis. Analysis revealed no interaction between spirituality and ACE exposure that impacted of the strength of relationship between ACE exposure and empathy within our sample.

Still, results of this study do indicate that there is a significant relationship between spirituality and empathy, which is consistent with the existing body of literature (Huber & Macdonald, 2012). It is likely that our results indicated a relationship between spirituality and empathy due to the common threads between empathy and self-transcendence, a commonly-known characteristic of spirituality. As discussed in the review of the literature, empathy differs from personal distress because it is other-person focused, rather than self-focused (Eisenberg et al., 1998; Parlar et al., 2014). Self-transcendence, too, is all about aligning thoughts and goals on something bigger than the self. This escape of self-focused emotional responding is one possible explanation for the association between these two constructs.

We must also consider the possibility that the negative relationship between ACEs and empathy could be weaker than previously believed. It may be the case that childhood adversity does not consistently impair empathy. If this is the case, it is important that we learn more about how this relationship functions. There may be commonly-experienced protective factors present that mitigate this relationship in many cases, but not all, leaving us with the inconsistent or weak relationship between the two constructs. Other explanations for these inconsistencies could be explored in the literature.

There was a significant negative correlation between spirituality and ACEs. This means that greater levels of adversity are associated with lower levels of spirituality. This might be the case for many reasons. Individuals who have experienced significant adversity might fear judgment from faith-based communities, or might have even experienced this in the past. This fear might hinder their interaction with faith-based communities, thus lessening its protective

power against the effects of abuse and maltreatment. However, there is no research to support this hypothesis, so it might be beneficial to investigate in future research. Our participants' empathic responding had no significant correlation with spirituality or ACE exposure. This may provide further insight into our null results, as within our sample there was no significant association between our independent and dependent variables. This suggests there may be another variable that is missing from this puzzle that was not considered. One possibility is that healthy social support throughout development may mitigate the effects of ACEs. There are many other possible variables that future research could consider as protective factors for the effects of ACEs. However, it is crucial, first, to establish what kind of outcomes there are. The outcomes of this study, in regard to ACEs and empathy, were inconsistent with the existing body of research.

Regarding the moderation analysis, the current study could *not* reject the null hypothesis in favor of the alternative hypothesis that spirituality is a successful buffer for the relationship between childhood maltreatment and empathy. Although our hypotheses could not be supported by our sample, the correlation analysis still found associations between most of the variables present in the study. Spirituality was negatively associated with ACEs and positively associated with empathy. It was only the relationship between ACEs and empathy that was missing. This suggests that there are relationships present between the variables; however, there may be some key information that is still missing from the picture. There may also be protective capabilities of religiosity and spirituality that the BMMRS questionnaire cannot adequately measure. As explained by the review of the literature, the lack of universally validated measures and definitions raises questions about whether the items in the BMMRS were even a good indicator of spirituality. It makes sense that it might be difficult to observe the hypothesized relationships

without the ability to clearly measure and separate spirituality from religiosity. Further research on these constructs is necessary to know the full extent of the relationships between each variable.

Limitations and Future Directions

Although this study's large sample size works to mitigate some of the problems commonly associated with smaller sample size (low statistical power, Type I error, etc.) and the self-report measures alleviated experimenter bias, there were still a few limitations. Using self-reporting measures subjects the study to other validity problems; participants may opt to respond to items based on social desirability, rather than honesty. This could compromise the integrity of the results. The ACE questionnaire is a retrospective self-reporting measurement tool, which means that it is not only subject to altered responses based on social desirability, but also just the fallibility of human memory. People do not always remember things exactly the way they happened, especially traumatic experiences. These validity concerns could be mitigated with an alternative study design. Longitudinal study designs present the ability to collect data from the same participant across a longer timeframe, mitigate concerns related to retrospective reporting, and allow more certainty regarding causal conclusions. Another limitation to consider is the breadth of items on the ACE questionnaire and that we were unable to examine specific types of adversity or maltreatment. For example, one participant may have an ACE score of 1 due to parental divorce whereas another participant may have an ACE score of 1 due to repeated sexual assault across childhood. We would not expect these two participants to have had the same developmental and emotional experiences as a result of their particular ACE; however, our current methodology did not allow for investigation by type of ACE or frequency of maltreatment across time.

Also, when considering the results of this study it is important to ponder the sample of individuals who participated. Participants in this study were predominantly White, female, college-aged students living in a small Southeastern city. There is little to suggest that the findings that apply to these participants would generalize to the rest of the human population. It may be possible that the effects of ACEs on the lives of the participants in this study is so mild, making it undetectable. The geographic location of the participants may also be a source of interest. This university is located in the middle of what many refer to as the "Bible Belt." The literature suggested that religiosity has little effect on empathy when you control for spirituality. For the population in this geographical area, it may be particularly difficult to parse apart the differences between spirituality and religiosity. To many laypeople, these words are synonyms, rather than two separate constructs. This could impact how the survey items are interpreted, as well as how each individual would choose to respond. Another possibility to consider is that there may be other protective factors to the link between ACE exposure and empathy that the participants in this area experience rather than/in conjunction to religiosity and spirituality. One of these protective factors might likely be resilience, since this data was collected using a participant pool of college students, which may endorse more resilience as evidenced by their ability to obtains secondary education.

When considering future research, it would be helpful to bear the limitations above in mind. As previously discussed, the retrospective nature of the ACE questionnaire presented a number of limitations. A longitudinal study designs with large, diverse samples would be beneficial to strengthen the statistical power of the study, as well as mitigate errors in reporting as a result of unreliable memory and social desirability. Future research might also try to create a validated measure of adverse childhood experiences that also analyzes specific adverse

experiences. This would allow for more detailed insight into the interactions between each type of ACE with the specific outcomes associated with those experiences. More insight into the relationships between trauma, empathy, and spirituality are required to better understand how they work, especially given that the results found within this study are inconsistent with the general consensus of the larger body of literature. With a knowledge of how trauma affects people and how we might mitigate those outcomes, we could transform the lives of those who are hurting to help them overcome their adversity.

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Appendix

Adverse Childhood Experience (ACE) Questionnaire

Finding your ACE Score ra hbr 10 24 06

While you were growing up, during your first 18 years of life:

1. Did a parent or other adult in the household **often** …
   Swear at you, insult you, put you down, or humiliate you?
   or
   Act in a way that made you afraid that you might be physically hurt?
   Yes No If yes enter 1 _____

2. Did a parent or other adult in the household **often** …
   Push, grab, slap, or throw something at you?
   or
   Ever hit you so hard that you had marks or were injured?
   Yes No If yes enter 1 _____

3. Did an adult or person at least 5 years older than you **ever**…
   Touch or fondle you or have you touch their body in a sexual way?
   or
   Try to or actually have oral, anal, or vaginal sex with you?
   Yes No If yes enter 1 _____

4. Did you **often** feel that …
   No one in your family loved you or thought you were important or special?
   or
   Your family didn't look out for each other, feel close to each other, or support each other?
   Yes No If yes enter 1 _____

5. Did you **often** feel that …
   You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?
   or

5. Did you **often** feel that …
   You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?
   or
   Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?
   Yes No If yes enter 1 _____

6. Were your parents **ever** separated or divorced?
   Yes No If yes enter 1 _____

7. Was your mother or stepmother:
   Often pushed, grabbed, slapped, or had something thrown at her?
   or
   Sometimes or often kicked, bitten, hit with a fist, or hit with something hard?
   or
   Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?
   Yes No If yes enter 1 _____

8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?
   Yes No If yes enter 1 _____

9. Was a household member depressed or mentally ill or did a household member attempt suicide?
   Yes No If yes enter 1 _____

10. Did a household member go to prison?
    Yes No If yes enter 1 _____

Now add up your "Yes" answers: _____ This is your ACE Score

Toronto Empathy Questionnaire instructions

Below is a list of statements. Please read each statement *carefully* and rate how frequently you feel or act in the manner described. Circle your answer on the response form. There are no right or wrong answers or trick questions. Please answer each question as honestly as you can.

5-point Likert-scale corresponding to various levels of frequency (i.e., never, rarely, sometimes, often, always),

References

1. **When someone else is feeling excited, I tend to get excited too**
2. **Other people's misfortunes do not disturb me a great deal**
3. **It upsets me to see someone being treated disrespectfully**
4. **I remain unaffected when someone close to me is happy**
5. **I enjoy making other people feel better**
6. **I have tender, concerned feelings for people less fortunate than me**
7. **When a friend starts to talk about his\her problems, I try to steer the conversation towards something else**
8. **I can tell when others are sad even when they do not say anything**
9. **I find that I am "in tune" with other people's moods**
10. **I do not feel sympathy for people who cause their own serious illnesses**
11. **I become irritated when someone cries**
12. **I am not really interested in how other people feel**
13. **I get a strong urge to help when I see someone who is upset**
14. **When I see someone being treated unfairly, I do not feel very much pity for them**
15. **I find it silly for people to cry out of happiness**
16. **WhenIseesomeonebeingtakenadvantageof,Ifeelkindofprotectivetowardshim \her** ***Scoring*** **Item responses are scored according to the following scale for positively worded items 1, 3, 5, 6, 8, 9, 13, 16. Never = 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4. The following negatively worded items are reverse scored: 2, 4, 7, 10, 11, 12, 14, 15. Scores are summed to derive total for the Toronto Empathy Questionnaire.**

Brief Multidimensional Measure of Religiousness/Spirituality: 1999

For more information about this measure, see **Introduction: How to Use This Report.**

Daily Spiritual Experiences

The following questions deal with possible spiritual experiences. To what extent can you say you experience the following:

1. I feel God's presence.
   1 - Many times a day
   2 - Every day
   3 - Most days
   4 - Some days
   5 - Once in a while
   6 - Never or almost never

2. I find strength and comfort in my religion.
   1 - Many times a day
   2 - Every day
   3 - Most days
   4 - Some days
   5 - Once in a while
   6 - Never or almost never

3. I feel deep inner peace or harmony.
   1 - Many times a day
   2 - Every day
   3 - Most days
   4 - Some days
   5 - Once in a while
   6 - Never or almost never

4. I desire to be closer to or in union with God.
   1 - Many times a day
   2 - Every day
   3 - Most days
   4 - Some days
   5 - Once in a while
   6 - Never or almost never

5. I feel God's love for me, directly or through others.
   1 - Many times a day
   2 - Every day
   3 - Most days
   4 - Some days
   5 - Once in a while
   6 - Never or almost never

6. I am spiritually touched by the beauty of creation.
   1 - Many times a day
   2 - Every day
   3 - Most days
   4 - Some days
   5 - Once in a while
   6 - Never or almost never

Meaning

See Appendix at the end of this section.

Values/Beliefs

7. I believe in a God who watches over me.
   1 - Strongly agree
   2 - Agree
   3 - Disagree
   4 - Strongly disagree

8. I feel a deep sense of responsibility for reducing pain and suffering in the world.
   1 - Strongly agree
   2 - Agree
   3 - Disagree
   4 - Strongly disagree

Forgiveness

Because of my religious or spiritual beliefs:

9. I have forgiven myself for things that I have done wrong.
   1 - Always or almost always
   2 - Often
   3 - Seldom
   4 - Never

10. I have forgiven those who hurt me.
   1 - Always or almost always
   2 - Often
   3 - Seldom
   4 - Never

11. I know that God forgives me.
   1 - Always or almost always
   2 - Often
   3 - Seldom
   4 - Never

Private Religious Practices

12. How often do you pray privately in places other than at church or synagogue?
   1 - More than once a day
   2 - Once a day
   3 - A few times a week
   4 - Once a week
   5 - A few times a month
   6 - Once a month
   7 - Less than once a month
   8 - Never

13. Within your religious or spiritual tradition, how often do you meditate?
   1 - More than once a day
   2 - Once a day
   3 - A few times a week
   4 - Once a week
   5 - A few times a month
   6 - Once a month
   7 - Less than once a month
   8 - Never

14. How often do you watch or listen to religious programs on TV or radio?
   1 - More than once a day
   2 - Once a day
   3 - A few times a week
   4 - Once a week
   5 - A few times a month
   6 - Once a month
   7 - Less than once a month
   8 - Never

15. How often do you read the Bible or other religious literature?
   1 - More than once a day
   2 - Once a day
   3 - A few times a week
   4 - Once a week
   5 - A few times a month
   6 - Once a month
   7 - Less than once a month
   8 - Never

16. How often are prayers or grace said before or after meals in your home?
   1 - At all meals
   2 - Once a day
   3 - At least once a week
   4 - Only on special occasions
   5 - Never

Religious and Spiritual Coping

Think about how you try to understand and deal with major problems in your life. To what extent is each of the following involved in the way you cope?

17. I think about how my life is part of a larger spiritual force.
   1 - A great deal
   2 - Quite a bit
   3 - Somewhat
   4 - Not at all

18. I work together with God as partners.
   1 - A great deal
   2 - Quite a bit
   3 - Somewhat
   4 - Not at all

19. I look to God for strength, support, and guidance.
    1 - A great deal
    2 - Quite a bit
    3 - Somewhat
    4 - Not at all

20. I feel God is punishing me for my sins or lack of spirituality.
    1 - A great deal
    2 - Quite a bit
    3 - Somewhat
    4 - Not at all

21. I wonder whether God has abandoned me.
    1 - A great deal
    2 - Quite a bit
    3 - Somewhat
    4 - Not at all

22. I try to make sense of the situation and decide what to do without relying on God.
    1 - A great deal
    2 - Quite a bit
    3 - Somewhat
    4 - Not at all

23. To what extent is your religion involved in understanding or dealing with stressful situations in any way?
    1 - Very involved
    2 - Somewhat involved
    3 - Not very involved
    4 - Not involved at all

Religious Support

These questions are designed to find out how much help the people in your congregation would provide if you need it in the future.

24. If you were ill, how much would the people in your congregation help you out?
    1 - A great deal
    2 - Some
    3 - A little
    4 - None

25. If you had a problem or were faced with a difficult situation, how much comfort would the people in your congregation be willing to give you?
    1 - A great deal
    2 - Some
    3 - A little
    4 - None

Sometimes the contact we have with others is not always pleasant.

26. How often do the people in your congregation make too many demands on you?
    1 - Very often
    2 - Fairly often
    3 - Once in a while
    4 - Never

27. How often are the people in your congregation critical of you and the things you do?
    1 - Very often
    2 - Fairly often
    3 - Once in a while
    4 - Never

Religious/Spiritual History

28. Did you ever have a religious or spiritual experience that changed your life?
    No
    Yes

IF YES: How old were you when this experience occurred?

29. Have you ever had a significant gain in your faith?
    No
    Yes

IF YES: How old were you when this occurred?

30. Have you ever had a significant loss in your faith?
    No
    Yes

IF YES: How old were you when this occurred?

Commitment

31. I try hard to carry my religious beliefs over into all my other dealings in life.
    1 - Strongly agree
    2 - Agree
    3 - Disagree
    4 - Strongly disagree

32. During the last year about how much was the average monthly contribution of your household to your congregation or to religious causes?

    $_____ OR $_____
    Contribution per year — Contribution per month

33. In an average week, how many hours do you spend in activities on behalf of your church or activities that you do for religious or spiritual reasons?

    _____

Organizational Religiousness

34. How often do you go to religious services?
    1 - More than once a week
    2 - Every week or more often
    3 - Once or twice a month
    4 - Every month or so
    5 - Once or twice a year
    6 - Never

35. Besides religious services, how often do you take part in other activities at a place of worship?
    1 - More than once a week
    2 - Every week or more often
    3 - Once or twice a month
    4 - Every month or so
    5 - Once or twice a year
    6 - Never

Religious Preference

36. What is your current religious preference?

    _____

IF PROTESTANT ASK:
Which specific denomination is that?

_____

(List of religious preference categories attached for advisory purposes. See Religious Preference section.)

Overall Self-Ranking

37. To what extent do you consider yourself a religious person?
    1 - Very religious
    2 - Moderately religious
    3 - Slightly religious
    4 - Not religious at all

38. To what extent do you consider yourself a spiritual person?
    1 - Very spiritual
    2 - Moderately spiritual
    3 - Slightly spiritual
    4 - Not spiritual at all

Appendix-Meaning

The working group did not feel it was appropriate at this time to include any "religious meaning" items in this measure, as no final decisions have been made regarding this domain. The following items are being considered for a Short Form.

1. The events in my life unfold according to a divine or greater plan.
    1 - Strongly agree
    2 - Agree
    3 - Disagree
    4 - Strongly disagree

2. I have a sense of mission or calling in my own life.
    1 - Strongly agree
    2 - Agree
    3 - Disagree
    4 - Strongly disagree