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Effects of Moral Injury on Psychopathology of Pakistanis Affected by War against Terror: Moderating Role of Religiosity

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ABSTRACT

Aim of the Study: The present research investigated the effect of moral injury (MI) on depression, anxiety, and stress (psychopathology) among Pakistanis affected by the war on terrorism. A moderating role of religiosity between MI and psychopathology was also documented.

Methodology: The study was based on a snowball sample of 214 men 103 women (N = 317) with an age range of 18 to 64 years (M = 43.26, SD = 9.17) who were directly affected by war. The participants were recruited from various cities of KPK, Balochistan, and the Punjab. Multidimensional Moral Injury Scale (Aman, 2022), Dimensions of Religiosity Scale (Aman, 2022), and Depression, Anxiety and Stress Scale-42 DASS-42 (Zafar, 2014) were used to measure the focal constructs in the present study; all scales were translated and adapted in Urdu.

Findings: Mean depression (M = 21.40, SD = 10.32) and anxiety (M = 19.94, SD = 9.66) were severely high in the participants; where stress (M = 21.05, SD = 8.99) was moderately high. Findings revealed MI positively predicted depression, anxiety, and stress and religiosity negatively predicted this psychopathology; and high religiosity expressed lower psychopathology than lower religiosity.

Conclusion: MI moderately (14-19%) but significantly explains for psychopathology (depression, anxiety and stress); and religiosity moderates MI and psychopathology. Religiosity buffers against depression, anxiety and stress because people with higher religiosity had lower levels of these measures than those with lower religiosity. Implications and suggestions for future research are discussed.

Keywords: Moral Injury, Religiosity, Depression, Anxiety, Stress, War on Terrorism.

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Introduction

War engenders physical, economical, and psychological traumas that linger long in life. War mongering propaganda brutalizes and justifies bloodshed of innocent victims perpetrated by the warring enemy. Soviet-Afghan war (1979) leached terrorism in northwest Pakistan affecting Khyber Pakhtunkhwa (KPK),

Balochistan, and the Punjab provinces. This war forced many Pakistanis to take up fighting against terrorism and violence. After the Soviet-Afghan war a surge in terrorism arose after World Trade Center Destruction (9/11), and many drone strikes killed and injured thousands of innocent Pakistani civilians (Momani, 2004; Rabbi, 2012). During the past 15 years, Pakistan has lost more than 60 thousand civilians in its war against terrorism (Shuja & Kamal, 2021) has suffered slowing of economic growth, shattering the social structure, and damage to the politics of the country (McCrisken, 2011). These misfortunes have impacted the psyche of the people living in war zone drenching them in revenge that lasted for generations.

Moral Injury

Moral injury (MI) is a developing concept that encompasses the social, emotional, psychological, religious, and spiritual anguishes that arise after unprecedented events that disturb deeply held moral beliefs and values (Richardson & Lamson, 2021), and is defined as a "disturbance in a person's self-confidence and expectations about one's own or others to act in an ethically just manner" (Ames et al., 2019; Litz et al., 2017; Nash, 2019; Richardson & Lamson, 2021). MI is a psychological trauma that results from extreme and unprecedented life experiences and the harmful repercussion of exposure to such events (Bjorgo & Horgan, 2008; Horgan, 2008). Moral injury refers to the harm inflicted upon an individual's conscience or sense of morality when they engage in, witness, or neglect to prevent actions that violate their personal ethical standards, moral beliefs, or values (Ames et al., 2019). Unprecedented traumatic events are morally injurious (Shay, 2014) and are brought about by committing, failing to prevent, perpetrating, bearing witness to, or learning about actions of others that contradict deeply held moral beliefs and expectations (Ames et al., 2019; Litz et al., 2017; Nash, 2019). These events create dissonance between moral beliefs and expectations in life. In the context of war, moral injuries (MIs) are caused by either direct involvement in combat-related actions, such as killing and causing harm to others, or indirect acts such as witnessing death, failing to prevent immoral acts, and giving or receiving orders that go against an individual's moral principles (Griffin et al., 2019; Miller, 2009).

Effects of morally injurious events does not pertain to any specific profession; however greater MI research is focused on the military population (Bartzak, 2015; Farnsworth et al., 2017; Frankfurt & Frazier, 2016; Koenig et al., 2019; Nash & Litz, 2013; Richardson & Lamson, 2021; Stein et al., 2012; Williamson, Murphy & Stevelink et al., 2021) and very less is known about its impact on non-military populations (Borges et al., 2020; Chaplo et al., 2019; Kopacz et al., 2015, 2016, 2019). Studies with refugees have shown that exposure to morally injurious events is linked to severe mental health problems (Hoffman et al., 2019; Morina, 2018). Research on teachers have indicated, MI is connected to post-traumatic stress disorder (PTSD), burnout, and other mental health concerns (Fani et al., 2021; Kopacz et al., 2016). Studies with journalists have found positive relationship between MI and guilt (Feinstein et al., 2018; Williamson et al., 2018). These studies highlight the importance of MI in civilians and its relation to trauma and stress-related disorders. The impact of MI on mental health has yet to be studied among civilians who have experienced war-related trauma. The current research aims to address this gap by examining the impact of MI on psychopathology among Pakistanis affected by the war on terrorism and the buffering effect of religiosity.

Moral Injury and Psychopathology

Traditionally, MI has been associated with PTSD (Currier, 2015; Exline et al., 2014) and well-being (Richardson & Lamson, 2021), however trauma is associated with mental disorders (Dombo et al., 2013; Jinkerson, 2016; Wisco et al., 2017), psycho-spiritual development (Blinka & Harris, 2016; Smith-MacDonald et al., 2018), mental health interventions (Farnsworth et al., 2014, 2017; Koenig et al., 2018; Litz et al., 2009; Nickerson et al., 2015), and psychometric validation of MI scales (Bryan et al., 2016; Chaplo et al., 2019; Zhizhong et al., 2020). A substantial body of research now suggests that MI is associated with a wide range of psychiatric symptoms (Amsalem et al., 2021; Brock & Lettini, 2012; Flipse Vargas et al., 2013; Litz et al., 2017; Miller, 2016), for example Bryan et al. (2014) report MI contributes to adverse mental health outcomes, including suicides. Other researchers report stronger correlations between MI with depression and less with stress and anxiety (Nieuwsma et al., 2015; Koenig et al., 2015;

Nash, 2019). Given the pertinent literature, we hypothesized MI will positively predict depression, anxiety, and stress in Pakistanis affected by war on terrorism i.e., greater MI more depression, anxiety, and stress.

Religiosity and Psychopathology

Mental health and religion are positively associated (Hackney & Sanders, 2003); a systematic review by Koenig and colleagues (Koenig et al., 2001) validate this result. Heidari et al. (2016) found that religiosity acted as a buffer against depression in a sample of Iranian medical students; and in a Pakistani sample of Muslim college students' religious affiliation and conduct were negatively associated with symptoms of stress, anxiety, and depression (Nadeem et al., 2017; also see Vasegh & Mohammadi, 2007). Lupo and Strous (2011) found, religiosity was not related to depression and anxiety among Jewish medical students; similarly, Francis et al. (2019) reported religiosity was not related to anxiety and depression in a sample of Malaysian medical students belonging to Islam, Christianity, and Buddhism. Given these mixed findings, we hypothesized, religiosity will negatively predict psychopathology (depression, anxiety, and stress) in Pakistani civilians affected by war on terrorism such that high religiosity will result in lower levels of depression, anxiety, and stress.

Moderating Role of Religiosity between Moral Injury and Psychopathology

Religiosity is inversely correlated with MI in US veterans (Ames et al., 2019) and healthcare professionals (Mantri et al., 2021). Volk and Koenig (2019) assert etiology of MI is rooted in religious and spiritual beliefs. Religious beliefs and values provide a coping mechanism for dealing with moral turmoil (Koenig et al., 2015). The unresolved religious struggle might lead to compromised physical, psychological, social, and spiritual functioning and disconnection from self and others (Farnsworth et al., 2017); which might hinder recovery from MI (Coady et al., 2021), leading to psychopathology and poor quality of life. Religious beliefs also contribute to subside self-condemnation due to the failure of not living up to the high moral standards advocated by religious bodies, which can lead to more severe moral injuries (Harris et al., 2018) resulting in various symptoms of psychopathology. Thus, we may infer that religiosity may act as a moderator between MI and psychopathology as highly religious people may experience less severe symptoms of psychopathology corollary to MI as compared to their counterparts who are low on religiosity. This line of reasoning has been indirectly supported by Worthington and Langberg (2012) who found religiosity moderated treatment effectiveness for managing complex traumas experienced by soldiers exposed to MIs. More specifically, they found that religiously tailored forgiveness-based therapies alleviated traumatic symptoms among soldiers experiencing MIs. In view of these pertinent arguments, we hypothesized, religiosity will buffer the positive association between MI and psychopathology (depression, anxiety, & stress) among Pakistani civilians affected by war on terrorism.

Hypotheses

1. MI will positively predict depression, anxiety, and stress in Pakistanis affected by war on terrorism.
2. Religiosity will negatively predict psychopathology (depression, anxiety, and stress) in Pakistanis affected by war on terrorism.
3. Religiosity will buffer the positive association between MI and psychopathology (depression, anxiety, & stress) among Pakistanis affected by war on terrorism.

Method

Participants

The present study comprised of 214 men and 103 women (N = 317) affected by war against terror and belonged to KPK, Balochistan, and Punjab, Pakistan. The participants were chosen through a snowball sample. Every participant was asked to identify at least three other individuals outside his/her immediate family who were directly affected by the war. Thus, every participant of the study helped the researchers recruit new participants among their acquaintances. The age of the participants ranged from 18 to 64 years

(*M* = 43.26, *SD* = 9.17). Participant included in the study had had directly experienced war with personal injuries, death of a relative, or friend. All participants were able to read and write Urdu and could answer items on the instruments and provide feedback (see Table 1).

Table 1: *Sociodemographic Characteristics of the Participants*

Characteristic	***n***	***%***
Gender		
Men	214	67.5
Women	103	32.5
Education		
Master & above	111	35
Graduation	88	27.8
High school	57	18
Occupational degree	61	19.2
Job type		
Full time	175	55.2
Part-time	67	21.1
Not working	52	16.4
Housewives	23	7.3
Age		
18-24	22	6.9
25-34	84	26.5
35-44	109	34.4
45-54	74	23.3
55-64	28	8.8
Income (PKR)		
15000-24999	11	3.5
25000-34999	72	22.7
35000-49999	55	17.4
50000-74999	118	37.2
75000-99999	61	19.2
Victim status		
Victim	180	56.8
Family	137	43.2
Living status		
Shaheed	100	31.5
Survivor	217	68.5
Provinces		
KPK	187	59
Punjab	63	19.9
Balochistan	67	21.1

Instrument

Multidimensional Moral Injury Scale (MDMIS). The MDMIS was developed by Shahid et al. (under review), which is a 47-item self- report Urdu measure of MI specifically developed to assess MIs caused by war against terror in Pakistan. It has five subscales and include, morally injurious events, religious signs and symptoms of MI, moral signs and symptoms of moral injury, social signs and symptoms of moral injury, and psychological signs and symptoms of moral injury. The scale employs a 5-point Likert-type response format (1 = Strongly Disagree to 5 = Strongly Agree). The overall reliability of the MDMIS is (α = .95) and its subscales ranging from .79 to .89 (Shahid et al., under review). A sample item is:

Dimensions of Religiosity Scale (DRS). The DRS was developed by Joseph and Diduca (2007) is a 20-item measure to assess religiosity in the context of psychopathology. The scale has four subscales and include, preoccupation, guidance, conviction, and emotional involvement. Each of these subscales comprises 5 items and is measured on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). This scale is a useful way of asking clinically relevant questions about the relation of religious beliefs to mental health. The reliability (Joseph & Diduca, 2007) of the overall scale is (α = .95) and various subscales that ranged from (α = .90 to .95). The current study used the Urdu-translated version of the DRS (Aman et al., under review). A sample item is:

Depression Anxiety Stress Scale (DASS-42). The DASS-42 was originally developed by Lovibond and Lovibond (1995) and translated in Urdu translated and adapted by Zafar (2014) was used to measure depression, anxiety, and stress. The respondents recorded their answers on a scale where each item was measured on a scale ranging from (0) never to (3) very often. DASS-42 demands responses regarding the past week's experiences with the subject and comprises of three subscales (depression, anxiety and stress) with 14 items; severity of depression, anxiety and stress are given in Table 2 below. Zafar (2014) reported good internal consistencies for depression (α = .84), anxiety (α = .86), and stress (α = .83) subscales. A sample item is:

Table 2: *Severity Ranges of Depression, Anxiety and Stress.*

Severity	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely Severe	28+	20+	34+

Procedure

Participants were contacted in their homes living in different cities of KPK, Balochistan, and Punjab who had been directly exposed to various incidents in the war against terrorism. The participants have been exposed to death of their family members, witnessed their family members suffer amputations, or have personally experienced the loss of a limb during the war on terrorism. The participants were informed about the aim, goals, and reasoning behind the study, and they were reassured that their responses would be kept confidential and used solely for research purposes. Along with the written instructions at the start of the survey, they were also provided with verbal explanations. The participants were asked to read each question attentively and answer truthfully by selecting the option that best reflects their experiences. No incentives were offered to the participants as their participation was voluntary and they were allowed to withdraw their responses at any stage of the research. Overall, 350 questionnaires were distributed among the participants and 320 filled questionnaires were collected with a response rate of 91.42%.

Results

The initial data set consisted of 320 cases and was analyzed using IBM SPSS Version 26. The data was validated for accuracy through frequency and range checks on each variable. During this process, 3% of the data entries were found to have errors, which were corrected based on the original filled questionnaires. The data was further examined for univariate outliers and three cases with standardized values greater than |3.29| on any variable were removed. The analysis of missing values showed that 36 cases had one or more missing responses, but this was less than 2% for all variables and the MCAR test indicated that the missing data was random. The missing values were then imputed using the Expectation Maximization (EM) technique (Gold & Bentler, 2000).

Table 3 presents means, standard deviations, ranges, skewness, and reliability coefficients for the focal constructs of the present study. The coefficients of all measures were > .70 indicating a satisfactory degree of internal consistency. The skewness values indicated that all variables were symmetrically distributed.

The most important confirmation about the sample was their psychopathology it was found that their mean depression (M = 21.40, SD = 10.32) and anxiety (M = 19.94, SD = 9.66) were severely high and stress (M = 21.05, SD = 8.99) was moderately high (see Table 3)

Table 3: *Descriptive Statistics and Cronbach's Alpha Coefficients of Scales (N = 317)*

Scales	***k***	***M***	***SD***	***Range***		***A***	***Sk***
				Actual	**Potential**		
Moral Injury	47	157.62	28.76	47-230	45-235	.93	-.34
Morally Injurious Events	11	37.35	8.85	13-52	11-55	.88	-.27
Religious Signs and Symptoms of MI	10	33.44	7.05	14-46	10-50	.81	-.22
Moral Signs and Symptoms of MI	10	35.12	6.76	12-47	10-50	.78	-.57
Social Signs and Symptoms of MI	6	16.90	4.19	6-25	6-30	.76	-.07
Psychological Signs and Symptoms of MI	10	34.81	7.18	12-48	10-50	.80	-.44
Religiosity	16	68.51	16.21	5-75	5-80	.95	-.59
Preoccupation	4	15.35	3.87	6-18	4-20	.82	-.71
Guidance	3	5.35	2.60	3-14	3-15	.80	-.29
Conviction	4	15.49	4.13	4-20	4-20	.68	-.63
Emotional Involvement	5	17.09	4.07	7-22	5-25	.87	-.52
Depression	14	21.45	10.32	0-41	0-42	.87	-.32
Anxiety	14	19.94	9.66	0-39	0-42	.82	-.31
Stress	14	21.05	8.99	0-40	0-42	.79	-.23

Table 4 indicated that MI had significant positive correlations whereas religiosity had significant negative correlations with depression, stress, and anxiety. Moreover, all subscales of MI had positive correlations with all indices of psychopathology although *psychological signs and symptoms* (a subscale of MI) did not significantly correlate with depression. Similarly, all subscales of religiosity had significant positive correlations with the three indices of psychopathology except *guidance* which did not correlate to any of the psychopathology indices.

Table 4:

Pearson Correlations among Focal Variables

Variable	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1. Moral Injury	-	.84*	.83*	.87*	.75*	.82*	-.09	-.07	-.07	-.08	-.01	.28*	.26*	.26*
2. Morally Injurious Events	-	-	.54*	.68*	.47*	.65*	-.16*	-.12*	-.02	.14*	.12*	.25*	.26*	.27*
3. Religious Signs and Symptoms of MI	-	-	-	.66*	.86*	.51*	-.09	-.07	-.14*	-.07	-.10	.25*	.24*	.26*
4. Moral Signs and Symptoms of MI	-	-	-	-	.52*	.73*	-.05	-.02	-.08	-.02	-.07	.17*	.21*	.21*
5. Social Signs and Symptoms of MI	-	-	-	-	-	.43*	-.08	-.07	-.14*	-.07	.09	.24*	.21*	.24*
6. Psychological Signs and Symptoms of MI	-	-	-	-	-	-	-.01	-01	-.02	-.00	-.02	-.10	.13*	.15*
7. Religiosity	-	-	-	-	-	-	-	.92*	.06	.92*	.89*	-.37*	-.33*	-.26*
8. Preoccupation	-	-	-	-	-	-	-	-	.05	.84*	.85*	-.30*	-.25*	-.21**
9. Guidance	-	-	-	-	-	-	-	-	-	.09	.24*	.02	.01	.06
10. Conviction	-	-	-	-	-	-	-	-	-	-	.82*	-.35*	-.32*	-.23*
11. Emotional Involvement	-	-	-	-	-	-	-	-	-	-	-	-.25*	-.23*	-.17*
12. Depression	-	-	-	-	-	-	-	-	-	-	-	-	.90*	.88*
13. Anxiety	-	-	-	-	-	-	-	-	-	-	-	-	-	.88*
14. Stress	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*$p < .001$

Table 5:

Main and Interaction Effects of MI and Religiosity on Psychopathology

Effect	Depression				Anxiety				Stress			
	B	95% CI		R^2	B	95% CI		R^2	B	95% CI		R^2
		LL	UL			LL	UL			LL	UL	
Moral Injury	.10†	.05	.12	.19†	.12†	.06	.14	.17†	.09†	.05	.12	.14†
Religiosity	-.22†	-.29	-.15		-.18†	-.25	-.12		-.13†	-.19	-.07	
Moral Injury x Religiosity	.004*	.001	.005		.005*	.0004	.005		.003*	.0004	.005	
Conditional Effects												
Low Religiosity	.043	-.004	.089		.046*	.002	.091		.049*	.006	.091	
Medium Religiosity	.088†	.052	.125		.086†	.051	.120		.087†	.054	.119	
High Religiosity	.134†	.079	.189		.125†	.074	.177		.125†	.076	.174	

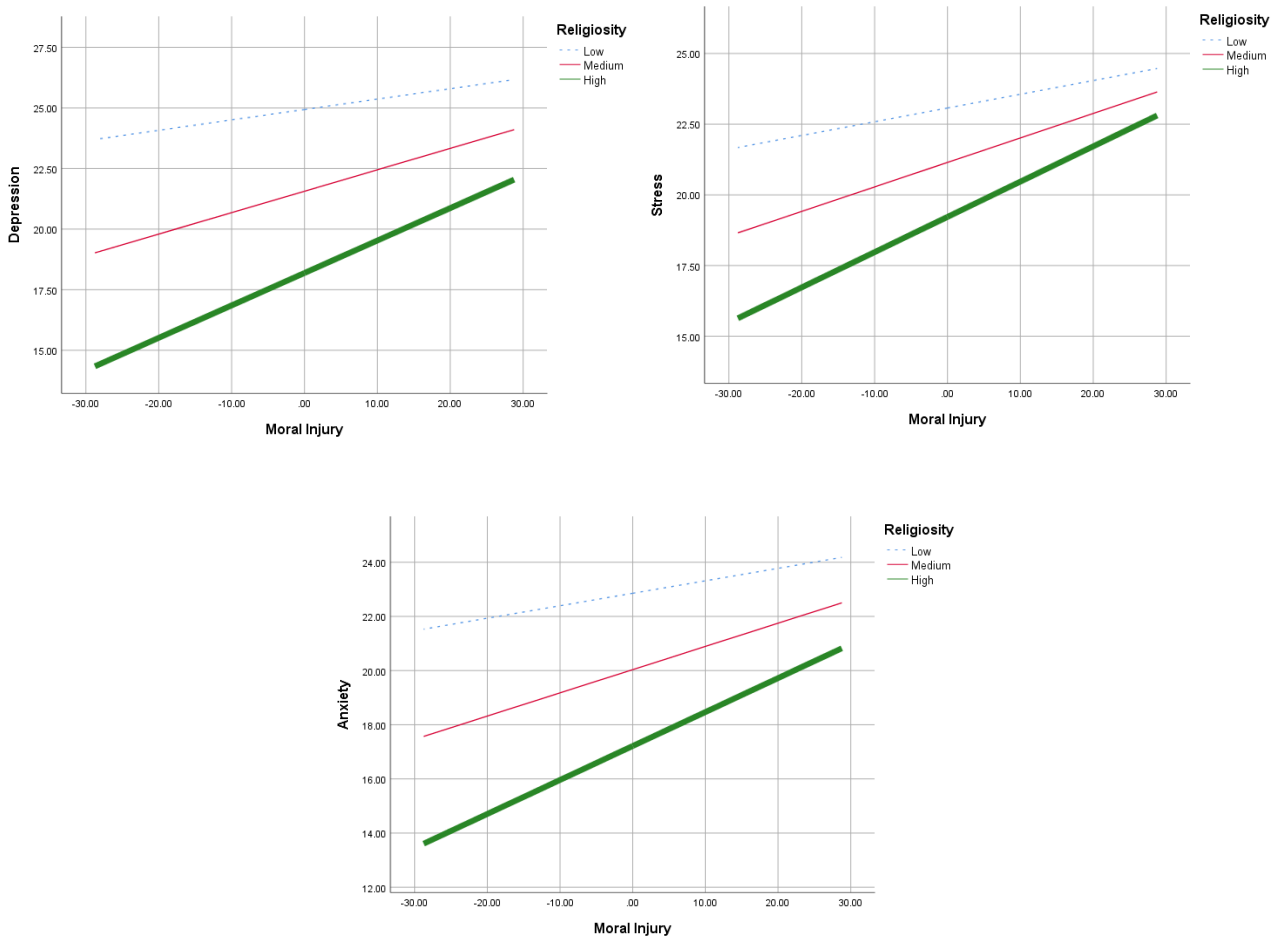
Note. The low, medium and high values of religiosity correspond to 1 standard deviation below the mean, mean, and 1 standard deviation above the mean, respectively.

*$p < .05$, †$p < .001$

Table 5 presents the findings of moderation analysis using Process macro (Hayes, 2018) for SPSS. For all three indicators of psychopathology i.e., depression, anxiety, and stress, the MI had significant positive main effects whereas religiosity had significant negative main effects. The interaction effects of MI and religiosity remained significant and positive. The condition effects of MI on various indices of psychopathology at high, medium, and low levels of religiosity indicated that religiosity strengthened the positive relationships of MI with depression, anxiety, and stress. Figures 1 schematically present the buffering role of religiosity between MI and psychopathology.

Figure 1

Moderating Role of Religiosity Between Moral Injury and Psychopathology



Discussion

Many studies when report stress-related traumas in military personnel they stress the need for stress-related for MI in non-military populations (Braitman et al., 2018; Feinstein et al., 2018; Rozario, 2019). The literature on the mental health of Pakistanis directly affected by war on terror is non-existent; this study is groundbreaking in providing empirical data on civilians affected by war and MI resulting in heightened psychopathology where religiosity would buffer depression, anxiety and stress in a religiously Muslim society. Our findings indicated that depression, anxiety and stress was severe to moderately severe in people exposed to war, and that religiosity did buffer (14-19%) some of their depression, anxiety, and stress.

Our first hypothesis was supported, MI positively predicted depression, anxiety, and stress. In high stakes situations like war MI is a strong cognitive and emotional response that questions the moral underpinnings about the stressful trauma, individuals along with their profound feelings of guilt and shame, question moral beliefs, and in many cases succumb to substance abuse, social withdrawal, or self-destructive acts (Williamson et al., 2021). Kopacz et al. (2016) for example have reported

existential crises lead to MI; which affects mental health, familial and professional functioning and other maladaptive coping responses (Jinkerson, 2016; Yandell, 2019) resulting in maintaining depression, anxiety, and stress. Several studies have found MI is antecedent to major depressive disorder and PTSD and a major obstacle in the healing and recovery process (Drescher & Foy, 2008; Farnsworth et al., 2014; Harris et al., 2015; Hines et al., 2021; Litz et al., 2009). MI can also lead to social withdrawal and trauma-related symptoms which encompasses self-condemnation, difficulty in forgiving oneself, shame, guilt, anxiety, demoralization, anger, self-harm, grief, and so on (Snider, 2015; Vargas, 2013).

The second hypothesis was supported as well, religiosity worked as a protective factor against psychopathology; religiosity negatively predicted depression, anxiety and stress. Pakistani society is a religious society and Islam plays a central role in the lives of Pakistani Muslim adults by providing them the essential solace in times of distress. The Islamic belief that God is the true embodiment of mercifulness and is the ultimate protector of all Muslim lives and belongings inculcates patience, endurance, resilience, and post-traumatic growth should reduce psychopathology in a Pakistanis affected by war. A recent comprehensive review by Koenig and Al Shoaib (2019) furnishes support to this line of reasoning as their review found that reciting the Qur'an, frequent praying to God, embracing earnest Islamic beliefs, vigilant adherence to the teachings of the Qur'an, and a sturdy and close-knit family and community may help buffer psychological distress and symptoms of psychopathology among Muslims; and that individuals with stronger religiosity more content and happier than those that had low levels of religiosity (see Figure 1).

The final hypothesis also supported, suggested religiosity moderate between MI and psychopathology (depression, anxiety and stress). MI questions spiritual or religious beliefs during physical traumas like war, this results in moral conflicts and causes injury. As a consequence of MI, people of faith may come to question God or whatever they previously held to be sacred (Fontana & Rosenheck, 2004). For highly religious people MI is lower than those that are low in their religious beliefs, the study has documented this relationship, and its effects on mental and physical health. In a number of studies religious struggle in non-military populations have reported poor mental and physical health outcomes (Exline et al., 2011; Pargament & Sweeney, 2011; Wood et al., 2010). Shults and Sandage (2006) observed recurring cycles of anger with God among civilians facing morally injurious events. Exline et al. (2011) note that being angry with God is a typical negative religious coping that people experiencing MI frequently employ. While being angry with God, they may hold God responsible for the traumatic event(s), may attribute cruelty to God, lose meaning in life, and see themselves as victims, which further exacerbates their symptoms of psychopathology.

Conclusion and Implications

To the best of our knowledge, this is the first study that has empirically investigated the effects of MI on the psychopathology of Pakistanis affected by the war on terror. It also examined how religiosity buffered effects of MI on mental health and found that participants with higher levels of religiosity had lower levels of depression, stress, and anxiety than those that had lower religiosity.

Our findings indicate, traumatic events like war decrease mental health; and that in such circumstances people deserve immediate support. This support can certainly be offered by mental health practitioners, but also by religious people. Our data shows that MI relates to levels of religious strength, therefore interventions like religiously-based forgiveness, gratitude-based therapies, and spiritually enriched CBT should be considered to help all that suffer from MI. Such views are shared by others (Carey & Hodgson, 2018) who propose self-compassion, self-forgiveness, acceptance, and making amends might offer greater effectiveness. It is also worth noting assessment of people exposed to morally/spiritually injurious events requires sensitivity sufferers may not disclose their moral and religious conflicts or beliefs if practitioners are non-sensitive to such issues. Recently, Williamson et al. (2021) recommended adaptive disclosure and acceptance and commitment-based therapies hold great promise in this regard; where some evidence of such acceptance has been documented in interventions among morally injured US military veterans (Steinmetz & Gray, 2015).

Limitations and Recommendations

The current study employed a cross-sectional survey research design that assessed associations among MI, religiosity and psychopathology (depression, anxiety and stress) finding clear and reasonable associations among these variables; the study does not causally connect MI or religiosity to psychopathology. Second, all focal constructs were measured through self-report measures, which are likely to introduce common-method biases, which could inflate correlations among variables. Third, MI needs to be qualitatively explored among Pakistanis affected by war using in-depth understanding of their phenomenological experiences of MI and buffering effects of religiosity. Such a study could give an in-depth picture of how MI and religiosity are related to psychopathology.

Future research (possibly qualitative) should further test MI in highly religious people who may use greater power of their beliefs to combat mental health issues compared to people with weaker beliefs. Other research can also investigate facets of MI and religiosity at affecting psychopathology, especially that results from existential crises and PTSD; and investigate growth after the traumatic event influenced by MI and religiosity; and finally carry out these studies in Pakistani civilian, military and para-military personnel.

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Conflict of Interest

Authors declared no conflict of interest.

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