Doctoral Thesis

Investigating the relationship between religious coping, appraisals, social support, and symptoms of Posttraumatic Stress Disorder (PTSD): A correlational study using an Islamic community sample.

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Abstract

Background

Contemporary models of PTSD view posttraumatic appraisals and social support as important factors in the onset and maintenance of this condition (e.g., Ehlers & Clark, 2000). Islam is central to the lives of its adherents (e.g., Hamdan, 2007) and religion influences its followers' beliefs and coping with adversity (Pargament, 1997). The impact of religious beliefs on coping with psychological distress has received increasing attention in the last two decades (Braam et al., 2010). However, like the literature on PTSD (e.g., Foa et al., 2009), this research has almost exclusively focused on Christian, Western populations (e.g., Abu-Raiya & Pargament, 2014). Therefore, this study aimed to better understand how religious coping, appraisals (religious and non-religious), and perceived social support influence the posttraumatic adjustment of Muslim trauma survivors.

Method

A cross-sectional, correlational design was conducted to study the relationships between PTSD symptoms and posttraumatic appraisals, negative religious coping, negative Islamic appraisals, and perceived social support. Eighty-eight Arabic-speaking Muslim trauma survivors, recruited from the community, completed a questionnaire booklet measuring the study variables.

Results

Contrary to expectations, symptoms of PTSD were not significantly associated with negative religious coping, negative Islamic appraisals, and perceived social support. However, posttraumatic appraisals were associated with, and predictive of, PTSD

symptoms. Exploratory mediation analyses revealed that posttraumatic appraisals also mediated the relationships between negative religious coping and PTSD symptoms, and between negative Islamic appraisals and PTSD symptoms.

Discussion

The current theoretical and clinical emphasis on posttraumatic cognitive appraisals in PTSD may also be applicable to Muslim trauma survivors. Contrary to previous research, however, negative religious coping and negative Islamic appraisals appear to have an indirect effect on PTSD symptoms. Several methodological limitations, including the heterogeneous sample composition, could account for some of the findings. These limitations, alongside the theoretical and clinical implications of the results, are discussed.

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1. Introduction

1.1 Overview

Posttraumatic stress disorder (PTSD) is a complex and often persistent psychological condition that can develop following exposure to traumatic stressors (Friedman, Keane, & Resick, 2007). According to Ehlers and Clark's (2000) cognitive model of PTSD, negative trauma-related cognitive appraisals play a central role in the disruption of post-trauma recovery and in the development, maintenance and, thus, treatment of PTSD. A significant body of research has demonstrated that cultural and social beliefs and values have a significant impact on people's appraisals of life experiences, which in turn influence their psychological wellbeing (e.g., Conway & Jobson, 2012; Engelbrecht & Jobson, 2014; Jobson & O'Kearney, 2009; Mesquita & Walker, 2003; Sato, 2001). Similarly, a substantial amount of research indicates that poor social support is among the most powerful predictors of PTSD (Brewin, Andrews, & Valentine, 2000; Kleim, Ehlers, & Glucksman, 2007; Ozer, Best, Lipsey, & Weiss, 2003). Theoretical accounts of PTSD have also acknowledged the importance of social support in post-trauma adjustment. For example, it has been argued that social support can prevent the persistence of trauma-related cognitions (Jobson, 2009) and promote recovery (Brewin, Dalgleish, & Joseph, 1996).

One of the most cardinal responses to trauma is the search for meaning (Janoff-Bulman, 1992; Kreitler & Kreitler, 1988). Religion can provide meaning during times of distress and influences people's meaning-making of significant life experiences (Baumeister, 2005). Therefore, religion may be implicated in post-trauma adjustment for religious trauma survivors. Although social scientists are

paying increasing attention to religion as coping mechanism with distress (Braam et al., 2010), most of their research has considered Christianity and neglected other traditional religions, such as Islam (Abu-Raiya & Pargament, 2011, 2014). Similarly, while PTSD appears to be a universal phenomenon, current understandings concerning the role of appraisals in PTSD are largely informed by research on Western, non-Muslim populations. Thus, little is known about the etiology, maintenance and treatment of PTSD in people from non-Western, including Islamic, cultures (Figueira et al., 2007; Foa, Keane, Friedman, & Cohen, 2009). This study intended to address this gap in the literature by examining the role the Islamic faith plays in the way in which Muslim adults appraise traumatic experiences. Additionally, the study aimed to examine the influence of Islamic appraisals, religious coping, and perceived social support on posttraumatic symptoms and psychological adjustment.

This chapter begins with a brief description of PTSD, its prevalence rates, and implications. Next, it outlines current understandings about the relevant psychological processes implicated in PTSD. This chapter then reviews several contemporary models of PTSD followed by a review of current psychological treatments for PTSD. The following section introduces religion and describes its influence on the self and people's appraisals of life events. Next a brief literature review on the influence of Islam on Muslims individuals' trauma appraisals is presented. Finally, this chapter concludes with an outline of the rationale and research questions for this study.

1.2 Posttraumatic Stress Disorder (PTSD)

1.2.1 Definition and diagnosis. PTSD is a multifaceted psychological

disorder, which can affect people exposed to extreme stressors (Friedman et al., 2007). Such stressors typically include military combat, violent personal assault, being kidnapped, being taken hostage, terrorist attack, torture, disaster, severe car accident, or being diagnosed with a life-threatening illness (Diagnostic and Statistical Manual of Mental Disorders [DSM-IV-TR]; American Psychiatric Association [APA], 2000). According to the DSM-IV-TR, PTSD embodies 17 persistent symptoms across three symptom clusters: reliving, avoidance and emotional numbing, and hyperarousal. Reliving symptoms include recurrent and intrusive memories of the trauma, flashbacks of the trauma being reexperienced and relived as occurring in the present, distressing dreams during which the event is re-experienced, emotional and physical reactions to trauma reminders, and, in rare instances, dissociative states. Avoidance symptoms involve deliberate attempts to avoid internal and external trauma-related stimuli, including thoughts, feelings, conversations, people, places, or activities. Further, PTSD sufferers may experience emotional numbing, detachment or estrangement from other people, and diminished interest in previously enjoyable activities. Hyperarousal symptoms include difficulties staying or falling asleep, hypervigilance, and increased startle response. Some people with PTSD also report increased irritability, anger outbursts, and concentration difficulties.

This study adopted the abovementioned PTSD definition because it used PTSD measures based on the DSM-IV-TR diagnostic criteria. However, the recently released DSM-5 (APA, 2013) introduced some revisions to the diagnostic criteria. In the DSM-5, PTSD is no longer classified as an anxiety disorder. Instead, it appears in the new category of "trauma and stressor-related disorders." Moreover,

PTSD symptoms are now divided into four symptom clusters instead of three: reexperiencing, avoidance, negative alterations in cognition and mood, and hyperarousal. The introduction of alterations in cognitions as a diagnostic criterion recognises the importance of trauma-related cognitions in the development and maintenance of PTSD (for reviews, see Brewin & Holmes, 2003; Cahill & Foa, 2007). Further, this diagnostic criterion is particularly relevant to the current research given its association with appraisals that are central to the cognitive model of PTSD (Ehlers & Clark, 2000).

In addition to revising the expression of some of the existing 17 symptoms, three new symptoms are added to the PTSD symptomology. These include: persistent blame of self or others, persistent negative emotional state, and reckless or self-destructive behaviour. Furthermore, a PTSD diagnosis no longer requires the subjective reaction of helplessness, intense fear, or horror right after the trauma as this criterion was found to have poor predictive validity (Friedman, Resick, Bryant, & Brewin, 2011). Finally, a diagnostic subtype 'with dissociative symptoms' was added. It includes people who meet the diagnostic criteria for PTSD and experience additional persistent or recurrent symptoms of depersonalisation or derealisation.

1.2.2 Epidemiology. Epidemiological studies on non-clinical samples in the United States (US) and Europe indicate that lifetime exposure rates to trauma range from 64-89.7% (Bernat, Ronfeldt, Calhoun, & Arias, 1998; Darves-Bornoz et al., 2008; de Vries & Olff, 2009; Kilpatrick et al., 2013; Vrana & Lauterbach, 1994). However, only a minority of the general population is at risk of developing PTSD during their lifetime. In the US, lifetime prevalence of PTSD ranges from 6.8-7.8%

(Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Kessler et al., 2005). In Europe, a survey of 21,425 adults nationally representative of Belgium, France, Germany, Italy, the Netherlands and Spain reported a 1.9% lifetime prevalence of PTSD (Alonso et al., 2004). In the United Kingdom (UK), Frissa et al. (2013) found a 5.5% prevalence rate of current PTSD in two South London Boroughs.

Evidently, PTSD has been documented in many societies and cultures (Foa et al., 2009). Although epidemiological studies are rare in the Middle East (Tanios et al., 2009), several studies have investigated the prevalence of PTSD in this region. The findings vary widely across countries, with the highest rates observed in post-conflict populations. In Iran, the lifetime prevalence rate of PTSD was reported to be less than 1% in a national survey of 25,180 adults (Mohammadi et al., 2005). Alhasnawi et al. (2009) and Karam et al. (2009) found comparable lifetime prevalence rates of PTSD in Iraq (2.5%) and Lebanon (3.4%), respectively. A similar study in Israel including 512 adults found that 9.4% of the sample met the diagnostic criteria for PTSD (Bleich, Gelkopf, & Solomon, 2003). In a post-war study on a Lebanese community sample involving 256 adults, Farhood, Dimassi, and Lehtinen (2006) reported a 29.3% prevalence rate of PTSD. Similar estimates were reported from post-conflict communities in Algeria (37.4%) and Palestine (17.8%) (de Jong, Komproe, & Ommeren, 2003). However, the validity of these prevalence rates is limited by methodological discrepancies noted across the studies. For example, there were significant differences in assessment and sampling methods, and the studies assessed PTSD at variable time-points after the stressor. These differences may explain the wide variability in PTSD prevalence rates in Middle Eastern societies. Nevertheless, the figures reported mirror those found by

Western epidemiological studies, showing that PTSD prevalence rates are lower in general populations than in post-conflict groups (Neria, Bravova, & Halper, 2010).

1.2.3 Course of PTSD. Trauma survivors commonly experience some symptoms of PTSD in the immediate aftermath of trauma. However, most symptoms usually diminish spontaneously over the course of the first several months following the trauma (Rothbaum, Foa, Riggs, Murdock, & Walsh, 1992). A large proportion of trauma survivors respond with increased resilience, acceptance, and post-traumatic growth (Foa & Riggs, 1995; Solomon & Dekel, 2007). Although the majority of people make a full recovery, a significant proportion of trauma survivors (between 25 and 30%) develop PTSD (Green, 1994) and 74% of those with PTSD experience symptoms for more than six months (Bresalu, 2001).

Several factors negatively influence the course and severity of PTSD. These include: the female gender, younger age at the trauma, ethnic minority status, previous exposure to trauma, low levels of perceived post-trauma social support, greater trauma severity, and additional stressors following the trauma (for meta-analyses, see Brewin et al., 2000 and Ozer et al., 2003). Additionally, psychological processes such as dissociative reactions during the trauma (Holeva & Tarrier, 2001) and changes in memory and attentional functioning in its aftermath (Buckley, Blanchard, & Neil, 2000) are also associated with the development of PTSD. More recently, Kleim, Ehlers, and Glucksman (2007) found that cognitive factors, such as ongoing negative appraisals of the self, appraisals of personal action during the trauma and rumination are the most useful of a set of historical, trauma specific, and other predictors for identifying chronic PTSD.

This present research studied a Muslim community sample in the UK originating from Middle Eastern countries. The people of this region have suffered prolonged periods of war, occupation, and forced displacement (Neria et al., 2010). Given that the UK is one of the most popular destinations for asylum seekers (United Nations High Commissioner for Refugees [UNHCR], 2013), it was expected that many participants in this study would have arrived in the UK as refugees or asylum seekers, attempting to escape war and persecution. Therefore, it was deemed important to examine additional risk factors specific to refugees and asylum seekers. Indeed, many studies have found that immigration-related stressors, such as language difficulties, separation from family, diminished social support networks, and the process of obtaining asylum, contribute to trauma symptoms by aggravating the effects of pre-migration trauma (for a meta-analysis see Porter & Haslam, 2005; e.g., Chu, Keller, & Rasmussen, 2013; Steel, Silove, Bird, McGorry, & Mohan, 1999; Teodorescu, Heir, Hauff, Wentzel-Larsen, & Lien, 2012). Accordingly, refugees and asylum seekers may be at increased risk of trauma-related psychopathology.

1.2.4 Burden of PTSD. PTSD is associated with impairment in psychosocial and occupational functioning as well decreased overall wellbeing. People with PTSD report higher medical morbidities, lower quality of life, and increased use of medical and mental health services (e.g., Arauju et al., 2014; Calhoun, Bosworth, Grambow, Dudley, & Beckham, 2002; Elhai, North, & Frueh, 2005; Schnurr & Green, 2004). Bresalu, Davis, Andreski, and Peterson (1991) found that 83% of those with PTSD also met the diagnostic criteria for another psychological condition. Common co-morbid problems include depression (Smith,

Poschman, Cavaleri, Howell, & Yonkers, 2006), bipolar disorder (Assion et al., 2009), and drug and alcohol abuse (Driessen et al., 2008). Thus, PTSD causes substantial social and economic difficulties to trauma survivors, their families, health services, and the wider society (McCrone, Knapp, & Cawkill, 2003). Indeed, in 2003/04 the social and welfare costs of PTSD-related claims for incapacitation amounted to £103 million in the UK (Hansard, 2004). In the US, Kessler (2000) reported a $3 billion of annual loss in productivity due to PTSD.

1.3 Psychological Processes in PTSD

Brewin and Holmes (2003) noted that several psychological processes are implicated in PTSD, including memory, attention, dissociation, cognitive-affective reactions, beliefs, cognitive coping strategies, and social support. This section will describe cognitive-affective reactions and social support, given the centrality of these processes in the current research (see Brewin & Holmes, 2003, for further detail about other processes).

1.3.1 Cognitive-affective reactions. According to Ehlers and Clark

(2000), cognitions play a central role in the onset and maintenance of PTSD. In support of this theory, Dunmore, Clark and Ehlers (1999) found that, compared to non-traumatised survivors, people with PTSD report more negative thoughts about the world, self, and others. Moreover, empirical research indicates that trauma can destroy trust, resulting in victims feeling betrayed (e.g., Kelley, Weathers, Mason, & Pruneau, 2012; Martin, Cromer, DePrince, & Freyd, 2013) or losing faith in the goodness of others (Andrews, Brewin, Rose, & Kirk, 2000). Accordingly, several theoretical accounts of PTSD propose that cognitive appraisals, referring to the subjective interpretation and meaning-making of the trauma and its aftermath, are

key to understanding trauma reactions (e.g., Ehlers & Clark, 2000, Jobson, 2009). This assertion is consistent with the cognitive theory of psychopathology, which postulates that one's appraisal of the event, rather than the event itself, is what governs one's emotional reactions (Beck, 1967; Beck, Emery, & Greenberg, 1985).

Foa, Ehlers, Clark, Tolin, and Orsillo (1999) identified three types of dysfunctional appraisals that they thought underlie PTSD: negative cognitions about self (e.g., "I am incompetent"), the world (e.g., "the world is unsafe"), and self-blame (e.g., "my actions caused the event"). Additionally, negative appraisals of one's PTSD reactions (e.g., to view symptoms as a sign of madness) have been found to maintain symptoms and disrupt recovery (Dunmore, Clark, & Ehlers, 2001; Halligan, Michael, Clark, & Ehlers, 2003). According to Ehlers and Clark (2000), excessive negative appraisals of the event, its aftermath, or both, maintain PTSD by creating an on-going sense of current threat and prompting maladaptive coping strategies that prevent cognitive change. Several cross-sectional (e.g., Agar, Kennedy, & King, 2006; Laposa, & Alden, 2003), and longitudinal studies (e.g., Ehring, Ehlers, & Glucksman, 2008; O'Donnell, Elliott, Wolfgang, & Creamer, 2007) have found a significant association between dysfunctional appraisals and PTSD symptom severity. The significance of appraisals in PTSD is further illustrated by research findings showing that, compared to more objective indicators of distress (e.g., threat to life), the subjective perception of danger is a stronger predictor of distress and of subsequent treatment outcome (Alvarez-Conrad, Zoellner, & Foa, 2001; Bernat, Ronfeldt, Calhoun, & Arias, 1998). Consequently, psychological treatments of PTSD hold trauma-related appraisals as a key target of intervention (Resick, 2001).

Closely related to cognitive appraisals, cognitive-affective reactions are also thought to be crucial in the aetiology and persistence of PTSD. Brewin and Holmes (2003) described cognitive-affective reactions as neither beliefs, nor emotions, but rather a mixture of the two. In PTSD, such reactions involve appraisals of alienation (i.e. feeling cut off from other people), perceived permanent change (i.e. perceived irreversible damage to one's personality or life goals) and mental defeat (i.e. perceived inability to influence one's fate and loss of autonomy) (Ehlers, Maercker, & Boos, 2000). Other common cognitive-affective reactions include extreme fear, horror, and helplessness, all of which have been found to predict later PTSD in victims of violent crimes (Brewin, Andrews, & Rose, 2000). However, Brewin and Holmes (2003) pointed out that some trauma survivors who experience clinically significant symptoms of PTSD do not report such reactions. Instead, they may experience peritraumatic feelings of shame (Andrews, Brewin, Stewart, Phillpott, & Hejdenberg, 2009), guilt (Beck et al., 2011), disgust (Lancaster, Melka, & Rodriguez, 2011), or anger (Orth & Wieland, 2006) that have also been found to be significant predictors of PTSD (effect sizes range from small to medium). While some of these emotions may arise as a direct result of the traumatic incident, Brewin and Holmes (2003) noted, others surface in its aftermath as the individual engages in cognitive appraisals of the cause of, responsibility for, and future consequences of the stressor. Thus, cognitive-affective reactions in PTSD are not restricted to the actual experience of the trauma but, influenced by on-going cognitive appraisals, they may implicate more general aspects of the person, their world, and future.

1.3.2 Social support. Brewin et al. (2000) conducted a meta-analysis on 14

risk factors associated with PTSD and found that post-trauma lack of social support had the greatest effect size (weighted r = .40). In a subsequent meta-analysis, Ozer et al. (2003) reported similar findings where perceived social support was associated with lower levels of PTSD symptoms (weighted r = -.28). These two analyses, however, highlighted that perceived social support was mainly measured by availability of emotional support to the exclusion of other forms of support, such as practical or financial aid. Further, Brewin et al., (2000) found that social support was a stronger predictor of PTSD in military samples than in civilian samples. By contrast, Ozer et al., (2003) found that lack of social support was most predictive of PTSD when the longest period of time had elapsed since the trauma ($\geq$ 3 years). Both authors concluded that further investigations are needed in order to clarify the role of social support in PTSD.

More recently, Dinenberg, McCaslin, Bates, and Cohen (2014) conducted a longitudinal study of 579 patients with chronic illnesses and found that perceived social support was strongly protective against PTSD. These results remained statistically significant even when age, sex, race, income, and depression symptoms were controlled for. Further, the authors found that the tangible (i.e., perceived availability of material aid) and belonging (i.e., perceived availability of people one can do things with) domains of perceived social support were most strongly correlated with PTSD (odds ratio = .67 and .69, respectively). Thus, PTSD appears to be associated with more than just lack of perceived emotional support.

Moreover, Brewin and Holmes (2003) pointed out the difference between positive (e.g., perceived emotional and practical support) and negative (e.g., perceived blame and criticism) aspects of social support. Studies that have

examined both elements of support have found that negative aspects of social support were more strongly related to PTSD than the lack of positive support (Ullman & Filipas, 2001; Zoellner, Foa, Bartholomew, 1999). Similarly, Tarrier, Sommerfield, & Pilgrim (1999) found that negative support from partners predicted poorer treatment outcome.

Refugees and asylum seekers are particularly vulnerable to social isolation because, in addition to experiencing a loss of status and threat to their individual and social identity, migration often involves separation from family and social networks (Colic-Peisker, & Walker, 2003). Further, immigrants who are visibly different from the general population may experience negative stereotyping and discrimination (Carter, 2010; Jasinskaja-Lahti, Liebkind, Jaakkola, & Reuter, 2006; Noh & Kaspar, 2003). This risk is exacerbated further due to stigma associated with having 'refugee' status, the reduced ability to meet social obligations as a consequence of pre-migration trauma, and the language barrier during the initial settlement period (Chu et al., 2013; Mollica, 1999). Immigrants are therefore especially vulnerable to lack of perceived social support as well exposure to perceived negative social support. Accordingly, it is crucial to establish new social support networks in order to help immigrants adapt to their new living arrangements and buffer against mental health problems (Jasinskaja-Lahti et al., 2006; Schweitzer, Melville, Steel, & Lacherez, 2006). In line with these assertions, several studies have reported an association between perceived social support and psychological wellbeing among refugee populations in several parts of the world, including Canada (Jibeen & Khalid, 2010), Hong Kong (Tonsing, 2013), and the US (Ornelas & Perreira, 2011).

1.3.3 Summary. People with PTSD suffer from a range of psychological, social, and occupational problems. While several psychological processes have been linked to the onset and maintenance of PTSD, the processes of relevance to this research are cognitive appraisals and associated affective responses and social support. Triggered by the traumatic event, dysfunctional appraisals play a prominent role in PTSD as they threaten the individual's view of the self and the world. Moreover, social support has been shown to be of crucial importance in PTSD. Indeed, a vast body of research shows that the lack of perceived social support increase the risk of PTSD while perceived social support can act as a buffer against chronic PTSD by preventing the development of trauma-related appraisals (e.g., perceived alienation), thus promoting recovery. The next section will describe some of the most prominent psychological models that attempt to explain in further detail the aetiology, maintenance, and treatment of PTSD.

1.4 Psychological Models of PTSD

In their review of psychological models of PTSD, Brewin and Holmes (2003) divided the early theories into three types: social-cognitive theories (e.g., Janoff-Bulman, 1992) focussing on the impact of trauma on people's assumptions and the mechanisms involved in the assimilation of the trauma information with previous beliefs; conditioning theories (e.g., Keane, Zimering, & Caddell, 1985) attempting to explain learned associations and avoidance symptoms; and information-processing theories (e.g., Foa, Steketee, & Rothbaum, 1989) arguing that compared to everyday memories, traumatic events are represented differently in memory. These early theories have, to varying extents, influenced more recent accounts of PTSD (Bisson, 2009). Some of these contemporary and prominent

models will now be considered. Given the focus of the current research, particular attention will be given to how each model conceptualises the role of cognitive appraisals and social support in the development and maintenance of PTSD. A discussion of these models' therapeutic implications will be reserved for section 1.5.1.

1.4.1 Dual Representation Theory (DRT). According to the DRT (Brewin, Dalgleish, & Joseph, 1996; Brewin, Gregory, Lipton, Burgess, 2010), memories are represented in two parallel memory systems: sensation-based memory representations (S-reps) and contextual memory representations (C-reps). S-reps contain information obtained from lower level perceptual processing, which includes sensory details experienced during an event as well as the individual's physical and emotional reactions. These representations are not contextualised within the person's autobiographical database. C-reps, on the other hand, contain a subset of the sensory information encoded as abstract and verbally accessible representations. These memories are consciously attended to, integrated with the person's autobiographical context, available to both voluntary and involuntary recall, and include information about the individual's spatial and personal context. In contrast to S-reps, C-reps contain both primary and secondary emotions, with the latter arising from subsequent appraisals of the event (e.g., anger and shame). In healthy memory the two systems are closely linked and S-reps are normally retrieved via their corresponding C-reps. Thus, C-reps and S-reps are parts of normal memory, but they are pathologically encoded in PTSD (Brewin & Burgess, 2014).

The DRT provides a detailed account of flashbacks in PTSD (Brewin,

2014). It proposes that involuntary intrusions arise when (a) the trauma memory, due to the narrowed attention brought by the extremely stressful nature of the event, is very strongly encoded as S-reps, whereas the C-reps are weakly encoded, and (b) there is a disconnection between the two memory systems resulting in an absence of appropriate contextualisation (Brewin et al., 2010). Thus, while C-reps are still available to verbal and voluntary recall, they tend to be fragmented and disorganised. S-reps, by contrast, are susceptible to automatic retrieval through exposure to trauma reminders resulting in vivid, decontextualized imagery reexperienced in the present. These intrusions elicit primary emotions felt during the event (e.g., fear). Spontaneously, the PTSD sufferer attempts to escape the distressing nature of these intrusions through a range of cognitive and behavioural avoidance strategies. These dysfunctional reactions prevent cognitive change and potentially explain why the corresponding C-reps remain weak despite the high frequency of S-reps intrusions. Essentially, flashbacks occur because S-reps are involuntarily and repeatedly activated by trauma-related cues without the retrieval of their associated autobiographical context stored as C-reps (Brewin et al., 2010).

In line with social-cognitive theories of PTSD (e.g., Janoff-Bulman, 1992), the DRT postulates that traumatic experiences are problematic because they are both extremely salient and inconsistent with survivors' previous beliefs and assumptions. Driven by the psychological need for new information to be incorporated into pre-existing beliefs (Horowitz, 1986), trauma survivors attempt to accommodate this incompatible information through an on-going meaning-making process in which they attribute cause and assign blame. In PTSD, these cognitive reappraisals result in enduring negative emotions, such as guilt and anger. In

addition to cognitive restructuring and repeated exposure, the DRT suggests that social support plays a prominent role in reducing negative affect and promoting recovery. Specifically, Brewin et al. (1996) argue that adequate social support may reduce negative emotions by providing physical comfort and emotional support, offering opportunities for repeated exposure to the trauma memory, and aiding the meaning-making of the perceived implications of the event.

Many experimental studies have tested the claims put forward by the DRT. Researchers frequently use the film trauma paradigm, which exposes healthy participants to distressing films under different processing conditions. As an outcome measure, participants are then asked to record the number of intrusive images during the following week (Brewin & Burgess, 2014). The DRT argues that intrusions occur due to a relative shift towards perceptual processing (i.e., S-reps). Thus, encoding distressing images in the opposite way (i.e., conceptually) should reduce the frequency of intrusions. Accordingly, the trauma film paradigm predicts that viewing distressing images under pro-verbal processing conditions, such as a concurrent dual task that competes for perceptual resources, will reduce the number of intrusions. Conversely, amplifying perceptual processing or suppressing verbal processing during the viewing can lead to an increased frequency of intrusions.

In general, experimental findings support the above predictions. Participants who view distressing films while engaging in a concurrent visuospatial task (e.g., pattern tapping) often report fewer intrusive memories during the following week (e.g., Bourne, Frasquilho, Roth & Holmes, 2010; Krans, Näring, Holmes, & Becker, 2010a, 2010b). Conversely, those who view the film while completing a concurrent verbal task (e.g., counting backward in threes) report significantly more

intrusions, though these findings are less consistent compared to concurrent visuspatial tasks (for a review see Holmes & Bourne, 2008 and Brewin, 2014). One reason, as Brewin (2014) suggested, might be that participants are often less compliant with verbal tasks and verbalisations are often interrupted when startling or upsetting images are presented. Nonetheless, the experimental nature of these studies limits their generalizability to less controlled environments given their limited ecological validity.

The DRT is criticised for its emphasis on memory, emotions, and appraisals to the exclusion of other important PTSD features, such as emotional numbing. Similarly, its account of dissociative responses in PTSD remains rather narrow. Indeed, dissociations are mainly addressed in terms of their potential to impede the encoding of C-reps during the trauma, thus posing a risk for later PTSD (Brewin & Holmes, 2003).

In sum, the DRT suggests that PTSD reflects a pathological encoding of the traumatic experience, which is considered to be highly salient and incongruent with the individual's previous beliefs. In order to bring perception of the event into line with previous assumptions, the trauma survivor engages in persistent cognitive appraisals concerning the meaning of the event. These appraisals are seen as responsible for producing negative affects, such as anger and guilt, found to be predictive of later PTSD. In addition to cognitive-behavioural interventions, the DRT views good social support as an important vehicle for supplying information incompatible with the trauma to aid the information processing and recovery.

1.4.2 The Schematic, Propositional, Analogue and Associative Representational Systems (SPAARS) model. According to the SPAARS model

(Dalgleish, 2004), there are four levels of mental representation dealing with information and emotions. The *schematic* level is conceptually similar to schemas and a hierarchically higher level of mental representation than the propositional and analogical levels. It represents abstract, generic information. Similar to C-reps, the *propositional* level represents referential meaning in verbal form. The *analogical* level complements the propositional level by storing memories in the form of sensory information and proprioceptive images alongside nonverbal referential information. Finally, similar to the fear network theory (Foa et al., 1989), the *associative* level connects information derived from the other three levels.

The schematic, propositional, and analogical levels collectively represent working memory by coding information in memory storage and manipulating active information. Given the proposed hierarchical relationship between these three components, the schematic level integrates information from the lower level propositional and analogical representations. Thus, verbal (e.g., thoughts) and non-verbal (e.g., images) information relating to a particular autobiographical event is integrated at the schematic level to construct a coherent sense of the whole experience. Consequently, information incongruent with the dominant schema is inhibited while congruent mental representations are activated. Thus, the schematic representation in the SPAARS model is tasked with the organisation and filtering of new and existing information within the system.

The SPAARS model argues that emotions are generated via two routes. As in Ehlers and Clark's (2000) cognitive model (discussed below) and the DRT, the first route is processed at the schematic level and driven by appraisals. That is, the meaning and interpretation of events are appraised with respect to the individual's

goal, which then produces physiological responses with an action potential. For example, fear, which may lead to safety-seeking behaviours, may arise in response to an appraisal of danger communicating potential threat to the individual's goal of safety. The second route is automatic and processed via the associative level. Emotions processed via this route are automatically generated and determined by previous experiences.

According to this account, PTSD arises when trauma-related information is appraised as incongruent and threatening to pre-existing schemas about self, others, and the world (Dalgleish, 2004). In an attempt to assimilate the trauma-related information into previous schemas, the trauma survivor engages in repeated appraisals of the inconsistent and threatening nature of trauma-related representations in memory. This process generates PTSD symptoms. The model argues that hyperarousal symptoms result from the chronic activation of fear, which leads to a constant sense of danger. Consequently, processing biases for trauma reminders occur in order to detect danger and maintain individual goals, such as safety. Combined with processing biases, the constant activation of fear also results in trauma-related information intruding into consciousness, thus explaining re-experiencing symptoms. Since the trauma memory is not assimilated into existing representations and given that the associative level of the SPAARS model integrates information form the other three levels, external reminders representing fragments of the traumatic event become sufficient to trigger the whole trauma memory, thus accounting for flashback symptoms. Naturally, one attempts to protect oneself from intrusive trauma reminders by engaging in protective strategies that result in avoidance symptoms.

The SPAARS further argues that pre-trauma schematic representations of the self, world, and others influence the course and severity of trauma reactions. That is, the degree of discrepancy between pre-trauma schemas and the traumatic event determines how readily the traumatic event can be assimilated. In general, people may be relatively more vulnerable to chronic and severe PTSD if their pre-trauma experiences have been fully safe, controllable, and predictable. Contrastingly, individuals whose pre-trauma experiences were more balanced may be more likely to assimilate the trauma memory into pre-existing schemas. In such cases PTSD symptoms tend to diminish within weeks or months either spontaneously with social support, or with therapy.

The SPAARS model benefits from using multiple levels of mental representations that aids its ability to explain the complex nature of PTSD (Brewin, 2011; Dalgleish, 2004; Power, 2005). However, its increased explanatory power comes at a cost. In contrast to single-system accounts that view traumatic memories as effectively similar to everyday memories (e.g., Rubin, Bernsten, & Bohni, 2008), the complexity of this model makes it difficult to apply clinically and test empirically (Power, 2005).

In sum, the SPAARS proposes that one's post-trauma appraisals and pre-trauma beliefs are instrumental in the onset and maintenance of PTSD. Cognitive appraisals arise as the survivor engages in on-going attempts to resolve discrepancies between the traumatic experience and pre-trauma schematic representations of the self, world, and others. Thus, trauma-related appraisals, eliciting emotions, are viewed as a function of underlying schemas. Moreover, the model suggests that good social support can help the survivor assimilate trauma-

related information into previous schematic representations. Like repeated exposure therapy, it is argued that peer and familial care can help the individual overcome avoidance symptoms by gradually accessing fear-incompatible information, which could be used to arrive at more positive appraisals (e.g., "I am resilient").

1.4.3 The Self-Memory System (SMS). The SMS is a cognitive-motivational model of autobiographical memory (Conway, 2005; Conway & Pleydell-Pearce, 2000). It regards memory as the database of the self and highlights the interconnectedness of the self and memory. This model has two key elements: the *working self* and the *autobiographical memory knowledge base*. The working self is defined as a complex hierarchy of active goals and associated self-images (Carver & Scheier, 1982, 1998). Accordingly, it contains two sub-structures: the *goal hierarchy* and the *conceptual self* (Conway, 2005). The goal hierarchy regulates cognition and behaviour, aiming to reduce the difference between desired goal states and the present state. Ultimately, it helps the individual navigate the world effectively. The conceptual self comprises a set of socially constructed self-structures, such as attitudes, values, and beliefs. It is non-temporally specified and connected to autobiographical knowledge. Goals are generated based on one's view of oneself (Conway & Pleydell-Pearce, 2000). That is, who we are and who we might become. Hence, the two substructures of the working self serve as a set of control processes that activate or inhibit retrieval of specific memories consistent with current active goals, self-image, and expectations. In the SMS, the formation and retrieval of memories are goal-directed and emotions reflect success or failure in goal achievement.

The autobiographical memory knowledge base is organised hierarchically.

Its knowledge structure ranges from highly abstract information (e.g., general knowledge about one's life, such as completing a doctorate in clinical psychology) to event-specific information (e.g., taking the first university exam and its accompanied sensory-perceptual memories and emotions). The SMS proposes a reciprocal relationship between its two key elements; the autobiographical knowledge base constrains the goal hierarchy and the conceptual self while the working self regulates access to autobiographical memories.

According to the SMS, two closely related retrieval routes are involved in the retrieval of memories from the autobiographical knowledge base: *generative retrieval* and *direct retrieval* (Conway, 2005). The generative retrieval route involves a top-down search process directed by the working self. The goal hierarchy and the self-image of the working self in a given situation regulate the type of information that can enter consciousness, thus determining the result of generative retrieval. Conversely, direct retrieval involves a spontaneous activation of memories triggered by relevant cues. Consistent with the DRT, the SMS proposes that everyday memories are usually integrated into the autobiographical knowledge base and, therefore, connected with the rest of the knowledge hierarchy (i.e., one's life story). Hence, memories are generally retrieved via the generative retrieval route.

In terms of PTSD, the SMS argues that traumatic experiences pose a threat to, and contradict, active goals, such as those suggesting that the world is safe and people are good (Conway & Pleydell-Pearce, 2000). The working self cannot adjust to the experience due to the absence of current goals that can be used to integrate the trauma memory into the autobiographical knowledge base. Therefore, the

trauma memory remains an unintegrated, non-contextualised event-specific representation that becomes associated with the working self and its goals. As a result, the trauma memory may be triggered in the future by the activation of goals associated with the working self. This, in turn, results in PTSD symptoms, such as reexperiencing and intrusions. Further, impairment in the voluntarily recall of a coherent account of the traumatic incident can be explained by the way trauma memories are retrieved. Due to lacking associations with existing autobiographical memories, trauma memories in those with PTSD tend to be retrieved via the direct retrieval route. Thus, Conway (2005) argued, exposure to trauma-related stimuli leads to the involuntary activation of the non-contextualised trauma memory. Further, the SMS proposes that goal structures are difficult to change because changing one goal would often demand changing several other goals too (Conway, Meares, & Standart, 2004). Hence, change is often avoided, which results in the distortion of memories in order to maintain a sense of self-coherence. That is, the individual will exclude, add, or alter parts of a given memory in order to align the memory with their self-image and active goals.

Several neuroimaging studies have reported findings in support of the model's distinction between different levels of self-representation (i.e., episodic vs. conceptual). For example, in their meta-analysis of 38 studies investigating the neural correlates of different levels of self-representations, Martinelli, Sperduti, and Piolino (2013) found that activation shifted from posterior to anterior cortical brain structures based on the abstraction level of self-representations. In terms of PTSD, Sutherland and Bryant (2008) found that, compared to trauma-exposed non-PTSD participants, those with PTSD reported more discrepancies between actual and ideal

self-perceptions. That is, they perceived themselves to be in danger and, naturally, desired to restore a sense of safety. The authors also found that participants with PTSD reported more trauma-related memories. Thus, the perception that one is missing a desired outcome after the trauma (i.e., safety) was associated with increased retrieval of trauma-related memories. This finding is consistent with the SMS prediction that discrepant self-images will regulate the type of memories that enters the trauma survivor's consciousness.

This model does not explicitly outline the role of cognitive appraisals in PTSD. However, it highlights the role of self, proposing that trauma essentially threatens the survivor's conceptual self (i.e., one's self-image, values, beliefs, etc.). This is consistent with the DRT and the SPAARS, as well as empirical research showing that negative self-appraisals are key to the aetiology and maintenance of PTSD (e.g., Agar et al., 2006; Ehring et al., 2008). Moreover, the SMS claims that threat to the conceptual self and one's goal structures influences the type of memories that enter consciousness. This assertion is in line with Ehlers and Clark's model (2000) (discussed next), which argues that negative self-appraisals can influence the nature of retrieved memories. Thus, cognitive appraisals are implicitly implicated as a function of threatened self and goal structures in the SMS. Finally, the role of social support in PTSD appears to be missing in the SMS. However, Conway (2005, p. 597) argues that "the representations of the conceptual self are socially constructed schema and categories that define the self, other people, and typical interactions with others and the surrounding world." Thus, social support can still play a role in post-trauma recovery as suggested by the DRT and SPAARS models. That is, peer and familial support can supply information incompatible

with the trauma in order to achieve the SMS' therapeutic aim of reducing the discrepancy between the trauma and the conceptual self and goal structures.

1.4.4 Ehlers and Clark's model. Ehlers and Clark's (2000) cognitive model has been described as the most comprehensive account of the maintenance and treatment of PTSD (Brewin & Holmes, 2003). It argues that even though the trauma is in the past, people with PTSD process the experience in a way that creates a sense of serious, current threat. Two key processes are thought to produce this reaction. First, and of importance to the current study, the model proposes that negative appraisals about the trauma (e.g., overgeneralisation of danger), own reactions during the stressor (e.g., self-blame), and its aftermath, including other people's reactions (e.g., life prospects), play a central role in PTSD. Second, PTSD is associated with a disruption in the survivor's autobiographical memory as memory of the event is typically fragmented, and lacks time and place contextualisation. As outlined by the DRT, this process is attributed to increased arousal during the encoding process. Ehlers and Clark (2000) use the SMS as the basis of their explanation regarding the disruptions and distortions evident in the autobiographical remembering of those with PTSD.

In terms of appraisals, Ehlers and Clark (2000) argued that in addition to peri-traumatic thought processes, people's prior beliefs and experiences significantly influence their post-trauma appraisals. Accordingly, mental defeat and previous experiences of trauma, helplessness, or weakness increase the likelihood for the posttraumatic self being appraised as weak, ineffective, or vulnerable. Such appraisals are thought to produce a sense of serious threat to self, which can be external (i.e., "others cannot be trusted") or internal (i.e., "I am fragile"). Of

relevance to this study, the coping strategies the PTSD sufferer adopts in order to maintain safety and reduce distress, the model proposes, are related to the person's appraisals of the trauma as well as their general beliefs about how to best cope with the it. Consistent with this, the religious coping theory (Pargament, 1997) claims that religion often provides meaning to difficult life events and inform theists' coping strategies (see section 1.6.2). Hence, if Islam, like Christianity (Pargament, 1997), also informs its adherents' explanations of life events, then, in keeping with the cognitive model of PTSD and the religious coping theory, it may also inform Muslim trauma survivors' posttraumatic coping and adjustment.

Moreover, in chronic PTSD, the model claims, the posttraumatic self is often viewed as incapable of protecting oneself or realising future ambitions. That is, the trauma survivor's sense of autonomy and agency becomes seriously undermined, which further consolidates the perceived threat to self. This is also relevant to this study because, as Husain (1998) and Inayat (2005) noted, Muslims commonly believe that both fortunes and misfortunes are products of God's will. While believing in God's will may undermine the Muslim trauma survivor's sense of autonomy and agency (e.g., "I am not in control of my life"), this belief may also reassure the survivor that they will be protected by God (i.e., increasing sense of safety through religious coping strategies, such as prayer). Thus depending on the way it is interpreted, Islam may influence the trauma-related appraisals of its adherents both positively and negatively.

Similarly, and of pertinence to this study, the model postulates that the reactions of other people may be subject to negative appraisals that ultimately threaten one's perception of oneself as being acceptable or worthy. A sense of

acceptance and belonging, according to Jobson's (2009) model (described next), is particularly important to trauma survivors from interdependent cultures, such as those from Middle Eastern societies that emphasise a harmonious relationship between the individual and their wider social network (Dwairy, 2009). Hence, consistent with the models of Ehlers and Clark (2000) and Jobson (2009), low levels of perceived social support might be particularly threatening to Muslim trauma survivors who place extra importance on the perception of oneself as being acceptable by others. Indeed, others' avoidance to talk about the trauma, perhaps due to their fear of distressing the person, may be interpreted as a genuine lack of care and interest, or even as a sign of blame. Ehlers and Clark (2000) argued that such thoughts may therefore encourage the person to withdraw from social contacts, thus exposing the self to social isolation and alienation. Social withdrawal poses additional problems as it confirms the person's negative thoughts and minimises opportunities for therapeutic exposure and feedback, which might help the person construct more adaptive interpretations of the event and its meaning.

Once formed, negative appraisals maintain PTSD because they directly produce negative emotions that promote the use of dysfunctional coping mechanisms. For example, the individual may engage in cognitive and behavioural strategies, such as thought suppression and safety-seeking behaviours, which to their detriment have the paradoxical effect of exacerbating PTSD symptoms; because, the model argues, while avoidance and safety behaviours reduce distress in the short-term, they maintain PTSD in the long-term by preventing cognitive change. In a stark demonstration of the counterproductive nature of mental suppression, Shipherd and Beck's (2005) experimental study with PTSD patients

showed that suppression of trauma-related thoughts and images results in a paradoxical effect, whereby they become even more intrusive. Consistent with these findings, longitudinal research with survivors of road traffic accidents have found that avoidance and thought suppression predict chronic PTSD symptoms (Ehlers, Richard, Mayou, & Bryant, 1998; Mayou, Ehlers, & Bryant, 2002). Additionally, rumination (Ehlers, Richard, & Bridget, 1998; Murray, Ehlers, & Mayou, 2002) and excessive use of safety behaviours (Dunmore et al., 2001) have also been found to increase the risk of later PTSD.

In addition to negative appraisals, Ehlers and Clark (2000) also argued that the way the trauma memory is processed contributes to the sense of serious, current threat in PTSD. They proposed that the fragmented nature of the trauma memory, which lacks time and place contextualisation and is poorly integrated with existing autobiographical knowledge, explains several PTSD symptoms. As explained by the SMS, difficulty in voluntary retrieval of the trauma memory is due to the memory lacking clearly specified retrieval routes. Similarly, reliving symptoms occur because the trauma memory lacks temporal and spatial context. Thus, the model proposes, trauma-related cues trigger reexperiencing of the past event and produce a sense of current, serious threat.

Moreover, Ehlers and Clark (2000) drew on conditioning principles and proposed that chronic PTSD involves strong Stimulus-Stimulus (S-S) and Stimulus-Response (S-R) connections for the traumatic material. This associative learning, they argued, helps individuals make predictions about future sources of danger as distinct cues that were present shortly before or during the event become closely associated with a sense of serious threat to self. Consequently, subsequent

exposure to trauma-related cues will increase the risk of activating the trauma memory and its associated emotional responses. The strong S-S and S-R associations mean that the cue-driven retrieval of the trauma memory is involuntary and, therefore, the trauma survivor may be unaware of the triggers for reliving. Hence, Ehlers and Clark (2000) argued that the emotional response is experienced as a reaction to real danger, which makes it difficult to learn that the trigger does not necessarily indicate imminent threat.

Another problem in chronic PTSD, the model claims, is strong perceptual priming (Schacter, 1992), defined as diminished perceptual threshold for cues related to the original trauma. Accordingly, trauma-related cues are more likely to be detected. Moreover, Ehlers and Clark (2000) noted that people with chronic PTSD display poor stimulus discrimination, whereby neutral stimuli that are vaguely similar to those present during the event become sufficient to trigger intrusions. In an illustrative example, they describe how a survivor of a car crash came to experience intrusions of oncoming headlights triggered by a patch of sunlight on his lawn.

Ehlers and Clark's (2000) theoretical assertions have substantial empirical support. A significant body of research has shown that cognitive factors, such as on-going negative appraisals of the self, are the most useful of a set of pre-trauma factors, trauma-specific factors and other predictors for identifying chronic PTSD (Kleim et al., 2007). Similarly, Bryant and Guthrie (2005) found that a major predictor of PTSD symptoms in trainee fire fighters was the extent to which they displayed negative appraisals about themselves. These results are consistent with the cognitive model's emphasis on the importance of appraisals in PTSD and other

research showing that the way people interpret their stress symptoms is a significant predictor of subsequent stress reactions (McNally, Bryant, & Ehlers, 2003).

Additionally, several studies have shown that psychological treatments improve PTSD symptoms as well as dysfunctional appraisals about self, others, and the world (e.g., Ehlers, Clark, Hackmann, McManus, & Fennell, 2005; Hagenaars, van Minnen, & de Rooij, 2010; Vogt, Shepherd, & Resick, 2012). More specifically, Kleim et al. (2013) investigated the temporal relationship between changes in negative appraisals and symptom reduction. They found that following treatment there was a reduction in PTSD symptoms, as well as changes in maladaptive trauma-related appraisals. Interestingly, the authors also found that changes in appraisals significantly predicted subsequent reductions in symptom severity. It is not surprising then that trauma-focussed cognitive behavioural therapies (TF-CBT) have been developed in order to target and alter negative appraisals as a principal treatment goal for people with PTSD (Resick, 2001). Moreover, as outlined in section 1.5.3, the cognitive model has led to the development of an effective treatment programme for PTSD, called cognitive therapy for PTSD (CT-PTSD; Ehlers et al., 2005).

In sum, Ehlers and Clark's (2000) model emphasises the role of trauma-related appraisals in the maintenance and treatment of PTSD. Such appraisals are problematic because they pose a serious threat to self as being acceptable, capable, and worthy. Of interest to this study, the model also holds that people's prior beliefs and experiences have a significant influence on the content and likelihood of negative appraisals as well as their posttraumatic coping strategies. Although this

insight has also been reached by the DRT, SPAARS, and the SMS, Ehlers and Clark (2000) emphasised that the meaning one attributes to the trauma is also crucial in recovery. Consistent with this assertion, the religious coping theory (Pargament, 1997) also proposes that theists faced with life adversities often search for meaning, which in turn influence their subsequent coping strategies. Significantly, however, the religious coping theory claims that religious people often attribute meaning to difficult life events using their religious beliefs (i.e., religious appraisals). Thus, religious beliefs may be implicated in the posttraumatic recovery of its adherents. Consistent with its emphasis on cognitive appraisals, a key component in the therapeutic application of this model concerns addressing the individual's meaning-making of the trauma, thus potentially making it sympathetic to theological considerations. Additionally, this model also holds that social support plays an important role in PTSD recovery. The function of social support is linked to its ability to provide the individual with opportunities to construct more adaptive appraisals through repeated exposure to the trauma memory.

1.4.5 The Threat to the Conceptual Self model (TCS). The TCS model (Jobson, 2009) attempts to expand current understandings of PTSD into the cross-cultural domain by highlighting the implications of cultural variations in self-construal (i.e., how the individual perceives and constructs the self) for PTSD. The model builds on the SMS and draws on cross-cultural research, showing that cultural variations in self-construal influence the individual's conceptual self (Markus & Kitayama, 1991), which incorporates personal scripts, schema concerning the relationship between self and others, possible selves, attitudes, attributes, beliefs, and values (Conway, 2005). Accordingly, the TCS model argues

that independent and interdependent cultural orientations influence the conceptual self differently. Specifically, the dominant cultural norms and expectations promote and maintain a conceptual self that is either primarily independent (i.e. the self is conceived as a unique, independent self-contained, autonomous individual) or interdependent (i.e. the self is conceived as related and interdependent with the surrounding social context and it is the "self-in-relation-to-other" that is the focus of the person's experience) (Conway & Jobson, 2012). Further, given that the conceptual self influences one's goals and motivations (Conway, 2005; Markus & Kitayama, 1991), the model also claims that people have autonomous and relatedness goal hierarchies. Thus, activation of goals and autobiographical memory retrieval are culturally appropriate and serve to reaffirm the self as either an independent or interdependent unit.

Traumatic experiences can be problematic because they can undermine the culturally dominant orientation of self (e.g., Wagar & Cohen, 2003; Wang & Ross, 2005). In line with Sato's (2001) observations, the model proposes that individualistic cultures emphasise an independent self, valuing personal control, mastery, uniqueness, and independence. Collectivistic cultures, by contrast, stress an interdependent self, emphasising interpersonal connectedness, a sense of belonging and fulfilling social obligations. In the TCS model, threat to conceptual self corresponds to Ehlers and Clark's (2000) notion of internal threat (i.e., threat to one's view of oneself as being acceptable and capable of realising future aspirations). However, the model adds that threat to conceptual self can also be "threat to the perceived or actual social view of self as capable/acceptable person who will be able to achieve important life goals" (Jobson, 2009, p. 375). Thus, as in

Ehlers and Clark's model, the TCS model argues that threat to conceptual self produces a sense of serious current threat, which is accompanied by PTSD symptoms.

What constitutes a threat to the conceptual self, the model claims, differs according to the dominant cultural orientation. That is, threat to an independent conceptual self can occur when personal control and autonomy is undermined, or when there is an increased emphasis on the interdependent self, which may be interpreted as loss of autonomy, decreased control, or diminished capability. Accordingly, and consistent with Sato's (2001) cross-cultural view of psychopathology, the TCS model predicts that individualistic societies will be less tolerant of a trauma survivor with a diminished sense of autonomy. This may result in the trauma survivor becoming socially isolated. In contrast, threat to an interdependent self can arise when one's sense of belonging, interdependence, or perceived ability to fulfil social obligations and roles is diminished. Increased emphasis on autonomy can also be perceived as threat to the interdependent conceptual self because increased autonomy may be interpreted as a sign of decreased belonging. Consequently, the model hypothesises, collectivistic societies will be less tolerant of a trauma survivor with a decreased sense of belonging, which may then produce social isolation (Sato, 2001).

Researchers have found that information that is significantly different from one's schema-driven expectations tends to be highly salient (e.g., Rubin & Kozin, 1984; Bernsten & Rubin, 2007). Thus, trauma memories, which tend to differ significantly from one's expectations, are often highly accessible. The trauma, Bernsten and Rubin (2007) argued, may therefore become a cognitive reference

point for other less significant memories, thus potentially defining the conceptual self, becoming central to one's identity, resulting in on-going negative appraisals, or challenging pre-trauma belief systems. All of these, the TCS claims, pose a threat to the conceptual self and current circumstances may be perceived as serious threat. That is, PTSD could develop when the posttraumatic self is seen to be failing to meet the cultural and social expectations of the self.

In summary, the TCS model argues that different cultures construct conceptual selves that value different attributes. In this model, appraisals tend to correspond to the dominant cultural definition of the self. Thus, appraisals of diminished autonomy, loss of control and decreased capability are thought to pose a serious threat to a trauma survivor from an independent culture. In contrast, appraisals of alienation, or independence may pose a threat to a trauma survivor from an interdependent culture. Similarly, one's social interactions may be subject to negative appraisals that, in turn, may lead to social withdrawal. Consistent with Ehlers and Clark's (2000) model, social isolation, the TCS model argues, is problematic because it deprives the individual of opportunities to receive emotional support and correct negative appraisals. Moreover, the self may be appraised as isolated, thus failing to meet social obligations, fulfil social roles, or maintain group harmony.

1.4.6 Summary of PTSD models. Several models have offered accounts of the onset and maintenance of PTSD. The models discussed in this chapter share a number of influential ideas. First, they claim that trauma memories are fragmented, decontextualized, and poorly integrated into previous autobiographical memories. Hence, voluntary retrieval of the trauma memory is impaired while distressing,

automatic intrusions frequently occur in response to internal and external cues (see Brewin, 2014). Second, they propose that trauma poses a threat to one's previous values and belief systems, thus impeding its integration into the autobiographical memory base. Third, these models claim that trauma-related appraisals play a pivotal role in PTSD. In addition to threatening one's sense of self as being capable and in control, such appraisals may also threaten one's view of oneself as being acceptable and able to meet societal expectations (Jobson, 2009). The strong relationship between PTSD symptoms and trauma-related appraisals has a considerable amount of empirical support (e.g., Ehlers et al., 2005; Hagenaars et al., 2010; Kleim et al., 2007; Vogt et al., 2012). These findings have translated into the clinical domain where maladaptive appraisals are held as a primary treatment target (e.g., Duffy et al., 2007; Ehlers et al., 2003; Ehlers et al., 2005).

Despite these impressive advances in PTSD models and associated empirical work, the development of these models has been based almost exclusively on research conducted using Western populations. Consequently, there is limited understanding of the development and maintenance of PTSD in non-Western sufferers of PTSD (Foa et al., 2009). Specifically, while appraisals are central to the development, maintenance and treatment of PTSD, little is known about the influence of appraisals and beliefs, such as religious beliefs, on PTSD in non-Western populations (Engelbrecht & Jobson, 2014; Jobson, 2009; Maercker & Horn, 2013). This is important to consider because previous research has clearly demonstrated the influence of cultural values and beliefs on the way in which people appraise lifetime experiences and the implications of these appraisals on psychological adjustment (for a summary of the research literature see Mesquita &

Walker, 2003). Therefore, after a brief outline of current psychological treatments of PTSD, the next section will consider one very important aspect of cultural and social values and beliefs – religion – and its role in coping following trauma. This will be followed by an introduction of the Islamic faith and its impact on people's self-concept and worldview. Finally, the literature concerning Muslim trauma survivors and their appraisals will be critically reviewed with the aim of investigating the current state of knowledge regarding the influence of Islam on the trauma appraisals of Muslim adults.

1.5 Psychological Treatments of PTSD

1.5.1 Theoretical context. The psychological models discussed above have similar implications for the treatment of PTSD. These models tend to hold two key psychological processes as targets for treatment: memory and appraisals (Resick, 2001). The cognitive model (Ehlers & Clark, 2000) and the DRT (Brewin et al., 1996; Brewin et al., 2010) propose two main components in the treatment of PTSD. First, through repeated exposure tasks, PTSD sufferers are encouraged to hold trauma-related images and memories in focal attention in order to integrate the trauma material into previous autobiographical knowledge. Second, patients are supported to engage in conscious meaning-making of the trauma (i.e., attribute cause or blame) in order to reduce discrepancies between the trauma information and previous beliefs and expectations. The TCS model (Jobson, 2009) adds that the trauma survivor's cultural orientation, which is believed to influence post-trauma appraisals, must also be taken into account. Accordingly, it highlights appraisals concerning autonomy, relatedness, identity, and social roles. Similarly, the SPAARS (Dalgleish, 2004) and the SMS (Conway & Pleydell-Pearce, 2000;

Conway, 2005) propose that post-trauma recovery occurs by establishing new, non-threatening trauma representations with the aim of assimilating the trauma memory with one's previous schema and autobiographical knowledge. Collectively, the described models underscore the importance of integrating different aspects of the trauma memory with one another and with other autobiographical memories at various levels of representations. Social support is also emphasised by the models, arguing that it can provide emotional support, act as therapeutic exposure, correct negative appraisals, and promote recovery.

Consistent with these theoretical insights, the National Institute for Health and Care Excellence (NICE; 2005) has reviewed the evidence base for psychological therapies for PTSD and reached the conclusion that TF-CBT and Eye Movement Desensitisation and Reprocessing (EMDR) are best supported by the literature. Aligned with the psychological models of PTSD, TF-CBT and EMDR view trauma-related appraisals and memories as key treatment targets (Resick, 2001). The next section will present a brief outline of these treatments and their evidence base. Given Ehlers and Clark's (2000) relevance to this study, a brief outline of their treatment programme will also be presented.

1.5.2 TF-CBT. TF-CBT involves four main elements: psycho-education, relaxation training, exposure therapy, and cognitive therapy (Bisson, Roberts, Andrew, Cooper, & Lewis, 2013). Generally, psycho-education has three aims: first, to help patients understand the impact of trauma on their overall wellbeing and functioning; second, to help patients understand the cause of their symptoms from a theoretical perspective, thus providing a rationale for therapy; and third, to

promote a realistic expectation about the nature of therapy and instil faith in its efficacy.

Relaxation training entails teaching the patient arousal and negative affect management skills. Such skills commonly include deep breathing and progressive muscle relaxation techniques that aim to substitute avoidance with more adaptive coping skills. Although relaxation training may play an important role in the treatment of PTSD, the literature does not support its use as a stand-alone treatment. Indeed, despite being associated with significant reduction in symptoms, relaxation training was found to be inferior to exposure therapy, cognitive therapy, and a combination of the two (Marks, Lovell, Noshirvani, Livanou, & Thrasher, 1998). Similarly, Taylor et al. (2003) found that exposure therapy was more effective than relaxation training alone.

Exposure therapy plays a crucial role in TF-CBT (Bisson et al., 2013). It encourages the patient to repeatedly relive the trauma either imaginally or in vivo. In addition to promoting self-efficacy, exposure therapy aims to bring intrusive memories under control and reduce the emotional reactions to such memories (Bisson & Andrew, 2005). Several randomised controlled trials (RCTs) have examined the effectiveness of exposure therapy in a range of populations, including refugees (e.g., Paunovic & Öst, 2001), earthquake survivors (e.g., Basoglu, Salcioglu, & Livanou, 2007) and war veterans (e.g., Keane, Fairbank, Caddell, & Zimering, 1989). These studies have consistently shown that exposure therapy is superior to waiting list and other nonspecific control conditions.

Cognitive therapy aims to alter negative appraisals by teaching patients to identify and challenge dysfunctional beliefs. In PTSD, Ehlers and Clark (2000)

argued that such appraisals commonly revolve around safety, danger, trust, and one's view of oneself. Although potentially limited by a small sample size (N = 77), Marks et al. (1998) found no significant difference between cognitive restructuring, exposure therapy, or the combination of the two. Nevertheless, all three treatment approaches were more effective than relaxation training alone. Similarly, Tarrier et al. (1999) found that cognitive therapy was as effective as imaginal exposure. Although treatment effects were preserved at 5-year follow-up, patients in the cognitive therapy condition did better than those in the imaginal exposure group (Tarrier & Sommerfield, 2004).

1.5.3 CT-PTSD. Based on the cognitive model of PTSD (Ehlers & Clark, 2000), CT-PTSD (Ehlers et al., 2005) has three primary treatment goals. First, to modify negative trauma-related appraisals through the introduction of more balanced information, Socratic questioning, and behavioural experiments. Moreover, homework tasks, termed "reclaiming your life", are assigned in order to re-engage the individual in activities they have abandoned since the trauma. Such assignments aim to reduce the sense of permanent change, which is commonly reported by sufferers of PTSD (Ehlers et al., 2000). The modification of appraisals is integrated with work on the trauma memory; a procedure termed *updating trauma memories*. That is, once negative trauma-related appraisals have been identified and successfully challenged through disconfirming evidence, alternative appraisals are actively incorporated into the trauma memory. These procedures aim to shift the dysfunctional meanings assigned to the trauma. Second, to reduce intrusions and increase memory elaboration through four main techniques, including imaginal reliving, developing a coherent trauma narrative, revisiting the

location where the trauma took place, and discrimination of triggers. Third, to reverse dysfunctional coping strategies through discussions and behavioural experiments, highlighting the problem-perpetuating nature of such coping strategies (e.g., avoidance and though suppression).

Several RCTs have shown that CT-PTSD is highly acceptable and effective (Ehlers et al., 2003; Ehlers et al., 2005; Smith et al., 2007). For example, In Ehlers and colleagues' (2003) RCT with survivors of motor vehicle accident, which compared CT-PTSD to self-help and waiting list, CT-PTSD was found to be more effective than both conditions and had no dropouts. In another RCT (Duffy, Gillespie, & Clark, 2007), CT-PTSD was found to be more effective than waiting list and led to a significant reduction in self-reported measures of PTSD and depression (for brief review see Ehlers & Clark, 2008).

1.5.4 EMDR. EMDR (Shapiro, 1989a, 1989b) is based on the 'adaptive information processing model' of trauma (Shapiro & Maxfield, 2002). Similar to the DRT, this model argues that trauma memories in PTSD sufferers are not fully processed. The unprocessed information is mostly physiological in nature and is thought to be stored in memory systems that contain associated cognitions, images, feelings and sensations. Thus "if distressing memories remain unprocessed, they become the basis of current dysfunctional reactions" (Shapiro & Maxfield, 2002, p. 935). Accordingly, the proper processing of the trauma memory is believed to reduce suffering, distorted perceptions, and dysfunctional reactions. The key component of EMDR involves the patient recalling the trauma memory, along with its cognitions, images and physical reactions, under 'dual attention' stimulation, or

eye movement. The therapist usually induces this stimulation by moving a finger in rhythmic swings across the patient's field of vision.

Overall, the research literature suggests that EMDR is an effective treatment for PTSD. For example, van der Kolk et al. (2007) conducted an RCT in which they compared EMDR with fluoxetine and pill placebo. The sample included 88 male and female adults with PTSD subsequent to various traumas. The findings showed that EMDR resulted in significantly greater improvements than pill placebo and fluoxetine. Nevertheless, all three conditions alleviated PTSD and depressive symptoms. Spates, Koch, Cusack, Pagoto, and Waller (2009) conducted a review of seven meta-analyses of PTSD, including studies published from 1998 to 2006. The authors replicated the above findings and added that EMDR is as effective as exposure therapy.

1.5.5 Summary. In sum, PTSD is a multifaceted condition that appears to involve two key psychological processes: a disturbance in the way in which the trauma memory is processed and integrated with previous beliefs, and the presence of negative posttraumatic appraisals that serve to maintain PTSD and disrupt recovery. Accordingly, a range of psychological therapies have been developed to specifically target these two processes. TF-CBT and EMDR are best supported by the literature. A recent systematic review of 70 RCTs of various forms (e.g., individual or group-based) and types (e.g., EMDR, non-directive counselling) of therapy confirmed that EMDR and TF-CBT are indeed superior to non-trauma-focussed CBT at follow-up (Bisson et al., 2013). Although there is now an impressive amount of research on PTSD and its treatments in Western industrialised countries, such work on non-Western populations remains scarce, but

necessary (Foa et al., 2009). The next section will focus on religion and its influence on Muslim adults' trauma-related appraisals and coping.

1.6 Religion

1.6.1 Definition. Broadly speaking, theologians have defined religion in two ways (Pargament, 1997). One approach, known as the substantive tradition, regards religion as distinctively concerned with God, sacred deities, supernatural beings, or any other force perceived as a mystical higher power. Definitions that belong to this tradition include that of James (1902, p. 32) who defined religion as "the feelings, acts and experiences of individual men in their solitude, so far as they apprehend themselves to stand in relation to whatever they may consider the divine." The other approach is known as the functional tradition. According to this view, religion is essentially concerned with how people deal with the fundamental problems of life. Consistent with this tradition, Batson, Schoenrade, and Ventis (1993, p.8) defined religion as "whatever we as individuals do to come to grips with the questions that confront us because we are aware that we and others like us are alive and that we will die."

Essentially, both approaches argue that religion involves beliefs, practices, symbols, and experiences. Thus, religion is a multidimensional construct. The two approaches differ, however, in terms of their point of reference. While the substantive tradition focuses on the definition of the sacred, the functional definition views religion as a process of dealing with one's ultimate concerns in life – tragedy, injustice, significance, and death (Pargament, 1997).

1.6.2 Religious coping. Given the complex and subjective nature of religion, no single definition is likely to achieve consensus (Yinger, 1967). Instead,

Pargament (1997) suggested constructing a definition that corresponds to the subject of interest. For the purpose of this study the phenomenon under study is psychological coping following trauma. In terms of coping, Pargament (1997, p.32) argued that religion is "a search for significance in ways related to the sacred". Like religion, religious coping is also considered a multidimensional construct, which involves a wide range of spiritually and religiously-based cognitive, emotional, behavioural, and interpersonal responses (Thune-Boyle, Stygall, Keshtgar, & Newman, 2006; Tix & Fraser, 1998). Accordingly, there are several methods of religious coping including forgiveness, spiritual support, prayer, confession, conversion, and religious appraisals (Pargament, 1997). Religious appraisals are conceptualised as the basic religious beliefs concerning the cause and meaning of events, while religious coping reflects the application of religious beliefs into specific methods of coping (Pargament, Smith, Koenig, & Perez, 1998).

Pargament (1997) depicted religious coping as multifunctional in that it helps people find and give meaning to events (i.e., religious appraisals), provides comfort and a sense of belonging (i.e., religious social support), and aids in problem-solving (i.e., religious ways of dealing with distress to foster hope and acceptance). Similarly, Geertz (1966) argued that while human beings are able to cope with an impressive range of living conditions, they simply cannot deal with the uninterpretable. Thus, in religious coping "the effort is not to deny the undeniable – that there are unexplained events, that life hurts, or that rain falls upon the just – but to deny that there are inexplicable events, that life is unendurable, and that justice is a mirage" (pp. 23-24). Clearly, the core function of religion is meaning giving.

Pargament (1997) highlighted three factors that make people more likely to employ religious coping. First, at the personal level, people who are religiously committed are likely to resort to their religion during critical times. Second, at the situational level, religious coping is more often used in threatening and difficult situations, such as in the instance of trauma. Third, at the contextual level, religious coping appears more common in religious cultural environments, such as in Islamic societies. Accordingly, religious coping is more likely to be used in situations that highlight the limitations of human resources.

1.6.3 Religious coping with trauma. As outlined above, the cognitive model of PTSD states that people's prior beliefs and experiences significantly influence their post-trauma appraisals (Ehlers & Clark, 2000). Similarly, Janoff-Bulman (1992) argued that PTSD develops when trauma shatters people's basic assumptions and beliefs, leaving the survivor desperately looking for new meaning. Consequently, Conway (2005) and Dalgleish (2004) claimed, trauma survivors make on-going attempts to consider the trauma experience in a coherent manner and align the experience with previous views of self, others, and the world. Similarly, Kreitler and Kreitler (1988) highlighted that trauma survivors attempt to answer two fundamental questions as to why the event occurred and why it happened to them in particular. In such circumstances, it is proposed, religion can act as a source of meaning (Baumeister, 2005; Park, 2005) because, as Boorstin (1983) and Pargament (1997) argued, the religions of the world address human beings' ancient hunger for order and significance. Moreover, McIntosh (1995) conducted a review of the relevant literature and proposed viewing religion as a cognitive schema, which informs one's beliefs about self, others, and the world.

Such a proposal is consistent with contemporary PTSD models that highlight the role of cognitive schema in PTSD. Thus, religious beliefs may be implicated in posttraumatic adjustment. .

However, Pargament et al. (1990) noted that not all religious coping strategies are beneficial. Indeed, factor analyses have distinguished between positive and negative religious coping (Pargament et al., 1998). The former involves strategies whereby the individual turns to religion for meaning and support in a constructive manner, while the latter refers to religious struggle and doubt (Ano & Vasconcelles, 2005).

1.6.4 Empirical research on religious coping. Research findings indicate that people's religious beliefs often influence their causal attributions of traumatic experiences (Spilka, Shaver, & Kirkpatrick, 1997). For example, in a study of spinal cord injury, Bulman and Wortman (1977) reported that over a third of their participants attributed their injury to God's will. Similarly, when faced with aversive life events, Pargament, Koenig, and Perez (2000) found that religious people use a variety of religious coping strategies including prayer, benevolent religious reappraisals, "punishing God" reappraisals, religious-based social support, and spiritual struggle.

Since the identification of the two religious coping patterns (i.e. positive and negative), numerous studies have examined the relationship between religious coping style and psychological wellbeing. Positive religious coping has been found to be associated with lower levels of anxiety (r = -.49; Cole, 2005), depression (rs = -.14 – -.55; Braxton, Lang, Sales, Wingood, & DiClemente, 2007; Cole, 2005), hopelessness (r = -.57; Arnette, Masacro, Santana, Davis, & Kaslow, 2007), and

greater life satisfaction (r = .23; Lee, 2007). In contrast, several studies have shown that negative religious coping is related to higher levels of anxiety (rs= .32 – .69; Cole, 2005; Khan & Watson, 2006), depression (rs = .20 – .65; Cole, 2005; Khan & Watson, 2006; Sherman, Simonton, Latif, Spohn, & Tricot, 2005), and distress (r = .37; Sherman et al., 2005).

Some findings from this body of research are, however, somewhat inconsistent. Indeed, some researchers found weak associations between positive religious coping and depression (e.g., r = -.14; Braxton et al. 2007) and between negative religious coping and depression (e.g., .20; Sherman et al., 2005). Still others found no significant correlations between positive religious coping and psychological wellbeing (e.g., Braam et al., 2010; Hebert, Zdaniuk, Schulz, & Scheier, 2009). Similarly, Gardner, Krägeloh, & Henning (2014) found no associations between negative religious coping and psychological distress in Middle Eastern university students. Several methodological discrepancies among the reported studies may help explain this inconsistency. For example, the studies reported above investigated a very diverse population in terms of their religious affiliation, ethnic background, and presented distress. Similarly, these studies used several different measures of religious coping and psychological outcomes. In general, however, the literature shows that positive religious coping is linked to psychological wellbeing, while negative religious coping is associated with poorer psychological adjustment (for a review see Abu-Raiya & Pargament, 2014).

In the last two decades, Braam et al. (2010) noted, psychologists have paid increasing attention to religion as a posttraumatic coping mechanism. However, most of this research has considered Christianity and neglected other traditional

religions, such as Islam (Abu-Raiya & Pargament, 2011, 2014; Ano & Vasconcelles, 2005; Hill & Pargament, 2008; Pargament, 1997). Before examining the empirical research on the influence of Islam on Muslim adults' trauma appraisals, the next section will outline the key tenets of Islam and how they influence the lives of Muslims.

1.7 Islam

The Arabic word '*Islam'* translates to submission and the word '*Muslim'* translates to one who submits to God's will (Gordon, 2002). Islam is the second largest religion in the world with over 50 countries having a Muslim majority population (Carter & Rashidi, 2004). The 2011 UK census data showed that Islam, with its 2.78 million followers, is also the second largest religion in the UK (Office for National Statistics [ONS], 2011). Although Muslims come from a wide range of nations and cultures, there are few differences in their core religious beliefs and practices (Haque, 2004).

Islamic beliefs are rooted in two main sources: the *Quran*, which is the holy book of Islam, and *Sunnah*, which documents the teachings and practices of Islam's messenger, Mohammed. Islam is seen as a way of life that does not separate religion from everyday matters (Armstrong, 1993). Indeed, Muslims generally believe that the Quran and Sunnah directly or indirectly address virtually every aspect of life. The Quran and Sunnah, therefore, serve as the foundation of Islamic society and culture (Hamdan, 2007).

1.7.1 Central tenets of Islam. Consistent with its monotheistic doctrine, the central tenet of Islam is *tawhid,* or unity (Armstrong, 1993). This principle portrays the universe as dynamic, integrated and a meaningful whole, and God as the

uncaused cause and sustainer of the heavens and earth (Khan, 1986). In addition to the unity principle, there are six core beliefs that govern the Islamic faith (Sarwar, 2000). The first, and of importance to this study, is the belief in the divine will. This belief holds that although people have free will and are responsible for making their own choices in life, their lives are pre-destined by God who knows their past, present, and future. Second is the belief in God's angels. Third is the belief in God's scriptures, namely the Torah, the Psalms, the Gospel, and the Quran. Fourth is the belief in God's messengers and prophets. Fifth is the belief in the day of judgement during which everyone will be held accountable for their actions. The final core belief is the belief in life after death, which means that people's actions and beliefs during their lives have direct implications for their eternal lives after death.

In addition to these basic beliefs, Islam specifies five duties obligatory for all Muslims. These are commonly referred to as the *five pillars of Islam* and include: the declaration of faith in God's oneness and Mohammad's prophecy; the performance of five daily prayers; the welfare contribution of 2.5% of one's annual savings and earnings; the pilgrimage to Mecca once in a lifetime for those who can afford it; and fasting during the month of Ramadan (Esposito, 2005).

1.7.2 The individual and society in Islam. Islam proposes a largely harmonious relationship between the individual and society. One's family is the foundations of the concept of *ummah* (community of believers), which underpins the individual's social identity based on the mutual desire to achieve unity with God and a peaceful coexistence with the wider society (Ansari, 2002; Mohammed, 2006). As a member of the community, Muslims typically perform acts of worship

(e.g., prayers, fasting, pilgrimage) collectively hence merging their religious beliefs with their social identity. Further, Muslims are obliged to reconcile their individual motivations with that of their families and the societies in which they live (El Azayem & Hedayat-Diba, 1994). Thus, Islam fosters an interdependent relationship between the individual and society (Peter, 1993). The individual is expected to play a part in achieving the society's goals and society is responsible for helping the individual achieve personal and spiritual growth. Socially speaking, virtuous Muslims are those who reconcile their individual needs with community regulations and welfare (El Azayem & Hedayat-Diba, 1994).

Clearly, Islam endorses a society based on collectivistic principles, influencing people's coping strategies with social problems. Indeed, Dwairy (2009) noted that Muslims usually manage interpersonal conflicts through social coping strategies that aim to preserve family and group harmony. For example, Dwairy (2002) highlighted the notions of *mosayara* and *istighaba* as social coping skills in Arab and Muslim societies. Mosayara encourages individuals to hide their true emotions, thoughts, and attitudes in order to fit in with the rest of the society. Similarly, istighaba entails expressing one's inner experiences in isolation or away from the 'eyes of society'. These coping skills essentially aim to maintain social harmony and avoid isolation.

In sum, Islam provides clear rules that shape its followers' attitudes and behaviours not just in spiritual matters, but also in their daily affairs (Armstrong, 1993; El Azayem & Hedayat-Diba, 1994; Hamdan, 2007). It seeks to establish a harmonious relationship between the individual and the community by balancing the needs of the collective with those of the individual. Given the centrality of

Islam in the life of its adherents (Hamdan, 2007; Smither & Khorsandi, 2009), Islamic principles are expected to influence more than people's relationships with one another. The next section will therefore explore how Islam influences its followers' views of the self.

1.7.3 Self-construal in Islam. There is consensus among social scientists that self-construal differs according to culture (Markus & Kitayama, 1991, 2010). According to Sato (2001), within individualistic European societies the self is typically associated with qualities such as independence and uniqueness. Contrastingly, within non-Western collectivistic societies, which include Middle Eastern cultures, the self is viewed as interdependent with others and conceptualised as part of the wider group. The self in Islamic societies is thus proposed to be collectivistic, meaning that Muslims' drives, desires, judgements, attitudes, and values are merged with that of their families and community (Ben-Ari & Lavee, 2004; Dwairy et al., 2006; Joseph, 1996; Lam & Zane, 2004). Consequently, Dwairy (2009) claimed, acceptance by the family and community brings happiness and rejection causes suffering (Dwairy, 2009).

Self-construal is central to PTSD because variations in self-construal, as Mesquita and Walker (2003) noted, enable certain appraisals of events and make the occurrence of other appraisals less likely. Consistent with this, Jobson and O'Kearney (2009) found that appraisals of personal responsibility, control, and autonomy had a significant impact on PTSD for trauma survivors from individualistic cultures. In contrast, alienation appraisals were the only appraisal that differentiated between trauma survivors with and without PTSD from collectivistic cultures. These findings do not only highlight the cultural impact on

trauma appraisals and associated psychological adjustment, but also emphasise the importance of social support (i.e. the reduction of alienation) for trauma survivors from collectivistic cultures.

Before examining the literature on Islam's influence on Muslims' trauma appraisals, the next section will briefly outline common understandings of mental illness among Muslims.

1.7.4 Mental illness and its treatment in Islamic societies. Muslims hold a range of beliefs about the cause and treatment of mental illness. A common belief refers to the principle of divine will (i.e., one's life is ultimately pre-destined by God). Consequently, Muslims generally believe that their fortunes and misfortunes reflect the will of God (Husain, 1998; Inayat, 2005). Similarly, another common belief is that misfortunes are a means of washing away one's sins, if dealt with patiently. Muslims are therefore encouraged to cope with adversities through a central commitment to *sabr* – an Arabic word for patience, endurance, or self-restraint (Khan, Sultana, & Watson, 2009). Others interpret mental illness as a sign of disconnection with God, as a punishment from God (Al-Krenawi & Graham, 1999), and as a lack of devotion (Weatherhead & Daiches, 2010). Still others believe that Jinn possession, black magic, and the "evil eye" cause mental illness (e.g., Hanley & Brown, 2014; Khalifa, Hardie, Latif, Jamil, & Walker, 2011; Mullick, Khalifa, Nahar, & Walker, 2013). It is commonly believed that people who have little faith and those who are overly concerned with the material world are especially susceptible to these supernatural causes (Haque, 2004).

Practically, the Quran specifies external and internal virtues that maintain psychological equanimity. External virtues revolve around the fulfilment of one's

religious duties, such as acts of worship and kindness to others. For example, the Quran states that through daily prayers one finds inner peace and avoids evil acts because prayers act as a constant reminder of God's omnipresence (Quran, 29:45). Similarly, fasting during the month of Ramadan is seen as self-discipline and a way of fostering compassion for the poor (Ashy, 1999). Internal virtues complement the external virtues and encourage one to have good intentions and seek self-knowledge and awareness of God through contemplation and careful studying of the Quran (Haque, 2004).

1.7.5 Islam and appraisals. Considering that Islamic teachings attribute both fortune and misfortune to the will of God and given the centrality of Islam in Muslims' lives, such teachings are also expected to influence its followers' appraisals and meaning-making of life events. In turn, and consistent with the cognitive model of PTSD (Ehlers & Clark, 2000), such appraisals should also have an influence on mental health. Indeed, according to the Islamic faith remaining patient and maintaining faith in God's will, studying the Quran, performing daily prayers, fasting, and giving alms are considered to be preventative and curative of distress and a way of promoting psychological and spiritual growth (Ali, Lie, & Humedian, 2004; El Azayem & Hedayat-Diba, 1994). Additionally, psychological distress is thought to arise when individuals lose touch with, or act in ways contrary to, their Islamic beliefs and community (Smither & Khorsandi, 2009). Hence, researchers into the psychology of Islam have highlighted a need to improve current understandings regarding the way in which Islamic principles influence the cognitions and behaviours associated with various psychological disorders (e.g., Ali et al., 2004; Erickson & Al-Timimi, 2001).

Therefore, in terms of PTSD, the question arises, how do positive (e.g., perceiving God to be in control and having a plan for one's life) and negative (e.g., perceived punishment by God) religious appraisals influence posttraumatic recovery in Muslim trauma survivors? The objective of the following literature review was to examine the role Islamic faith plays in the way in which Muslim adults appraise traumatic experiences, as well as considering the influence of these appraisals on posttraumatic psychological adjustment.

1.8 Empirical Research on the Influence of Islam on Muslim Adults' Trauma Appraisals

1.8.1 Objective and procedure. The literature search aimed to find all references related to Islam and the appraisal of trauma. 'Appraisal' was defined as the person's interpretation of the cause of, responsibility for, and future consequences of the trauma (Brewin & Holmes, 2003). 'Trauma' was defined as participants having experienced an event that would meet PTSD Criterion A in the DSM-IV-TR (APA, 2000, p. 463-464). The inclusion criteria for papers to be considered in this systematic review were the following: to include only those papers that used adult populations and were published in English in peer-reviewed journals. No publication date restrictions were imposed.

On 24th December 2014, the following five electronic databases were searched to identify studies: PsycINFO, EMBASE, PubMed, ASSIA and Web of Science. The following Boolean variable string was used in the search: (Islam* OR Muslim*) AND (PTSD OR posttraumatic stress disorder OR post-traumatic stress disorder OR trauma* OR stress*) AND (appraisal OR interpret* OR coping OR cope OR cogniti*). Additionally, the ancestry search method to detect studies not

found by this initial search was used. All results were assessed at either title, abstract, or by reading the full paper to determine whether the study met the inclusion criteria.

1.8.2 Results. The search initially yielded 219 publications. After the duplicates were removed and studies were screened against the inclusion criteria, 12 studies were deemed appropriate for the review. Figure 1 summarises the selection process that resulted in the 12 articles that were included in this review.

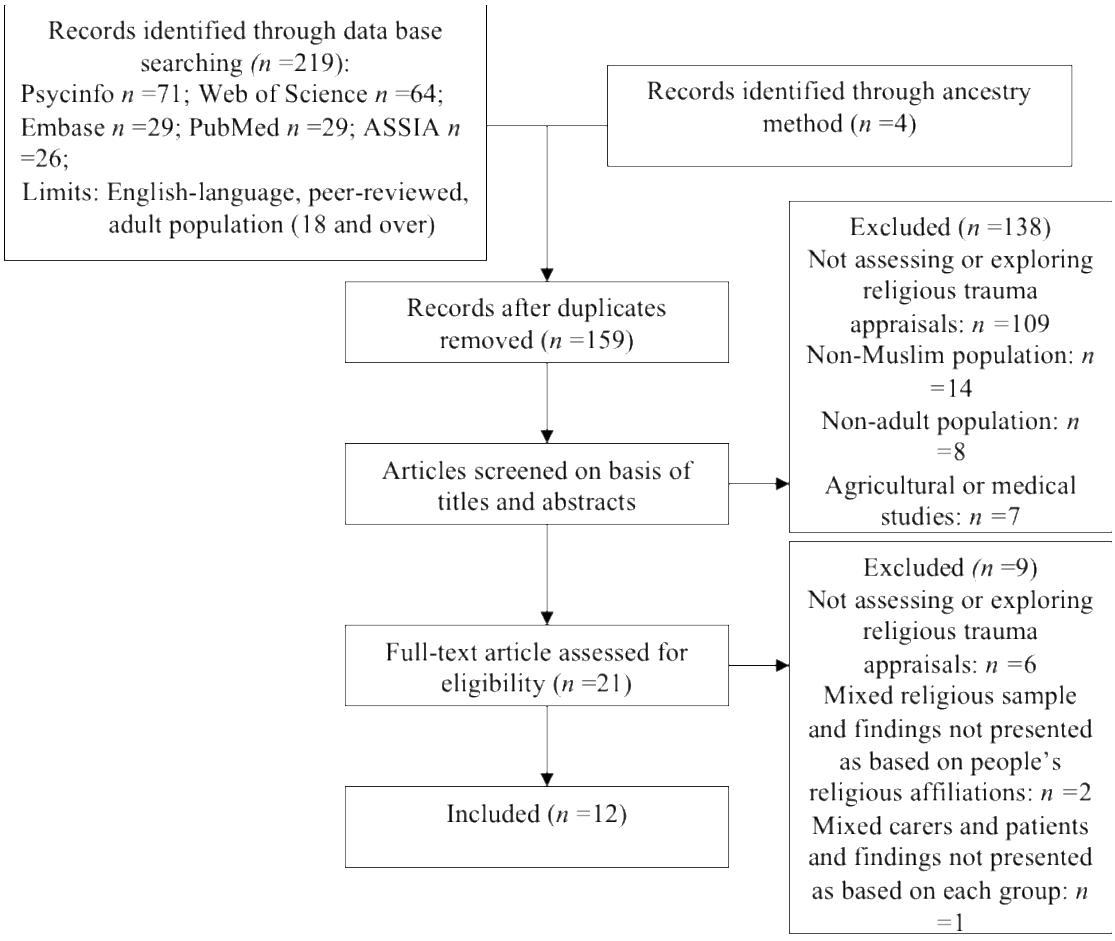

Figure 1. Flow diagram of study selection

1.8.3 General characteristics of the studies. Table 1 briefly outlines the key features of each of the included studies. All studies included in the review, with the exception of Aflakesir and Coleman's (2009) study, employed qualitative

methodology and used content analyses to derive themes capturing participants' trauma-related appraisals. While the Hassouneh-Phillips (2003) study used a sample of American Muslims, the remaining studies were all conducted in Asia and the Middle East. The qualitative studies adopted a purposive sampling approach. In these studies, data saturation determined sample size, which ranged between 10 and 39 participants. The total sample size was hence small (*N*= 303; women *n* = 163, men *n* = 140). While Hassouneh-Phillips (2003) recruited their participants from the community, the remaining studies recruited their participants from hospitals and clinics. The studies used trauma survivors who had experienced a life-threatening illness (*n* = 6, Alqaissi & Dickerson, 2010; Banning, Hafeez, Faisal, Hassan, & Zafer, 2009; Farsi, Nayeri, & Negarandeh, 2010; Harandy et al., 2010; Taleghani, Yekta, & Nasrabadi, 2006; Taleghani, Yekta, Nasrabadi, & Kappeli, 2008), war (*n* = 4, Aflakesir & Coleman, 2009; Ebadi, Ahmadi, Ghanei, & Kazemnejad, 2009; Hassankhani et al., 2010; Nir, Ebadi, Khoshknab, & Tavallae, 2013), significant accident/critical illness (*n*= 1; Zeilani & Seymour, 2010) and domestic abuse (*n* = 1, Hassouneh-Phillips, 2003).

Nine of the 11 qualitative studies gathered data through semi-structured interviews. Hassouneh-Phillips (2003) and Ebadi et al. (2009) used unstructured interviews. Nine of the qualitative studies employed individual face-to-face interviews, while Hassouneh-Phillips offered participants a choice of individual or group interviews and Banning et al. (2009) provided no information about the interview approach they employed. Taleghani et al. (2008) also supplemented interviews with observational data of participants' interactions at home. The interviews were found to range in length from 25-180 minutes. There was

significant variability between studies in terms of the length of time between the participants' trauma experience and the interviews being conducted; some studies interviewed participants relatively soon after the trauma experience (e.g., in the early phase of being diagnosed with a life-threatening illness, Banning et al., 2009; Taleghani et al., 2008), while other studies (e.g. those that focussed on war trauma survivors) interviewed participants more than two decades post-trauma. Furthermore, some studies did not specify length of time between interview and the trauma experience (Hassouneh-Phillips, 2003). Aflakesir and Coleman's (2009) quantitative study used a range of validated self-report questionnaires to investigate potential correlations between religious coping style and posttraumatic psychological wellbeing.

Table 1

Study Characteristics

Study	Design	Sample size; gender; nationality	Age range (years)	Trauma Type	Main appraisals reported
Hassouneh-Phillips (2003)	Qualitative	17; Female; American Muslims	20-59	Abusive relationship	This life does not matter. Patience will be rewarded in the afterlife.
Taleghani et al. (2006)	Qualitative	19; Female; Iranian	31-53	Breast cancer	God's will; a test to be passed and rewarded.
Taleghani et al. (2008)	Qualitative	15; Female; Iranian	31-56	Breast cancer	Spiritual fate; a test to be passed and rewarded.

Table 1

Cont.

Study	Design	Sample size; gender; nationality	Age range (years)	Trauma Type	Main appraisals reported
Aflakesir & Coleman (2009)	Quantitative	78; Male; Iranian	35-62	War veterans	Benevolent appraisals more frequently reported than negative appraisals.
Banning et al. (2009)	Qualitative	30; Female; Pakistani	22-60	Breast cancer	God's will; the future is in God's hands.
Ebadi et al. (2009)	Qualitative	20; Male: 18, Female: 2; Iranian	Mean: 49	War veterans	God's will; an opportunity to absolve sins.
Alqaissi & Dickerson (2010)	Qualitative	20; Female; Jordanian	24-72	Breast cancer	A gift from God. A test of faith and tolerance to be followed by rewards.
Farsi et al. (2010)	Qualitative	10; Male: 5, Female: 5; Iranian	18-48	Leukemia	Initial confusion as to whether the disease is a result of personal fault, followed by appraisals of God's will and a divine test.
Harandy et al. (2010)	Qualitative	39; Female; Iranian	30-87	Breast cancer	A divine test and God's will.
Hassankhani et al. (2010)	Qualitative	17; Male; Iranian	38-55	War veterans	A test by God who is always looking after me and can be relied upon.
Zeilani & Seymour (2010)	Qualitative	16; Female; Jordanian	19-82	Significant accident	God's will to test patience and absolve sins.
Nir et al. (2013)	Qualitative	22; Male; Iranian	40-50	War veterans	God's will and a test.

1.8.4 Positive religious appraisals. Three qualitative studies investigated how Muslim war veterans made sense of their war-related experiences. All reported that participants tended to attribute their trauma to God's will and appraised the experience as a test of their faith and patience (Ebadi et al. 2009; Hassankhani et al., 2010; Nir et al., 2013). Ebadi et al. (2009) additionally reported that participants appraised the trauma experience as an opportunity to absolve their sins. Participants in all three studies also tended to report that these positive religious appraisals were connected with feelings of acceptance, hope and that God was caring and could be relied upon.

The six studies that investigated religious appraisals associated with being diagnosed with a life-threatening illness found very similar appraisals to those elicited by the studies investigating war-related trauma. All six studies reported that participants attributed their diagnosis to religious fate and God's will, and thus perceived the illness to be unavoidable (Alqaissi & Dickerson, 2010; Banning et al., 2009; Farsi et al., 2010; Harandy et al., 2010; Taleghani et al., 2006; Taleghani et al., 2008). The studies reported that participants felt the trauma was a gift from God (Alqissi & Dickerson, 2010) and a divine test of their faith and tolerance (Alqissi & Dickerson, 2010; Farsi et al., 2010; Harandy et al., 2010; Taleghani et al., 2006; Taleghani et al., 2008). Several of these studies also noted that in many cases participants' view of God as omnipotent led them to believe that in addition to God being the source of the illness, God was also the only healer of the illness (Banning et al., 2009; Harandy et al., 2010; Taleghani et al., 2008). Two studies also reported that participants felt that as a consequence of enduring the trauma they would be later rewarded in this life and the next (Alqaissi & Dickerson, 2010; Taleghani et

al., 2006). Overall, the studies reported that for most participants these appraisals were associated with notions of acceptance of the diagnosis and its future outcome.

Hassouneh-Phillips (2003) examined the trauma-related appraisals of Muslim adults who survived interpersonal violence. Participants in this study reported that this life does not matter and that their patience would be rewarded in the afterlife. Finally, Zeilani and Seymour (2010) found that those who had experienced a significant accident or a critical illness attributed it to God's will to test patience and absolve sins.

1.8.5 Negative religious appraisals. Surprisingly the studies reported a scarcity of negative religious appraisals and their connection with PTSD symptoms did not receive much consideration. In terms of the qualitative studies, Harandy et al. (2010) reported that some participants did express negative religious appraisals in relation to being diagnosed with breast cancer. However, this was only observed in a minority of participants. Additionally, Alqaissi and Dickerson (2010) noted that one participant felt she had developed breast cancer because God was punishing her. Farsi et al. (2010) reported that while nearly all participants attributed their leukaemia to God, they also questioned whether the diagnosis was a result of their sins. The authors highlight, however, that while participants reported that such appraisals were common during the initial stages of the illness, the more traditional appraisals of perceiving the illness as God's will and a test of faith became more dominant and was associated with illness acceptance.

Aflakesir and Coleman (2009), the one study to adopt a quantitative approach, found that Iranian war veterans did endorse negative religious appraisals (e.g. anger at God for letting the event occur) in relation to their trauma. However,

they found that participants reported positive religious appraisals more often than negative appraisals. Additionally, they found a significant correlation between negative religious coping and worse global posttraumatic functioning (r = .36) and PTSD symptoms (r = .25). They also found significant correlations between the scales of positive religious coping and better global posttraumatic functioning (r = -.41 – -.43) and fewer PTSD symptoms (r = -.28 – -.33). The study also showed that when physical function, social support, and personal meaning were controlled, religious coping (both positive and negative) had a significant contribution on mental health indicators, including general mental health (positive religious coping; β = -0.27, negative religious coping; β = 0.23) and PTSD (positive religious coping; β = -0.26, negative religious coping; β = 0.25) above and beyond the other predictors. Thus, this study found that negative religious coping was moderately related to higher levels of PTSD and had a significant contribution on posttraumatic mental health indicators, including general mental health and PTSD.

1.9 Chapter Summary

Appraisals play a pivotal role in PTSD (Ehlers & Clark, 2000). Islamic teachings inform Muslim adults' appraisals of life experience and subsequent coping (Ali et al., 2004; El Azayem & Hedayat-Diba, 1994; Smither & Khorsandi, 2009). Therefore, Islam should influence Muslims' trauma-related appraisals. Moreover, Islam should influence the relationship between certain appraisals and posttraumatic recovery. Despite this, the literature review highlighted that very little research has examined these assertions (section 1.8.2). The findings, although very preliminary, suggest that most participants viewed their traumatic experience as being the result of religious fate. Ehlers and Clark's (2000) identified a mind-set

termed ‘mental defeat’ described as trauma survivors’ inability to influence their fate, which in turn has been found to increase the likelihood for the posttraumatic self being appraised as weak, ineffective, or vulnerable; appraisals that maintain PTSD (e.g., Dunmore et al., 2001). It is possible that believing in a ‘higher being’ that is in control of one’s life may reduce the risk of ‘mental defeat’-type appraisals. Indeed many participants perceived God not only as the cause of the trauma, but also as the solution (Zeilani & Seymour, 2010; Nir et al., 2013). This suggests that a sense of personal control (or lack of) over one’s fate may not be as valued for Muslim adults and thus, not as vital to re-establish post-trauma (Mesquita & Walker, 2003).

Linked to appraisals, empirical research has also highlighted the role of social support in PTSD (e.g., Brewin et al., 2000). Similarly, contemporary models of PTSD view social support as an important factor in the recovery process (e.g., Dalgleish, 2004). More specifically, Ehlers and Clark (2000) have pointed out that trauma survivors’ maladaptive appraisals may also concern their social interactions, thus potentially leading to social withdrawal. The TCS model (Jobson, 2009) has argued that social alienation can be particularly problematic for people from collectivistic cultures because such cultures emphasise interdependence, social harmony, and relatedness. For people from such cultures, social isolation may therefore be interpreted as a sign of social failure, thus posing a serious threat to one’s sense of self as being acceptable and capable. The role of social support is therefore important to consider in trauma survivors from Islamic cultures that typically emphasise interdependence and social harmony (Ansari, 2002).

Finally, Muslims commonly view mental illness as essentially having religious causes (e.g., Inayat, 2005) and remedies (e.g., Khan et al., 2009). Thus, Islam is central to its followers' psychological wellbeing. Indeed, the literature shows that Muslims commonly use religious coping strategies, such as fasting, praying, and alms giving during times of distress (e.g., Ai, Tice, Huang, Ishisaka, 2005; Ali et al., 2004; El Azayem & Hedayat-Diba, 1994). However, our understanding regarding the influence of Islam on its followers' adjustment to psychological distress, especially PTSD, remains underdeveloped (e.g., Abu-Raiya & Pargament, 2014; Erickson & Al-Timimi, 2001).

1.10 Rationale for the Current study

Contemporary models of PTSD view trauma-related appraisals as key to the onset, maintenance and treatment of this condition (e.g., Ehlers & Clark, 2000; Jobson, 2009). A substantial body of empirical work supports the assertions made by these theories (e.g., Kleim et al., 2013; Vogt et al., 2012). Nevertheless, most of this research has studied individuals from Western industrialised countries (Foa et al., 2009). Hence, while epidemiological studies show that PTSD is also prevalent in non-Western societies (e.g., Farhood et al., 2006), research on the maintenance and treatment of this condition in non-Western populations remains scarce. Perhaps a first step towards addressing this gap is to investigate the presence of trauma-related appraisals and their potential impact on posttraumatic adjustment in trauma survivors from other cultural backgrounds, such as those from Islamic societies.

Closely linked to appraisals is religion. It has been found to inform people's core schema and the manner in which they make sense of life experiences (for comprehensive reviews see Pargament, 1997; Spilka, Hood, Hunsberger, &

Gorsuch, 2003). Increasing evidence has emerged in the last two decades showing that religious people often use religious beliefs and practices to cope with psychological distress (Braam et al., 2010). Again, despite the presence of over two million Muslims in the UK, Abu-Raiya and Pargament (2014) noted that most of this research has focussed on Christianity and Western populations. Nevertheless, the available literature, although limited, suggests that Islam influences its followers' appraisals and posttraumatic coping (e.g., Aflakesir & Coleman, 2009; Banning et al., 2009).

The influence of social, cultural, and religious beliefs and values on PTSD has received limited theoretical and empirical attention (Jobson, 2009; Maercker & Horn, 2013). Further, recent cross-cultural studies indicate that cultural variations in self-construal have a considerable influence on people's appraisals (e.g., Conway & Jobson, 2012; Engelbrecht & Jobson, 2014). Considering that appraisals form a core component in PTSD and as Islam appears to have a significant impact on Muslims' worldviews, it follows that research on this area is essential. Improved understanding of how Islamic appraisals influence posttraumatic cognitions may help clinicians better identify PTSD symptoms in a population that is typically reluctant to seek psychological therapies due to cultural taboos (Norris & Aroian, 2008). Additionally, such understanding could underscore the importance of delivering more culturally sensitive therapies to a growing Muslim population in the UK. This is important because many Muslims in this country originate from regions characterised by political instability and armed struggles. Accordingly, Muslim immigrants in the UK are likely to have experienced pre-migration trauma, possibly exacerbated by post-migration factors, thus resulting in an increased

vulnerability to trauma-type reactions (UNHCR, 2013).

Islamic cultures are typically collectivistic in nature, suggesting that alienation appraisals may be prevalent in many Muslim trauma survivors' posttraumatic cognitions (Jobson, 2009). Moreover, empirical research indicates that lack of perceived social support is a significant predictor of symptom persistence in PTSD (e.g., Brewin et al., 2000). Hence, in addition to studying the impact of religion on Muslims' trauma-related appraisals, it also becomes important to study the impact of social support on their post-trauma adjustment. This is essential because immigration is often associated with a loss of social support networks (e.g., Teodorescu et al., 2012).

1.11 Research Hypotheses

The overall aim of this research was to better understand the role of religion and social support in Muslim trauma survivors' psychological adjustment. Specifically, based on Pargament's (1997) religious coping theory, this study aimed to understand how Islam influences the way Muslim adults make sense of, interpret, and cope with past traumatic experiences. Second, linking religious coping theory with Ehlers and Clark's (2000) cognitive model of PTSD, this study aimed to investigate whether negative posttraumatic appraisals, Islamic appraisals, religious coping, and perceived social support correlate with, and predict, PTSD symptoms in a community sample.

In order to address these aims and based on the existing literature, the following three specific hypotheses were generated:

1: Participants' negative religious coping style and negative Islamic appraisals would correlate positively with their PTSD symptoms.

This was hypothesised because negative religious coping and negative Islamic appraisals have been found to be associated with poorer psychological outcomes in a wide range of populations, including war veterans (e.g., Aflaksier & Coleman, 2009); breast cancer patients (e.g., Hebert et al., 2009); people with depression (e.g., Braam et al., 2010); and earthquake survivors (e.g., Feder et al., 2012).

2: There would be a negative correlation between participants' level of perceived social support and their PTSD symptoms.

This is hypothesised because appraisals of alienation and social rejection are associated with poorer psychological wellbeing in people from collectivistic cultures (Jobson & O'Kearney's, 2009; Sato, 2001).

3: In addition to posttraumatic cognitive appraisals, negative religious coping, negative Islamic appraisals, and low levels of perceived social support would predict PTSD symptoms in this population.

2. Method

2.1 Overview

This chapter describes the study design, participant information, and an outline of the recruitment procedure. A detailed description of the measures and the translation process is then provided. Finally, ethical considerations are discussed and the plan for statistical analysis is outlined.

2.2 Design

The study used a cross-sectional correlational design to investigate the relationships between the variables under investigation (i.e. PTSD symptoms, negative religious coping, perceived social support, negative Islamic appraisals, and negative posttraumatic cognitions).

2.3 Participants

Participants were recruited from the general community. Inclusion criteria were self-identification as an Arabic-speaking Muslim, aged 18 and above, with at least one previous experience of trauma, and born in an Arab Middle Eastern state. The 'Middle East' has been defined as the geographical territory, which incorporates South-Western and Central Asia, and parts of the Caucasus, North Africa, and Southern Europe (Neria et al., 2010). This study, however, recruited only Arabic-speaking Muslims from the Arab states of this region. Thus, a narrower definition of the 'Middle East' was used to include Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syria, the United Arab Emirates, and Yemen. This definition was adopted in attempt to reduce the heterogeneity of the sample given the significant variety of

cultures, political systems, ethnicities, and religious beliefs within this larger region. In an effort to reduce sample heterogeneity in terms of cultural differences, Arabic-speaking Muslims from non-Arab states in the Middle East, such as Pakistan and Iran, were excluded. Exclusion criteria were also self-identification as non-Muslim, under 18 years of age, not born in the Middle East, unable to read Arabic, and with no previous experience of trauma. 'Trauma' was defined as participants having experienced an event that would meet PTSD Criterion A in the DSM-IV-TR (i.e. military combat, violent personal assault, being kidnapped, being taken hostage, terrorist attack, torture, disaster, severe car accident, or being diagnosed with a life-threatening illness) (APA, 2000, p. 463-464). Thus, only those who reported at least one trauma event on the Posttraumatic Diagnostic Scale (PDS; Foa, Cashman, Jaycox, & Perry, 1997) were eligible to participate in the study.

2.3.1 Sample size. Based on previous studies investigating risk factors involved in PTSD, an effect size of $r = .25$ was estimated for Hypothesis 1 (Aflakseir & Coleman, 2009) and $r = .40$ for Hypothesis 2 (Brewin et al., 2000). For Hypothesis 3, a medium effect size was assumed because of the absence of research on the relationship between the Posttraumatic Cognitions Inventory (PTCI; Foa et al., 1999) and PTSD symptoms in the studied population. Based on these effect size estimates and the least powerful test among the planned analyses, a priori power calculations were carried out for the research questions using G*Power 3 (Faul, Erdfelder, Lang & Buchner, 2007). For a multiple linear regression test (R^2 deviation from zero), with a medium effect size of $f^2 = .15$, an

error probability (α) of .05, power of 0.80, and four predictor variables, a total sample size of 85 participants was required.

2.4 Recruitment Procedure

Participants were recruited between April 2014 and November 2014 from local community groups such as mosques, Arab social and support organisations, and language course centres. Community leaders were contacted in the first instance by the researcher who explained the rationale and aim of the project, and requested permission to disseminate information about the study to their members. Those who provided permission advertised the study by circulating copies of the participant information sheet and the questionnaire booklet among their members.

Interested respondents were encouraged to contact the researcher via email for further information. Those who were interested in participating arranged a meeting with the researcher in order to participate in the study. As shown in Figure 2, a total of 107 potential participants were approached and 88 individuals agreed to participate (82% response rate). Participants indicated whether they would rather meet the researcher individually (n = 57; 65% of participants selected this option) or in a small group of 2-5 members (n = 31; 35% of participants selected this option). Groups were formed because those recruited from community centres, such as language classes, typically chose to complete the questionnaires alongside other participants from the same source. Participants were allowed to participate in groups only when everyone else chose the same option. Meetings took place during normal working hours in the respondents' homes or in public places (e.g., quiet library rooms, rooms in the community centres, university rooms, etc.). The researcher's presence in the room during the participants' completion of the

questionnaire booklet was determined by each participant's preference. Those participants who chose to complete the questionnaire in private (*n* = 38; 43 %) were informed that the researcher would wait outside the room to answer any questions they might have during their participation. Upon completing the questionnaire booklet each participant received a debriefing sheet and £10 for their time.

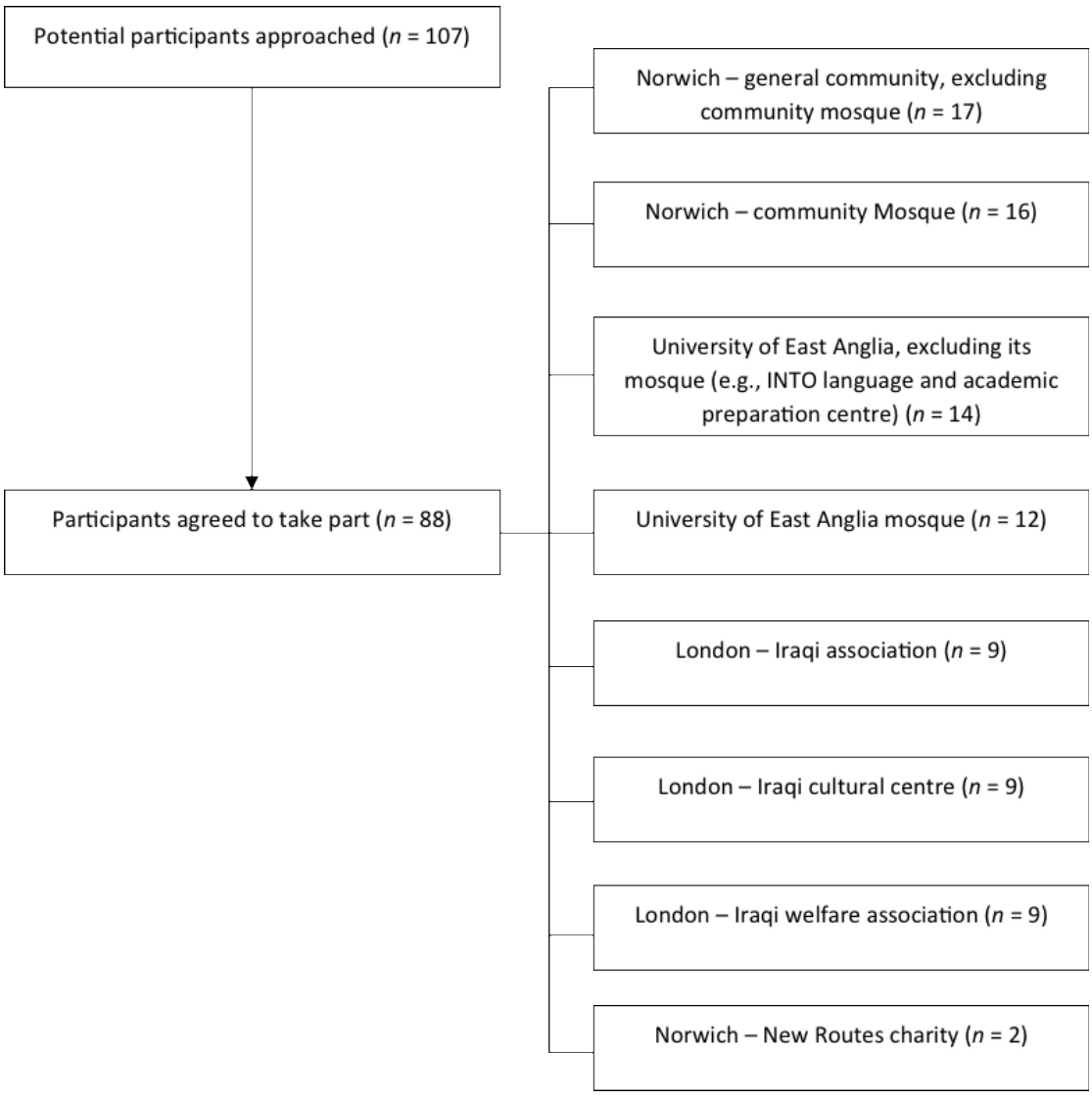

Figure 2. Flow diagram of participant recruitment.

2.5 Measures

2.5.1 Translation. As noted by Cote (2009), the Arabic language can be divided into three different categories: 1) classical Arabic, which is used in the

Quran; 2) modern standard Arabic, commonly referred to as 'formal' Arabic and used in writing, education, and administration; and 3) numerous colloquial or spoken dialects that are used in day-to-day conversations and vary both across and within states. In order to make the study accessible to people from different Arab states who might speak different dialects, the measures and all other study materials were translated into modern standard Arabic, which is consistent with mainstream education in the Middle East.

The measures, collated in a questionnaire booklet (see Appendix A), were translated into Arabic (see Appendix K) using the back-translation method described by Brislin, Lonner, and Thorndike (1973) and recommended by experts on cross-cultural research (e.g., Brislin, 1970; Champman & Carter, 1979). First, the original English instruments were forward-translated into Arabic by two Arabic native speakers who were fluent in English. Second, the Arabic version was back-translated into English by a third independent translator who was fluent in both Arabic and English. This translator was blind to the original English instruments. Third, the researcher who is fluent in both Arabic and English and the research supervisor who is a native speaker of the English language, checked the English and Arabic versions in order to identify and resolve any ambiguities. Fourth, a draft questionnaire booklet was piloted on a convenience sample ($N = 5$) representative of the studied population in order to assess ease of comprehension and to identify any other ambiguities. Lastly, feedback was incorporated into the final

questionnaire booklet. The feedback resulted in minor grammatical changes[1].

Figure 3 shows the translation process described above.

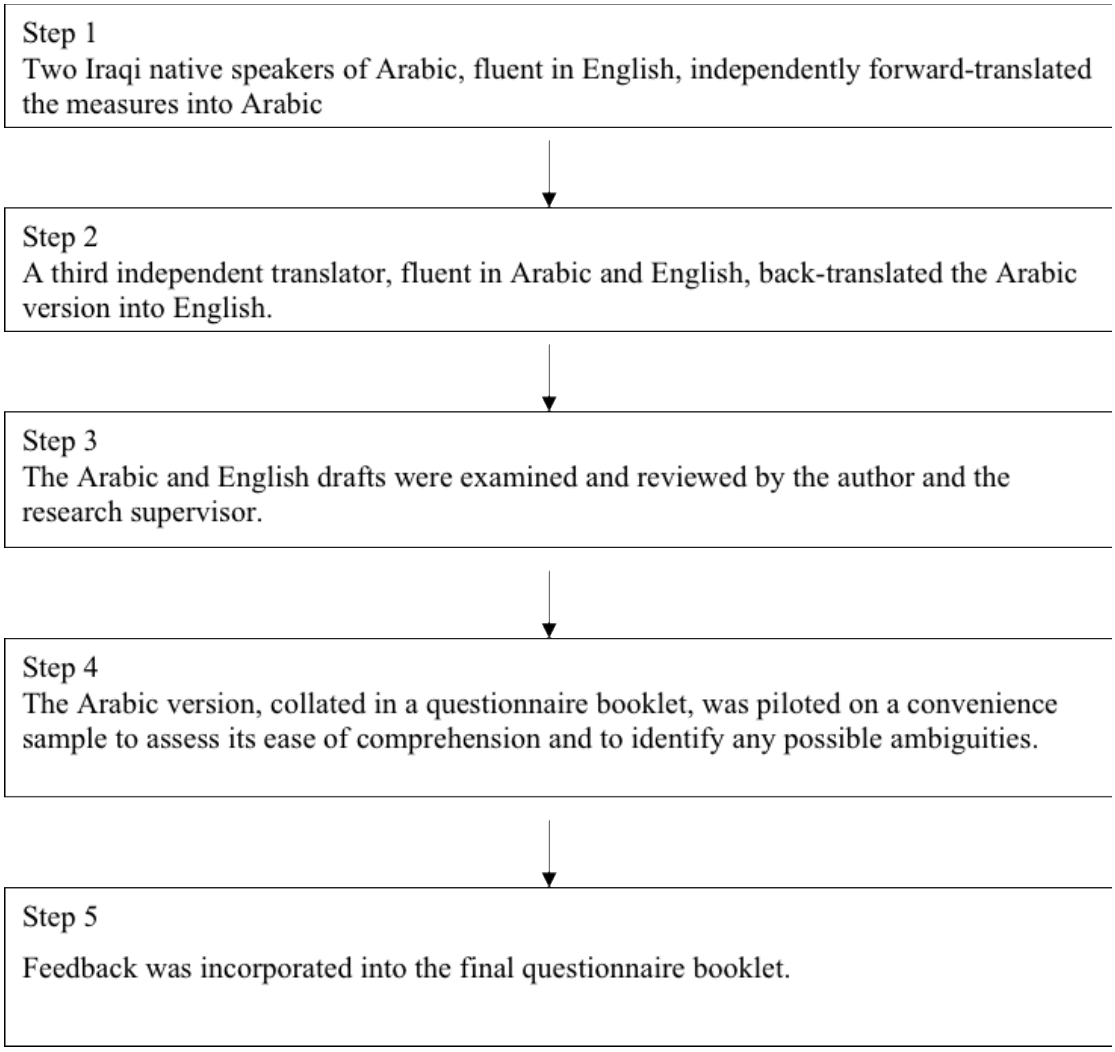

Figure 3. Back-translation procedure of the included measures

2.5.2 Measures of coping and appraisals

2.5.2.1 Brief Religious Coping Scale (Brief RCOPE; Pargament et al., 1998).

The Brief RCOPE, based on Judeo-Christian tenets, is a 14-item self-report measure that assessed ways in which people use religion to cope with life

[1] Item 14 of the Posttraumatic Diagnostic Scale (PDS) and items 10 and 13 of the Marlowe-Crowne Social Desirability Scale (SDS) had minor grammatical changes. Two additional changes were made to Items 15 and 39 of the PDS; in these items, the word 'one' was replaced with 'month' to make the sentences clearer.

adversities. All items were rated on 4-point scales (1 = "not at all" to 4 = "a great deal"). The measure is divided into two subscales: positive and negative religious coping. The 7-item positive religious coping subscale (PRC) taps into a sense of connectedness and a secure relationship with God. The 7-item negative religious coping subscale (NRC) measures a sense of religious tension, feeling punished by God, and other negative reappraisals of God's perceived powers. The Brief RCOPE is the most commonly used measure of religious coping. Although restricted to a largely Western, Christian population, the PRC and NRC have demonstrated good internal consistency. A median alpha of 0.81 is reported for the NRC (ranging from 0.60 to 0.90) and a median alpha of 0.92 is reported for the PRC (ranging from 0.67 to 0.94) (Pargament, Feuille, & Burdzy, 2011). Khan and Watson (2006) translated the brief RCOPE into Urdu and used it with Pakistani Muslim university students. They reported an alpha of 0.75 for PRC and 0.60 for NRC. Part of the scale has also been used with Arabic-speaking Muslims (Braam et al., 2010). Despite lacking test-retest reliability data, the Brief RCOPE "does what it was intended to do: assess religious methods of coping in an efficient, psychometrically sound, and theoretically meaningful manner" (Pargament et al., 2011, p. 73).

2.5.2.2 Islamic Appraisals Questionnaire (IAQ). The IAQ is a measure of Islamic-specific appraisals that was developed by the researcher. In part, material for the specific items was gathered from the researcher's personal experience of the Middle Eastern culture and knowledge of Islam. Primarily, however, the items in this measure were based on themes derived from the findings of the qualitative studies that have previously been conducted with Muslims trauma survivors (see section 1.8). The extracted themes suggest that Muslims typically attribute the cause of events to God's will and interpret it as a test of their faith and patience.

Similarly, Muslims may also perceive an event as God's punishment for their lack of faith. These themes were then formulated into statements and, during the piloting of the questionnaire booklet (see section 2.5.1), administered to a convenience sample (N = 5) representative of the target population. The feedback suggested that no changes were required as the respondents reported that the questions were readily understood and appropriate.

Religious coping is a multidimensional construct and religious appraisals forms part of it (e.g., Thune-Boyle et al., 2006; Tix & Fraser, 1998). Hence, there was a natural overlap between the IAQ and the Brief RCOPE. In contrast to the latter, however, the IAQ focused on measuring participants' religious appraisals. Thus, while the Brief RCOPE measured a range of religious coping methods, including spiritual support, forgiveness, as well as religious appraisals, the IAQ focussed primarily on participants' religious beliefs concerning the cause and meaning of the event. Given the centrality of appraisals to this research, an explicit measure of religious appraisals was deemed an important addition to the Brief RCOPE. Moreover, the Brief RCOPE was based on Judeo-Christian tenets and cognitive appraisals are thought to play a pivotal role in the onset and maintenance of PTSD (e.g., Ehlers & Clark, 2000).

The IAQ firstly had two single-item indices of religious commitment (i.e., "how religious do you consider yourself to be?") and importance (i.e., "how important is Islam in your life"). This was followed by 11 statements exploring participants' appraisals of the cause and meaning of a traumatic event and its aftermath. Participants rated these statements on 7-point scales (1 = "totally disagree" to 7 = "totally agree"). In the current study participants were instructed to respond to the questions on the IAQ in relation to the trauma event specified on the

PDS. Like the Brief RCOPE, the scale was divided into positive Islamic appraisals, including items 1, 5, 7, 9, and 10 (PIAQ), and negative Islamic appraisals, including items 2, 3, 4, 6, 8, and 11 (NIAQ). Examples of the PIAQ include: "the event could not have been prevented. It was God's decree" and "the event was a test of my faith by God." Examples of the NIAQ include: "I sometimes feel angry with God for letting this happen to me" and "God punished me for my lack of faith."

2.5.2.3 The Posttraumatic Cognitions Inventory (PTCI; Foa et al., 1999). The PTCI is a 33-item self-report scale that measures three dimensions of negative cognitive trauma-related appraisals characteristic of people with PTSD: negative self, negative world, and self-blame. All items are rated on 7-point scales (1 = "totally disagree" to 7 = "totally agree"). The PTCI has been shown to be a valid and reliable measure that discriminates between trauma survivors with and without PTSD. It has been found to have good internal consistency (Cronbach's alpha = 0.97) and test-retest reliability (r_s = .74) (Foa et al., 1999). The PTCI has also been used in cross-cultural research (Gülec, Kalafat, Boysan, & Barut, 2013; Engelbrecht, & Jobson, 2014; Su, & Chen, 2008).

2.5.3 Measure of perceived social support: the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988). The MSPSS is a 12-item self-report measure of the sufficiency of perceived social support from three sources: family, friends and significant others. All items are rated on 7-point scales (1 = "very strongly disagree" to 7 = "very strongly agree"). The three-factor structure of the MSPSS is supported by extensive psychometric studies conducted with a variety of Muslim populations (e.g., Dirik & Karanci,

2010; Jibeen & Khalid, 2010). Specifically, Eker and Arkar (1995) reported that the MSPSS was a reliable and valid measure of perceived social support among a Turkish Muslim population. They reported an internal reliability Cronbah's alpha of 0.87. Similarly, Aroian, Templin, and Ramaswamy (2010) adapted the MSPSS for use with Arab immigrant women in the US and concluded that the measure was a reliable and valid tool (α= 0.74, *M*= 5.51, *SD*= 1.10). The measures' test-retest reliability over a 2- to 3-month period provided correlations ranging between .72 and .85 (Zimet et al., 1988).

2.5.4 Measures of symptomatology

2.5.4.1 PTSD Symptoms: the Posttraumatic Diagnostic Scale (PDS; Foa et al., 1997). The PDS is one of the most commonly used self-report measures of PTSD (Elhai, Gray, Kashdan, & Franklin, 2005) and can be used to identify the presence and severity of PTSD symptoms[2]. It is divided into four subsections. Section I lists a range of traumatic events and asks respondents to indicate whether they have experienced or witnessed any of these events. Section II asks respondents to indicate which event has bothered them most in the past month and to briefly describe the event. Section III asks respondents to rate the frequency of each of the 17 PTSD symptoms' occurrence in the last month. These are rated on a 4-point scale (0 = "not at all or only one time" to 3 = "3 or more times a week/almost always"). The final part assesses the extent to which the symptoms have impaired the respondents' functioning. The PDS' reliability is supported by a Cronbach's

[2] Participants met the PTSD diagnostic criteria if they reported the following on the PDS: experiencing, witnessing or being confronted with an event or events that involved either injury or life threat; feeling helpless or terrified during the event; symptom duration of at least on month; impairment in at least one area of functioning; endorsement of at least one reexperiencing symptom, a minimum of three avoidance symptoms, and at least two hyperarousal symptoms. Using a four-point rating scale, symptom severity score ranged from 0 to 51. The cut offs for symptom severity rating were: 1-10 = mild; 11-20 = moderate; 21-35 = moderate to severe; and > 36 = severe.

alpha of 0.92 and it has a test-retest reliability coefficient of 0.83. Similarly, its validity is supported by strong correlations between the PDS and measures of depression and anxiety (r = 0.73-0.79; Foa et al., 1997). The PDS has been used in research using Muslim populations (e.g. Jobson et al., in press). Translating and using the PDS with Arab immigrant women in the USA, Norris and Aroian (2008) reported similar psychometric data (α= 0.93). The PDS also has good convergent validity with the Structured Clinical Interview for the DSM-IV (First, Spitzer, Gibbon, & Williams, 1996) (Foa, Riggs, Dancu, & Rothbaum, 1993).

2.5.4.2 Depression symptoms: Hopkins Symptom Checklist (HSCL-25; Derogatis, Lipman, Rickels, & Cori, 1974). Given the high levels of comorbidity between PTSD and depression, the HSCL-25 depression subscale was used to assess levels of depression symptoms in participants. This sub-scale is a 15-item self-report measure and all items are rated on a 4-point scale (1 = "not at all" to 4 = "extremely"). Its validity and reliability is supported by cross-cultural studies (Mollica, Wyshak, de Marneffe, Khuon, & Lavelle, 1987). The depression sub-scale has been consistently shown in several populations to be correlated with major depression as defined by the DSM-IV-TR (APA, 2000) and is reported to have high internal consistency (α = 0.84 – 0.87), high test-retest reliability (r = 0.75 – 0.84), and sufficient inter-rater reliability (r = 0.64 – 0.80; Derogatis et al., 1974). Using the HSCL-25 with Arabs in Iraq, Wagner, Schulz, and Knaevelsurd (2012) reported a reliability Cronbach's alpha of 0.89 for the depression subscale.

2.5.5 Measure of Social Desirability: the Social Desirability Scale (Reynolds, 1982). Muslims generally believe that expressing religious doubt or struggle is considered offensive to God (Amer et al., 2008). Thus, Muslims might

be motivated to depict Islam in a positive light (Abu-Raiya & Pargament, 2011). Similarly, many people from the Middle East find it difficult to admit to, or seek help for, mental health problems (Norris & Aroian, 2008). Therefore, it was considered important to measure the respondents' tendency to reply in a manner that would be viewed positively by their peers and consistent with social norms and expectations (i.e. social desirability). Indeed, socially desirable responding bias is particularly likely to occur in response to socially sensitive queries (King & Bruner, 2000) and may compromise the validity of research findings (e.g., van de Mortel, 2008; King & Bruner, 2000). The SDS contains 13 true-false items and is one of the most widely used self-report measures of social desirability bias. Reynolds (1982) reported good reliability (*r* KR-20 = 0.76) and concurrent validity properties with the original scale consisting of 33 items (*r* = .93).

2.5.6 Demographics. A demographic information form asked participants to report their age, gender, country of origin, religious doctrine, level of education, length of stay in the UK, and whether they had received a PTSD diagnosis.

2.6 Ethical Considerations

2.6.1 Ethical approval. Ethical approval was sought from and granted by the University of East Anglia (UEA) Faculty of Medicine and Health Sciences Research Ethics Committee (see Appendix B). People who responded to the study advertisement received a participant information sheet (see Appendix C). The information sheet provided details about the study, inclusion criteria, the voluntary nature of the study and consent, participation procedure, confidentiality issues, potential benefits and harms of participating in the study, procedures for data

storage and disposal, support for distress, complaint procedure, and the offer to receive information about the study findings.

2.6.2 Informed consent. In order to participate, respondents had to contact the researcher directly by email, which was available on the information sheet. Potential participants had the opportunity to ask further questions via email and during the participation meeting. Additionally, prior to completing the questionnaire booklet, participants were asked to complete a consent form (Appendix D), which was placed in envelopes separate from the questionnaire booklets. It was made explicit that no personally identifiable information was required on the questionnaire booklets.

2.6.3 Confidentiality. Potential participants were informed that participation was voluntary and independent from their communities. They were informed that they had the right to withdraw from the study at any time during the study without giving a reason. They also had the right to keep their questionnaires if they decided to withdraw. Each participant was given two envelopes together with the questionnaire booklet and the consent form. They were asked to put each form in a separate envelope and seal it before returning them to the researcher in person. Participants were asked not to write their names on the questionnaires and they were informed that their responses would only be examined alongside other participants' questionnaires (i.e., not individually). To ensure that the researcher was still able to identify which questionnaire booklet belonged to which person, each participant's questionnaire booklet was allocated a unique identification number, which corresponded to their consent form. This system was in place to provide support, through appropriate agencies, to those who could potentially

report being harmed or threatening to harm others. This procedure was however not necessary to implement during the study because none of the participants reported such concerns.

2.6.4 Managing risk and distress. Participants were asked to answer potentially distressing questions about past traumatic experiences. Possible risk of harm and distress was reduced and responded to in the following manner. First, community leaders and potential participants were informed at the outset that the study asked about distressing events, such as past trauma. Second, it was made explicit that participants had the right to discontinue their participation, withhold their completed questionnaires, and that they were not obliged to answer any question they found distressing. Third, the researcher's and research supervisor's contact details were provided on the information sheet for participants who wished to discuss the study in further detail, or in the case of experiencing any distress. Finally, written information about local counselling services and external support organisations were provided (Appendix E).

2.6.5 Coercion. Potentially**,** participants may have felt obliged to participate in the study considering that their community leaders advertised the study. In attempt to minimise this, it was made clear to the community leaders that their role was simply to inform interested community members about the study. Furthermore, given that some participants preferred to complete the questionnaires in groups, these participants may have felt coerced by peer pressure to answer certain questions despite not wishing to do so. Participants were therefore informed that the study was entirely voluntary, independent from the community and any other

public services, and that their responses would not be fed back to the community, their countries of origin, or any public agencies (e.g., immigration offices).

2.6.6 Data storage. Returned questionnaires were managed in accordance with the Data Protection Act (1998). During the study time, raw scores that were entered into the researcher's computer were password protected and contained no personally identifiable information. The completed questionnaire booklets were kept in a locked filing cabinet. The consent forms were stored separately from the completed questionnaire booklets. The electronic and paper data were only accessible by the researcher and research supervisors. At the end of the study, a password-protected file containing the study data was saved on a portable memory device to be kept securely at the UEA for 10 years.

2.7 Procedure

Each participant was given an empty envelope alongside another envelope containing all the study material. This contained a participant information sheet, a consent form, the questionnaire booklet, a debriefing sheet (Appendix F), and an information sheet listing local support organisations (all study material were presented in Arabic). Participants were asked to read the participant information sheet before signing the consent form, which was then placed in one of the two envelopes. Next, they were asked to complete the questionnaire booklet, which administered the measures in the following order: PDS, Brief RCOPE, IAQ, MSPSS, HSCL-25, SDS, and demographics information. Upon completion, each participant was asked to read and keep the debriefing sheet and the information sheet on local support organisations. Finally, they were asked to put their completed questionnaire booklets in the second envelope and seal it. The two

envelopes containing the consent form and the questionnaire booklet were then returned to the researcher in person. Participants were debriefed and given £10 to compensate them for their time and travel.

2.8 Plan for Data Analysis

The data were analysed using the Statistical Package for Social Sciences (SPSS Inc., Chicago, Illinois, USA) for MAC (Version 22). Descriptive statistics such as means and standard deviations as well as normality assessment of the data were initially carried out using SPSS. In this study, there was one criterion variable, namely, PTSD symptoms as measured by the PDS. There were four predictor variables; negative religious coping as measured by the NRC; perceived social support as measured by the MSPSS; Negative Islamic religious appraisals as measured by the NIAQ; and posttraumatic cognitions as measured by the PTCI.

For Hypothesis 1, bivariate correlation analysis was used to test the relationship between negative religious coping and appraisals (i.e., NRC and NIAQ) and PTSD symptoms (PDS). For Hypothesis 2, bivariate correlation analysis was used to test the relationship between social support (MSPSS) and PTSD symptoms (PDS). For Hypothesis 3, a standard multiple regression was used to assess the four predictor variables' strength in predicting PTSD symptoms.

3. Results

3.1 Overview

This chapter begins with an outline of participant characteristics followed by a description of the data screening process, including assessments of statistical assumptions. Following this, the analyses associated with each research hypothesis will be presented. Three exploratory analyses will then be reported. Finally, the chapter concludes with a summary of the main findings.

3.2 Participant Characteristics

Of the 88 participants included in this study, 56 were male (64%) and 32 were female (36%). Participants' age ranged between 18 and 65 years (M = 36.75; SD = 11.85). Participants reported that they were from Iraq (n = 45; 51%), Saudi Arabia (n = 13; 15%), Algeria (n = 7; 8%), Egypt (n = 7; 8%), Oman (n = 4; 5%), Jordan (n = 3; 3%), Syria (n = 3; 3%), Palestine (n = 3; 3%), Sudan (n = 2; 2%), and the United Arab Emirates (n = 1; 1%). On average, participants reported 16 years of education (SD = 4.93; range 0 – 30 years). Length of stay in the UK ranged from 0 to 35 years (M = 6.28 years, SD = 6.71 years). As for religious doctrine, 64 participants (73%) described themselves as Sunni, 13 as Shia (15%), two as Ibadi (2%), and the remaining nine participants did not answer the question (10%). As measured by the Islamic Appraisals Questionnaire, the mean score for religious commitment was 4.65 (SD = 1.43; range 1 – 7) and the mean score for perceived religious importance was 6.23 (SD = 1.54; range 1 – 7).

In terms of trauma exposure, 65 participants (74%) reported experiencing 1-2 traumatic events, 22 participants (25%) reported between 3-7 traumatic events and one participant (1%) reported 12 traumatic events. The most common form of

trauma was accidents (n = 47; 53%), followed by war trauma (n = 43; 49%) and non-sexual assault by strangers (n = 23; 26%). Regarding PTSD symptomatology, 12 participants were in the mild-moderate range (36%), 20 were in the moderate-severe range (61%) and one participant was in the severe range (3%). Thirty-three participants (38%) met the DSM-IV-TR diagnostic criteria for PTSD and 10 participants (11%) reported that they had previously been given a diagnosis of PTSD (68 participants (77%) reported that they had not previously been given a PTSD diagnosis and 10 participants (11) reported that they did not know). Finally, depression scores (M = 1.89, SD = 0.62, range 1 – 3) were found to be strongly and significantly associated with participants' PTSD symptoms, $r_S(88) = .55$, $p < .01$. Thus, consistent with previous research (e.g., Smith et al., 2006), depression symptoms were higher among those with more severe PTSD symptoms.

3.3 Data Screening Process

3.3.1 Identifying outliers. Boxplots were generated to detect outliers and unusual values were checked against the original questionnaire responses to rule out data entry mistakes. Although no extreme outliers were detected, the box plot identified one outlier on the criterion variable (PDS). Upon checking the participant's questionnaire, it was suspected that the participant had, potentially, not understood the questions correctly, perhaps because their first language was Kurdish. The participant had ticked every trauma box and achieved the maximum score on the PDS (51). The interquartile method (Rousseeuw & Croux, 1993), commonly used to detect outliers, showed that this value was more than one and a half times above the third quartile (45). This case was therefore removed, leaving a total of 87 cases on which all subsequent analyses were based.

3.3.2 Missing data. There were only two incidents of missing data (one participant did not answer the HSCL question on loss of sexual pleasure and one participant did not complete four items on the PTCI 'negative self' subscale). In order to retain the full sample and prevent loss of statistical power due to a reduced sample size, mean imputations were conducted for these missing values (Schafer & Graham, 2002).

3.3.3 Assumption testing. The main variables of interest were the PDS, NRC, NIAQ, PTCI, and the MSPSS. In order to assess the normality of their data distribution, each of these variables' histograms were visually inspected (see Appendix G). Additionally, the statistical significance of these variables' skewness and kurtosis values were assessed using their respective *z*-scores[3]. Skewness and kurtosis values for each of the predictor variables and their respective *z*-scores are presented in Table 2. Assessed by their *z*-scores and histograms, all the main measures used in the analyses had non-normal distributions, except the PDS and the PTCI, which had roughly normal distributions.

[3] The *z*-scores were calculated using the following equation where '*S*' represents skewness; '*K*' *kurtosis,* and '*SE*' standard error (Field, 2009): $Z_{skewness} = S/ SE_{skewness}$; $Z_{kurtosis} = K/ SE_{kurtosis}$. The conventional .05 alpha level for small to moderate sample sizes was used to examine the statistical significance of each of the main variables' skewness and kurtosis *z*-scores (Tabachnick & Fidell, 2013). Accordingly, absolute *z*-scores for either skewness or kurtosis larger than 1.96, which corresponds with $p < .05$, violated the null hypothesis and were interpreted as non-normal distributions.

Table 2

Z-scores for Skewness and Kurtosis for the Study's Main Variables

Variable	*M*	SD	Skewness	Skewness *z*-score	Kurtosis	Kurtosis *z*-score
PDS	13.39	9.97	.341	1.32	-.81	-1.58
NRC	10.30	3.43	1.28	4.94	1.39	2.72
NIAQ	15.06	7.06	.79	3.07	.44	.85
PTCI	8.94	2.68	.291	1.13	-.33	-.65
MSPSS	5.66	1.11	-1.00	-3.88	.30	.59

Note. PDS= Posttraumatic Diagnostic Scale; NRC= Negative Religious Coping; NIAQ= Negative Islamic Appraisals Questionnaire; PTCI= Posttraumatic Cognitions Inventory; MSPSS= Multidimensional Scale of Perceived Social Support.

In line with Tabachnick and Fidell's (2013) recommendations for non-normally distributed variables, statistical transformations were attempted on all of the variables with statistically significant skewness or kurtosis values (i.e., the NRC, NIAQ, MSPSS). For the NRC, logarithm and square-root transformations maintained a significant positive skew (*z*-scores 2.57 and 3.69 respectively). For the NIAQ, logarithm transformation rectified the significant positive skew (*z*-score = -.69, $p < .05$). In terms of the MSPSS, the variable was first reflected before applying the logarithm transformation. That is, a new variable was created by subtracting each original MSPSS score from the largest MSPSS score in the distribution plus 1 (i.e., 7+1). This converted the skewness from negative to positive, which in turn was corrected using logarithm transformation. This procedure substantially improved the skewness (*z*-score = .75, $p < .05$).

Although the statistical transformations corrected the skewness of the NIAQ and the MSPSS (see Appendix H), this manipulation did not have any significant impact on the outcome of subsequent correlational analyses involving these variables. Therefore, it was decided to retain their original values and, like the NRC, investigate their relationship with PTSD symptoms using nonparametric tests.

3.3.4 Internal consistency of the study measures. The internal consistencies of the measures were examined using Cronbach's alpha (α). As shown in Table 3, all the questionnaires exceeded the benchmark value of α = .70 (Field, 2009), with the exception of the NRC and the SDS. The NRC and SDS were found to have adequate internal consistency (e.g., Deković, Janssens, & Gerris, 1991; Holden, Fekken, & Cotton, 1991).

Table 3

Internal Consistency of Study Measures

Scale / Subscale	α	*M*	*SD*	Range
PDS	.89	13.39	9.97	0-37
PRC	.91	23.31	5.44	7-28
NRC	.68	10.30	3.43	7-22
PIAQ	.77	29.67	6.11	11-35
NIAQ	.72	15.06	7.06	6-36
PTCI - total	.92	8.94	2.68	4-14
Negative self	.94	1.90	.99	1-5
Negative world	.87	4.62	1.37	1-7
Self-blame	.77	2.42	1.37	1-6

Table 3

Cont.

Scale / Subscale	α	*M*	*SD*	Range
MSPSS - total	.91	5.66	1.11	3-7
Family	.86	6.17	1.13	2-7
Friends	.90	5.14	1.44	1-7
Significant others	.88	5.68	1.42	2-7
HSCL	.92	1.88	.62	1-3
SDS	.66	4.69	2.54	1-13

Note. PDS= Posttraumatic Diagnostic Scale; PRC= Positive Religious Coping; NRC= Negative Religious Coping; PIAQ= Positive Islamic Appraisals Questionnaire; NIAQ= Negative Islamic Appraisals Questionnaire; PTCI= Posttraumatic Cognitions Inventory; MSPSS= Multidimensional Scale of Perceived Social Support; HSCL= Hopkins Symptom Checklist; SDS= Marlow-Crowne Social Desirability Scale.

3.3.5 Exploring the relationship between socially desirable responding bias and the study variables. As this study investigated several issues that are considered socially and personally sensitive among the studied population (Amer et al., 2008; Norris & Aroian, 2008), it was deemed important to investigate the potential relationship between the participants' responses on the SDS and the main study variables. Given that the SDS data were not normally distributed (Skewness *z*-score = -2.24, $p > .05$), two-tailed nonparametric correlations were conducted between the SDS and the main study variables.

There were statistically significant relationships between the SDS and the PTCI, $r_s(87) = -.35$, $p = .001$, NRC, $r_s(87) = -.32$, $p = .003$, and the NIAQ, $r_s(87) = -.34$, $p = .001$. Thus, lower levels of socially desirable responding bias were associated with higher levels of reported posttraumatic cognitions, negative

religious coping, and negative Islamic appraisals. The relationships between SDS and PDS, $r_s(87) = -.13$, $p = .25$, and between SDS and MSPSS, $r_s(87) = .16$, $p = .15$, were non-significant. Given that social desirability response bias has been found to suppress, obscure, or create artificial relationships between variables (King & Bruner, 2000; van de Mortel, 2008), it was decided to control for the effects of SDS when testing the following study hypotheses.

3.3.6 Exploring potential impact of participation format on responding characteristics. Considering the sensitive nature of many questions in the questionnaire booklet, participation format (i.e., whether individually or in groups) could have potentially impacted on participants' responding. Thus, to examine whether the scores on the main study variables and the SDS were significantly different across categories of participation, independent samples *t*-test and, where normality assumptions were not met, Mann-Whitney *U* tests were conducted. There were no significant differences between individual ($n = 57$; 66%) and group ($n = 30$; 34%) participation formats in terms of reported PTSD symptoms, $t(85) = .92$, $p = .36$; posttraumatic cognitions, $t(85) = -.24$, $p = .81$; negative religious coping, $U = 1003.50$, $z = 1.35$, $p = .18$; negative Islamic appraisals, $U = 909.50$, $z = .49$, $p = .63$; perceived social support, $U = 788$, $z = -.60$, $p = .55$; and social desirability, $U = 950$, $z = .85$, $p = .39$.

3.3.7 Summary of data screening outcome. The data screening process showed that there were few incidents of missing data. However, one outlier was excluded leaving a total of 87 cases on which all subsequent analyses were conducted. Nonparametric data analyses were employed in all analyses except those including the PDS and the PTCI, which had roughly normal distributions. All

the measures achieved good internal consistency (α > .7), except the NRC and the SDS, which had adequate internal consistency (α > .65). *T*-tests and Mann Whitney *U* tests showed no statistically significant impact of participation format on participants' reporting characteristics. However, correlation analyses showed significant negative relationships between socially desirable responding bias (SDS) and participants' reporting of posttraumatic cognitions, negative religious coping, and negative Islamic appraisals. Therefore, in the following analyses SDS scores were controlled for.

3.4 Testing of Research Hypotheses

Scatter plots exploring the relationships between the study variables are presented in Appendix I.

3.4.1 Research Hypothesis 1: negative religious coping and negative Islamic appraisals would be positively correlated with PTSD symptoms.

One-tailed Spearman's rank-order correlation showed that PTSD symptoms were not significantly related to negative religious coping, $r_S(87) = .13$, $p = .12$. This relationship remained non-significant when it was subjected to a partial rank correlation, controlling for the effects of social desirability, $r_S(84) = .10$, $p = .19$. While negative Islamic appraisals and PTSD symptoms were found to be significantly correlated, $r_S(87) = .19$, $p = .04$, when the effects of social desirability were controlled for the correlation became non-significant, $r_S(84) = .16$, $p = .07$. Therefore, there was no support for Hypothesis 1.

3.4.2 Research Hypothesis 2: there would be a significant negative relationship between perceived social support and PTSD symptoms.

One-tailed

tailed Spearman's rank-order correlation showed there was no significant relationship between perceived social support and PTSD symptoms, $r_S(87) = -.15$, $p = .08$. This relationship remained non-significant when the effects of social desirability were held constant, $r_S(84) = -.14$, $p = .11$. Hence, this hypothesis was not supported.

3.4.3 Research Hypothesis 3: posttraumatic cognitions, negative religious coping, negative Islamic appraisals, and low levels of perceived social support would predict PTSD symptoms. As outlined above, PTSD symptoms were not significantly related to negative religious coping, negative Islamic appraisals, or perceived social support (see sections 3.4.1 and 3.4.2). Consequently, posttraumatic cognitions remained the only potential predictor of PTSD symptoms. A one-tailed Pearson product-moment correlation showed a significant positive relationship between posttraumatic cognitions and PTSD symptoms, $r(87) = .33$, $p = .001$. This was still found to be significant when the effects of socially desirable responding bias were controlled, $r(84) = .32$, $p = .001$. Thus, of the main study variables, only posttraumatic cognitions were significantly correlated with PTSD symptoms after controlling for the effects of social desirability.

In order to determine whether posttraumatic cognitions predict PTSD symptoms, a two-step linear regression, controlling for the effects of social desirability, was conducted. As shown in Appendix I, the scatterplot showed a linear relationship between the predictor and the outcome variable, thus meeting the assumption of linearity, which was supported by a lack of fit test, $F(80) = .45$, $p = .94$. The assumption of homoscedasticity was supported by a scatterplot of predicted z scores and residual z scores showing an even spread of residuals.

Similarly, a p–p histogram of the residuals showed that the errors were normally distributed (see Appendix J).

In the two-step linear regression model with PTSD symptoms as the outcome variable, the SDS was entered as the control variable in Step 1, and posttraumatic cognitions as the predictor variable in Step 2. The Step 1 model was not significant, $F(1,86) = .71$, $p = .40$. The Step 2 model, however, was significant, $F(2,86) = 5.09$, $p = .01$, and indicated that posttraumatic cognitions accounted for 10.80% of unique variance in PTSD symptoms (see Table 4). Accordingly, the third hypothesis was not fully supported since only posttraumatic cognitions were predictive of PTSD symptoms.

Table 4

Two-step Linear Regression Examining the Relationship between PTSD Symptoms and Posttraumatic Cognitions, Controlling for the Effects of Social Desirability Bias

		R^2	*B*	*SE*	β
Step 1		.01			
	Constant		16.36	3.68	
	Social Desirability		-.36	.42	-.09
Step 2		.11*			
	Constant		2.51	5.72	
	Social Desirability		-.01	.42	-.00
	Posttraumatic Cognitions		1.22	.40	.33*

Note. * Model is significant at the .01 level.

3.4.4 Summary of hypotheses testing. Correlation analyses, controlling for the effects of social desirability bias, showed no significant associations between PTSD symptoms and negative religious coping, negative Islamic appraisals, or perceived social support. Thus, Hypotheses 1 and 2 were not supported. In terms of Hypothesis 3, posttraumatic cognitions were significantly associated with, and predictive of, PTSD symptoms. Accordingly, Hypothesis 3 was partially supported.

3.5 Exploratory Analyses

3.5.1 Do positive religious coping and positive Islamic appraisals correlate with symptoms of PTSD and depression? The literature suggests that positive religious coping is associated with psychological wellbeing (e.g., Abu-Raiya & Pargament, 2014, Ano & Vasconcelles, 2005). Therefore, it was decided to also explore whether positive religious coping (PRC) and positive Islamic appraisals (PIAQ) would correlate with lower levels of PTSD symptoms (PDS) and depression (HSCL). Contrary to previous findings, two-tailed Spearman's correlation coefficients showed that the PRC and PIAQ did not correlate significantly with the PDS or the HSCL (see table 5).

Table 5

Spearman's Correlation Coefficients between Symptoms of PTSD, Depression, Positive Religious Coping, and Positive Islamic Appraisals

	PRC	PIAQ
PDS	-.03	-.19
HSCL	-.05	-.13

Note. PDS= Posttraumatic Diagnostic Scale; HSCL: Hopkins Symptom Checklist; PRC= Positive Religious Coping; PIAQ= Positive Islamic Appraisals Questionnaire.

3.5.2 Are there indirect effects of negative religious coping and negative Islamic appraisals on PTSD symptoms? Significant correlations were found between negative religious coping and posttraumatic cognitions, $r_S(87) = .36$, $p < .01$ (two-tailed), and between negative Islamic appraisals and posttraumatic cognitions, $r_S(87) = .46$, $p < .01$ (two-tailed). These relationships remained significant above and beyond the effects of socially desirable responding bias ($r_S(84) = .28$, $p < .01$ and $r_S(84) = .38$, $p < .01$, respectively). Given, these findings, a second exploratory aim was to examine the potential indirect effects of negative religious coping and negative Islamic appraisals, via posttraumatic cognitions, on PTSD symptoms. Although there is no literature indicating such an indirect pathway, PTSD is a complex phenomenon and its aetiology remains poorly understood in this population (Figueira et al., 2007; Foa et al., 2009). Moreover, there is substantial research indicating that people's social and cultural beliefs and values influence their appraisals of life events, which in turn influence their psychological wellbeing (e.g., Conway & Jobson, 2012; Engelbrecht & Jobson, 2014; Mesquita & Walker, 2003). The second exploratory analyses, therefore, was to investigate whether posttraumatic cognitions mediated any relationship a) between negative religious coping and PTSD symptoms (Figure 3), and b) between negative Islamic appraisals and PTSD symptoms (Figure 4).

Traditionally, mediation analyses required the presence of a significant relationship between the predictor and the outcome variable (Baron & Kenny, 1989). As outlined above, this condition was not met in the current study (see section 3.4.1). However, researchers have recently argued that this precondition is not necessary because, given the complex nature of psychological constructs, a

predictor may have an indirect effect on the outcome via a mediator even when the total effect is not different from zero (e.g., Fritz & MacKinnon, 2007; Hayes, 2009, 2013). Thus, the indirect effects were explored using mediation analyses based on a non-parametric bootstrapping sample of 10,000, which is recommended for small samples (Hayes, 2013).

To investigate the models represented in Figures 4 and 5, mediation analyses were conducted using the PROCESS macro (Hayes, 2013) for SPSS, which was retrieved from http://www.processmacro.org/download.html. Expectedly, the analyses showed that the total effect of negative religious coping on PTSD symptoms was not significant (TE = .38, *SE* = .31, $p > .05$). The direct effect of negative religious coping on PTSD symptoms was also not significant (DE = .07, *SE* = .32, $p > .05$). However, the relationship between negative religious coping and PTSD symptoms was mediated by posttraumatic cognitions (*B* = .31, lower 95% CI = .07, upper 95% CI = .73). This finding is considered significant at $p < .05$ because the confidence interval does not contain zero (Preacher & Hayes, 2004; Shrout & Bolger, 2002). The indirect effect remained significant when the effects of socially desirable responding bias were controlled (*B* = .26, lower 95% CI = .04, upper 95% CI = .70). Accordingly, the relationship between negative religious coping and PTSD symptoms appears to be mediated by posttraumatic cognitions.

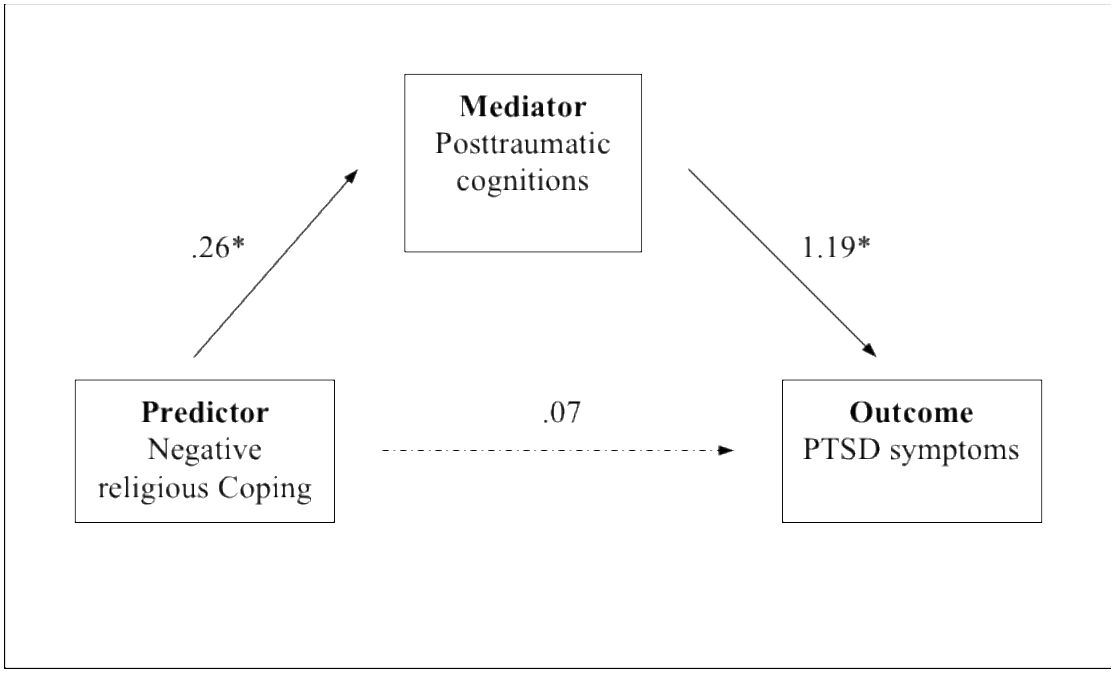

Figure 4. Diagram of proposed indirect effect of negative religious coping on PTSD symptoms.
Note. * $p < .01$.

Similar to the above findings, the total effect and direct effect of negative Islamic appraisals on PTSD symptoms were not significant (TE = .23, *SE* = .15, *p* = > .05; and DE = .05, *SE* = .16, *p* > .05, respectively). There was, however, a significant indirect effect of negative Islamic appraisals on PTSD symptoms via posttraumatic cognitions (*B* = .18, lower 95% CI = .04, upper 95% CI = .39). This indirect effect remained significant when the effects of social desirability were held constant (*B* = .15, lower 95% CI = .03, upper 95% CI = .37). This suggests that the relationship between negative Islamic appraisals and PTSD symptoms is mediated by posttraumatic cognitions.

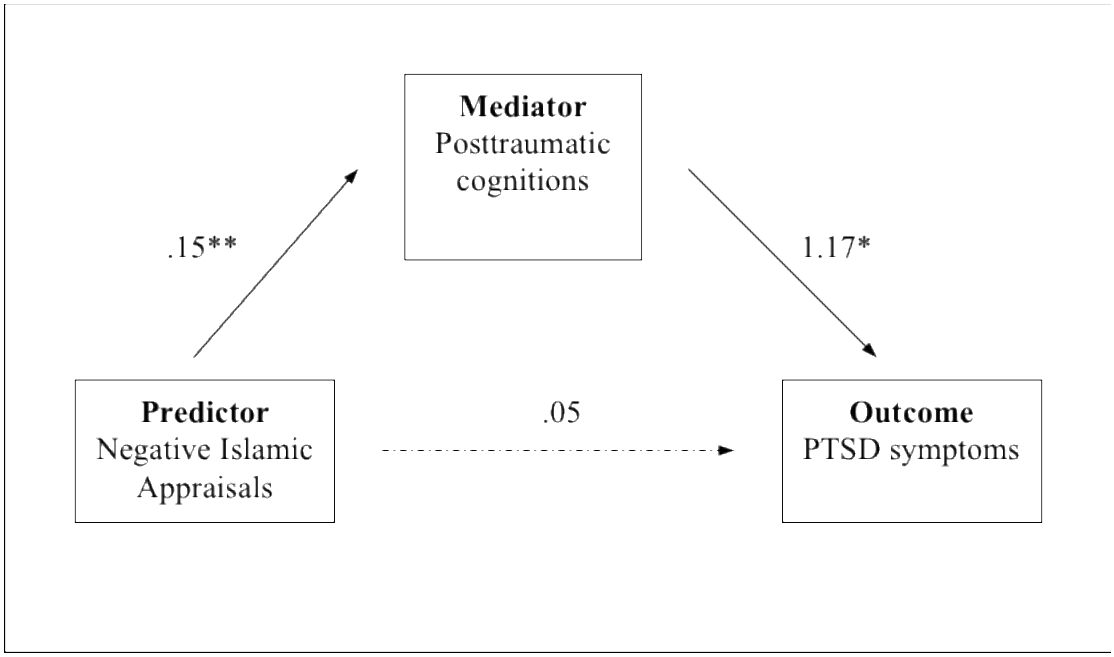

Figure 5. Diagram of proposed indirect effect of negative Islamic appraisals on PTSD symptoms.
Note. * $p < .01$. ** $p < .001$

3.5.3 Relationships between PTCI subscales, PTSD symptoms, negative religious coping, and negative Islamic appraisals. Given the centrality of posttraumatic cognitions to this research, it was also decided to examine the relationships between the three subscales of the PTCI (i.e., negative self, self-blame, negative world) and PTSD symptoms, negative religious coping and negative Islamic appraisals. Two-tailed nonparametric partial correlations, controlling for the effects of socially desirable responding bias, were conducted. As shown in Table 6, the negative self subscale correlated significantly with PTSD symptoms, negative religious coping, and negative Islamic appraisals; the self-blame sub scale correlated significantly with negative religious coping and negative Islamic appraisals; and the negative world subscale correlated significantly with PTSD symptoms.

Table 6

Partial Correlations between PTCI Subscales, PTSD Symptoms, Negative Religious Coping and Negative Islamic Appraisals

	PTSD symptoms	Negative religious coping	Negative Islamic appraisals
Negative self	.47**	.30**	.33**
Self-blame	-.02	.24*	.32**
Negative world	.26*	.14	.20

Note. * $p < .05$. ** $p < .01$

Given these relationships, the two mediation analyses outlined above were repeated using the three PTCI subscales as mediators. The analyses showed that the relationship between negative religious coping and PTSD symptoms was mediated by the negative self subscale (*B* = .37, lower 95% CI = .11, upper 95% CI = .82). This finding was also significant when the effects of social desirability were controlled (*B* = .30, lower 95% CI = .01, upper 95% CI = .71). The self-blame and negative world subscales, however, did not mediate the relationship between negative religious coping and PTSD symptoms in this population (*B* = -.13, lower 95% CI = -.36, upper 95% CI = .01; and *B* = .07, lower 95% CI = -.03, upper 95% CI = .33, respectively). These findings were replicated when negative Islamic appraisals were used as the predictor variable. Specifically, the negative self subscale mediated the relationship between negative Islamic appraisals and PTSD symptoms (*B* = .22, lower 95% CI = .08, upper 95% CI = .46). This finding remained significant when the effects of social desirability were controlled (*B* = .19, lower 95% CI = .05, upper 95% CI = .43). By contrast, the self-blame and

negative world subscales did not mediate the relationship between negative Islamic appraisals and PTSD symptoms (*B* = -.06, lower 95% CI = -.22, upper 95% CI = .01; and *B* = .05, lower 95% CI = -.02, upper 95% CI = .17, respectively).

3.6 Summary of Findings

When controlling for the effects of socially desirable responding bias, this study found that PTSD symptoms did not correlate significantly with negative religious coping, negative Islamic appraisals, or perceived social support. Thus, Hypotheses 1 and 2 were not supported. In partial support of Hypothesis 3, however, posttraumatic cognitions were significantly associated with, and predictive of, PTSD symptoms. Additional exploratory analyses showed that positive religious coping and positive Islamic appraisals were also not associated with depression and PTSD symptoms. Further analyses, however, found that negative religious coping and negative Islamic appraisals had significant indirect effects on PTSD symptoms via posttraumatic cognitions. Non-parametric partial correlations found that, among the PTCI subscales, only the negative self subscale was significantly associated with PTSD symptoms, negative religious coping and negative Islamic appraisals. The self-blame subscale correlated significantly with negative religious coping and negative Islamic appraisals, but not with PTSD symptoms; while the negative world subscale was associated with PTSD symptoms, but not with negative religious coping and negative Islamic appraisals. Finally, mediation analyses showed that negative religious coping and negative Islamic appraisals had significant indirect effects on PTSD symptoms only via the negative self subscale.

4. Discussion

4.1 Overview

PTSD is a debilitating psychological phenomenon that has been identified in most societies and cultures (Foa et al., 2009). Several sophisticated and empirically-supported theoretical accounts have highlighted two key processes involved in the development and maintenance of PTSD: memory and appraisals (e.g., Ehlers & Clark, 2000). Additionally, a substantial body of research (e.g., Brewin et al., 2000) and several theoretical accounts (e.g., Jobson, 2009) have emphasised the role of social support in the recovery process. Consequently, there are now many effective treatment programmes that successfully deliver evidence-based psychological therapies to sufferers of PTSD (Bisson et al., 2013). However, the empirical research underlying the development of contemporary PTSD models has almost entirely been based on populations from Western, individualistic cultures. Consequently, our understanding regarding the onset and maintenance of PTSD in non-Western populations, such as those from Islamic cultures, remains limited (Figueira et al., 2007).

Islam is central to the lives of its followers (e.g., Hamdan, 2007) and religion influences people's beliefs and coping with adversity (e.g., Pargament et al., 2000). Religious coping with psychological distress has received increasing attention in the last two decades (Braam et al., 2010). Like the literature on PTSD, however, this research has mainly focussed on Christian, Western populations (Abu-Raiya & Pargament, 2014). Given this limitation, current PTSD models and understanding regarding posttraumatic adjustment may not necessarily be fully applicable to the UK Muslim population. Therefore, this thesis sought to investigate

the role of Islam and social support in Muslim adults' coping and meaning-making of trauma and their psychological adjustment.

This chapter begins by outlining the findings of this study in relation to the Hypotheses stated in section 1.11. Second, the study's strengths and limitations are considered with regards to its design, sample, measures, procedure, and data analysis. Third, the theoretical and clinical implications of the findings are discussed. Fourth, suggestions for future research are outlined. Finally, the chapter concludes with a summary of the main findings.

4.2 Summary of Findings

4.2.1 Research Hypothesis 1. Several studies have found that negative religious coping (e.g., Braam et al., 2010) and negative Islamic appraisals (e.g., Aflaksier & Coleman, 2009) correlate positively with undesirable psychological outcomes. Therefore, it was hypothesised that these two variables would be positively associated with PTSD symptoms.

Unexpectedly, negative religious coping and negative Islamic appraisals did not correlate significantly with PTSD symptoms. This finding contradicts the outcome of previous research conducted with Christian populations (e.g., Ano & Vasconcelles, 2005) and Muslim trauma survivors (e.g., Aflaksier & Coleman, 2009). Several explanations could potentially account for this finding. One possible explanation implicates the validity of the Negative Religious Coping Scale, which was based on Judeo-Christian tenets. It may have therefore been unsuitable to use with this population. However, this scale was strongly and positively correlated with the Negative Islamic Appraisals Questionnaire (r = .55), and it had adequate internal consistency (α = .68), equivalent to previous studies with Muslim

university students (e.g., Gardner et al., 2014; Khan and Watson, 2006). The Negative Religious Coping Scale thus appeared to be an adequate measure to use with this population.

A second potential explanation involves response characteristics on the individual items of the two measures, especially the Negative Religious Coping Scale, showing quite significant floor effects (see Table 3). This observation is consistent with previous qualitative (e.g., Harandy et al., 2010) and quantitative research (e.g., Aflaksier & Coleman, 2009), showing that Muslim trauma survivors tend to report low levels of negative religious coping and appraisals. Potentially, this might be explained by Muslim individuals' tendency to depict Islam in a positive light (Abu-Raiya & Pargament, 2011), or the common perception that expressing religious doubt or struggle is taboo and offensive to God (Amer et al., 2008).

A third likely explanation is with reference to participants' cultural backgrounds. Specifically, Dwairy (2002) highlighted that Arab and Muslim societies encourage individuals to hide their true emotions, thoughts, and attitudes in order to fit in with the rest of the society. Consistent with Jobson's (2009) insights, such coping strategies essentially aim to maintain group harmony and avoid social isolation. Hence, participants in the study may have supressed or downplayed negative religious cognitions, not just to depict Islam in a positive light, but also to present themselves in a favourable manner. Indeed, the findings also showed that lower levels of socially desirable responding bias were associated with higher levels of negative religious coping, and negative Islamic appraisals.

This is consistent with a previous study on Iranian university students (Aguilar-Vafaie & Abiari, 2007).

4.2.2 Research Hypothesis 2. Empirical research (e.g., Brewin et al., 2000) and psychological models of PTSD (e.g., Ehlers & Clark, 2000) have highlighted the role of social support in posttraumatic recovery. Social support, according to the TCS model (Jobson, 2009), is particularly central in the posttraumatic adjustment of survivors from collectivistic cultures. Therefore, it was hypothesised that perceived social support would be inversely related to PTSD symptoms.

Unexpectedly, the relationship between perceived social support and PTSD symptoms was not statistically significant in this population. This finding contradicts previous research that has shown a significant relationship between perceived social support and PTSD symptoms (e.g., Brewin et al., 2000; Ozer et al., 2003). Further, participants' response characteristics on the perceived social support measure were not correlated with social desirability bias, indicating that their self-reports were not significantly suppressed, obscured, or artificial (King & Bruner, 2000; van de Mortel, 2008). Similarly, although the used measure was developed with Western populations, the translated version had excellent internal consistency ($\alpha = .91$), similar to other studies with participants from largely Islamic collectivistic societies, such as Turkey (Dirik & Karanci, 2010) and Pakistan (Jibeen & Khalid, 2010). Therefore, this finding could not be explained by poor measure reliability or social desirability bias.

Nevertheless, responses to the individual items on the perceived social support measure revealed significant ceiling effects, indicating that participants perceived very high levels of social support ($M = 5.66$, $SD = 1.11$, range = 3 – 7).

In part, this may be explained by the population's rather lengthy stay in the UK (*M* = 6.28 years, *SD* = 6.71), which might have been sufficient for most of them to re-establish social networks. Alternatively, the widespread availability of affordable means of communication, such as mobile phones and social media, may have enabled many participants to maintain and access social support from a distance. The measure used in this study, however, did not investigate participants' methods of contact or geographic location. Therefore, it was not possible to explore this possibility. Furthermore, most participants in this study were recruited from local community centres with a strong emphasis on social networking (e.g., cultural societies). Such recruitment sources may have inadvertently excluded potential participants who experienced significant social withdrawal.

4.2.3 Research Hypothesis 3. It was originally hypothesised that posttraumatic cognitions, negative religious coping, negative Islamic appraisals, and low levels of perceived social support, would predict PTSD symptoms in this population. However, no significant relationships were found between participants' PTSD symptoms and their negative religious coping, negative Islamic appraisals, and perceived levels of social support. Therefore, participants' posttraumatic cognitions remained the only potential predictor of PTSD symptoms in this population.

As hypothesised, there was a moderate relationship between participants' posttraumatic cognitions and their PTSD symptoms, above and beyond the effects of social desirability bias (r = .32). Additionally, posttraumatic cognitions had a significant contribution on PTSD symptoms (β = .33). This outcome is consistent with previous research with Western trauma survivors, showing that trauma-related

cognitions are associated with and predictive of PTSD symptoms (e.g., Agar et al., 2006; Foa et al., 1999).

4.2.4 Exploratory analysis 1: relationships between positive religious coping, positive Islamic appraisals, and PTSD symptoms and depression. In general, the literature shows that positive religious coping and appraisals are associated with a range of positive mental health indicators (e.g., Abu-Raiya & Pargament, 2014). Therefore, it was decided to explore the relationship between these variables in order to investigate the presence of these relationship patterns with regards to symptoms of PTSD and depression.

In contrast to previous research, the findings showed that positive religious coping and positive Islamic appraisals did not correlate with symptoms of PTSD and depression in this population. Similar to the observations outlined in section 4.2.1, however, participants' responses to individual items on the positive religious coping and positive Islamic appraisals measures showed significant ceiling effects. Consistent with previous research using the brief RCOPE with Muslim participants (e.g., Khan & Watson, 2006), this observation indicates that participants tended to report high levels of positive religious coping, perhaps driven by their motivation to depict Islam in a favourable light (Abu-Raiya & Pargament, 2011).

4.2.5 Exploratory analysis 2: potential indirect effects of negative religious coping and negative Islamic appraisals on PTSD symptoms. Given that both negative religious coping scale and negative Islamic appraisals correlated positively with posttraumatic cognitions, a second exploratory analysis was conducted to examine whether posttraumatic cognitions mediated a relationship

between negative religious coping and PTSD symptoms and between negative Islamic appraisals and PTSD symptoms (see Figures 4 and 5).

The mediation analyses showed that both negative religious coping and negative Islamic appraisals had significant indirect effects on PTSD symptoms via posttraumatic cognitions. That is, participants with higher levels of negative religious coping style and negative Islamic appraisals tended to report higher levels of negative posttraumatic appraisals, which in turn was associated with, and predictive of, greater PTSD symptoms.

Contrary to previous research with Muslim populations depicting a simple bivariate relationship between psychological distress and negative religious coping (e.g., Khan & Watson, 2006) and negative Islamic appraisals (e.g., Aflakesir & Coleman, 2009), this finding suggests a more complex relationship, at least in the case of PTSD. Hence, although this study did not find direct significant relationships between negative religious coping and PTSD, and between negative Islamic appraisals and PTSD, the role of religious coping and appraisals in relation to Muslim trauma survivors' PTSD symptoms and posttraumatic adjustment should not be dismissed.

4.2.6 Exploratory analysis 3: relationships between PTCI subscales and PTSD symptoms, negative religious coping, and negative Islamic appraisals. Considering the centrality of posttraumatic cognitions to this study, it was decided to explore the relationship between the three PTCI subscales (i.e., negative self, negative world, and self-blame) and PTSD symptoms, negative religious coping, and negative Islamic appraisals.

Among the PTCI subscales, the negative self cognitions was the only subscale to correlate significantly and positively with PTSD symptoms, negative religious coping, and negative Islamic appraisals. Given these relationships, the two mediation analyses, illustrated in Figures 4 and 5, were repeated using the three PTCI subscales as mediators. The analyses showed that the relationship between negative religious coping and PTSD symptoms was only mediated by the negative self subscale. Similarly, the relationship between negative Islamic appraisals and PTSD symptoms was also mediated by the negative self subscale. The other two PTCI subscales did not mediate the relationship between negative religious coping and negative Islamic appraisals and PTSD symptoms.

These findings shed further light on the mediating role of posttraumatic cognitions. They suggest that, for this population, trauma-related self-appraisals are particularly important. Specifically, these results indicate that negative religious coping and negative Islamic appraisals are linked to negative appraisals about the self, which in turn increase the risk of PTSD symptoms. For example, having negative religious appraisals such as "God punished me for my lack of faith" may lead to negative self-appraisals such as "I feel like I don't know myself anymore", which in turn increases the risk of PTSD symptoms. This speculation would be consistent with the TCS model (Jobson, 2009), arguing that trauma essentially threatens the individual's conceptual self (i.e., one's socially constructed self-image and identity). Considering the importance of Islam in its followers' lives (Smither & Khorsandi, 2009), Muslims' self-image and identity may be closely associated with their religious affiliation. Indeed, the average score on the religious importance measure was 6.23 (*SD* = 1.54), out of a highest possible score of 7,

indicating that participants in this study viewed Islam as central to their lives. Hence, interpreting the trauma as a sign of punishment from God could potentially pose a serious threat to one's view of oneself as being acceptable by God. In short, negative religious coping and appraisals may pose a serious threat to Muslims' religious identity, thus leading to PTSD symptoms via negative self-appraisals.

Finally, in addition to negative self-appraisals, only the negative world scale was associated with PTSD symptoms (r = .26). While this is consistent with previous research implicating negative world cognitions in PTSD (e.g., Foa et al., 1999), it is interesting that the self-blame subscale did not correlate with PTSD symptoms in this population (r = -.02). This finding is consistent with one of the core tenets of Islam; namely, the divine will principle. This belief essentially holds that one's life is pre-destined by a transcendent and omnipotent God (Husain, 1998; Sarwar, 2000). Consistent with the outcome of Jobson and O'Kearney's (2009) study, this finding implies that appraisals of personal control and responsibility (i.e., self-blame) are potentially less relevant for this population when compared to Western trauma survivors.

4.3 Study Strengths and Limitations

4.3.1 Design. This study had several limitations. First, its cross-sectional correlational design prevents causal inferences. Its findings cannot provide information about the long-term effects of negative posttraumatic cognitions and religious appraisals on posttraumatic adjustment. Second, socially desirable responding bias was detected in participants' responses. This is a common problem in designs that rely on self-report measures (Robins & John, 1997). Nevertheless, this observation highlights the need for caution when interpreting the findings of

this study. Third, this study measured only perceived emotional support, thus failing to measure other important aspects of perceived social support, such as tangible and relatedness support. Fourth, participants were not asked whether they had received any previous psychological treatments. Recipients of therapy, especially those with positive outcomes, may have reported lower levels of PTSD symptoms and negative cognitive appraisals (e.g., Kleim et al., 2013), thereby reducing the likelihood of detecting significant effects. Fifth, participants with very low levels of religious commitment and importance were not excluded from the analyses. While this may have increased the external validity of the findings, it may have also reduced the likelihood of detecting significant effects of religious coping and appraisals. Indeed, the religious coping theory (Pargament, 1997) claims that in times of stress and tragedy religiously committed people are especially likely to draw on religious coping methods. Moreover, the mediation analyses used in this study were insufficiently powered. According to Fritz and MacKinnon's (2007) estimations of sample sizes necessary for .8 power and based on the detected effect sizes between the study variables, a sample of 148 participants were needed. Accordingly, the null findings may reflect these methodological limitations, including the heterogeneous sample compositions (discussed next), rather than true null results.

Despite these limitations, the quantitative design of this study and its use of a commonly used measure of posttraumatic cognitions (i.e., the PTCI) provide potentially novel and clinically useful information. As noted throughout this thesis, empirical research on posttraumatic appraisals in this population is scarce and the few studies that have investigated the subject have almost exclusively relied on

qualitative methodology (see Table 1). Accordingly, the quantitative design of this study could potentially render its findings more generalizable and less susceptible to subjective interpretations.

4.3.2 Participants. Several reasons were behind the decision to recruit a community-based sample in this study. First, given the limited ethnic diversity in East Anglia, it was deemed unrealistic to successfully recruit a clinical sample of Arabic-speaking Muslim trauma survivors in this region. Second, previous research suggests that the relationship between negative religious coping and psychological distress exists in non-clinical Muslim populations (e.g., Braam et al., 2010; Khan & Watson, 2006). Third, an extensive body of empirical research have found a relationship between social support and PTSD symptoms (e.g., Brewin et al., 2000). This association has also been demonstrated in a community sample of trauma survivors from collectivistic cultures (Jobson & O'Kearney, 2009). Fourth, to date, there are no published studies that have used the Posttraumatic Cognitions Inventory with Arabic-speaking Muslim trauma survivors.

A power calculation indicated a minimum sample size of 85. To overcome potentially slow recruitment process consequent to the small Middle Eastern community in this region, participants were also recruited from London. This resulted in a total of 88 participants being recruited, perhaps aided by the researcher's knowledge of the culture and ability to speak Arabic. It is also important to highlight that each participant was paid £10[4] for participating in the study, which may have contributed to the high response rate (82%). The response

[4] Funded by Dr Jobson's NIHR research fellowship and the UEA ClinPsyD trainee research budget.

rate may have also reflected participants' willingness to "help" the author in his studies (i.e., wanting to please the researcher).

The wide inclusion criteria of this study helped recruit a culturally diverse sample, including participants from 10 different Middle Eastern countries. This heterogeneity can be both strength and weakness. While the sample may have represented the cultural background of the Middle Eastern community in the UK, it may have also introduced important confounding variables. For example, it was extremely difficult to recruit females from many of the Gulf countries (e.g., Saudi Arabia) because of cultural taboos around females meeting with unrelated males. Hence, females from such countries were potentially underrepresented. Further, although Muslims share the same basic religious principles (Haque, 2004), the sample's diverse cultural composition may have introduced significant variations regarding participants' religious views and attributions. Indeed some Middle Eastern countries (e.g., Saudi Arabia) attach greater emphasis to religious identity than others (e.g., Syria). This may have introduced systematic variations to participants' religiosity, which may have influenced the frequency and nature of reported appraisals (Pargament, 1997). In turn, this may have compromised the likelihood of detecting significant relationships. Indeed, most previous studies that have found significant correlations between religious appraisals and PTSD have studied notably more homogenous samples (e.g., Aflaksier & Coleman, 2009). Considering the paucity of research within this area (Engelbrecht & Jobson, 2014), future research may benefit from initially investigating religious coping and appraisals in a more homogenous group before attempting to expand the scope of inquiry.

Additionally, the researcher's characteristics may have skewed the sample characteristics. Being from the Iraqi background made Iraqi communities more accessible due to commonalities in language and culture. This may have led to an overrepresentation of Iraqi participants in this study (*n* = 45; 51%). The researcher's age and educational status meant that many participants were recruited from educational sources, such as the UEA Islamic society. This may have led to an underrepresentation of older participants and people with lower academic qualifications. The researcher's age and gender may have also led to a general underrepresentation of females. The sample characteristics may therefore limit the findings' generalizability.

In order to ensure sufficient variance in the distribution of PTSD symptoms, participants were recruited from a variety of sources, such as English language classes and mosques. In an attempt to increase the likelihood of detecting PTSD symptoms, the recruitment procedure also aimed to include refugees. However, organisations that specifically cater for refugees (e.g., British Red Cross) were unresponsive, maintaining that refugees are classified as a vulnerable group. Thus, participants were mainly recruited from community-based sources, such as Mosques and voluntary support organisations. As noted earlier, this may have excluded people with severe PTSD symptoms and social withdrawal (see section 4.2.2). Nevertheless, there was a high prevalence rate of PTSD (*n* = 33; 38%), similar to previous Middle Eastern epidemiological research on people in post-conflict areas (e.g., de Jong et al., 2003). Accordingly, the two most common forms of reported traumatic experiences were accidents (*n* =47; 53%) and war (*n* = 43; 49%). This represents a potential strength because the sample's cultural background

and their traumatic experiences may be similar to those who arrive in the UK as refugees and asylum seekers; a trend that is likely to grow given the on-going violence in the Middle East.

4.3.3 Measures. With the exception of the Posttraumatic Cognitions Inventory and the Social Desirability Scale, all study measures have been used in previous cross-cultural research using Arabic-speaking Muslim participants (see section 2.5). This supports their use in this study. Further, all the measures were translated into Arabic using the back-translation method recommended by experts on cross-cultural research (e.g., Brislin, 1970) (see Figure 2). The measures were subsequently piloted on a convenience sample before commencing recruitment. This ensured that all questionnaires retained their meaning and were readily understood. Overall, all measures had acceptable internal consistencies, indicating adequate reliability (see Table 3). Each measure will be discussed below.

In terms of the brief RCOPE, although the Negative Religious Coping Scale had relatively low internal consistency ($\alpha = .68$), it was significantly associated with the Negative Islamic Appraisals Questionnaire ($r_S(87) = .55$, $p < .01$). This questionnaire was developed based on themes derived from qualitative studies investigating Muslim trauma survivors' religious appraisals (see section 2.5.2.2). Thus, its significant correlation with the Negative Religious Coping Scale suggests that both measures investigated meaningful, yet relatively distinct constructs. That is, the brief RCOPE measured ways in which participants used religion to cope with trauma, whereas the Islamic Appraisals Questionnaire focussed on participants' religious interpretations regarding the cause and the meaning of the trauma. This represents a particular strength in this study because combining these

two measures allowed to explicitly study participants' religious appraisals as well as their religious coping styles (i.e., positive or negative coping). Given their floor and ceiling effects, however, both measures could benefit from linguistic revisions to avoid such extreme response tendencies. Moreover, considering that religion is a construct underpinned by cultural and personal context (Kairuz, Crump, & O'Brien, 2007), adding a qualitative element to these measures could enrich the obtained data. Future research may also benefit from an explicit assessment of participants' perception about the acceptability of expressing religious doubt and struggle. This is particularly important because Muslims tend to depict Islam favourably (Abu-Raiya & Pargament, 2011) and view religious doubt and struggle as offensive to God (Amer et al., 2008). Finally, capturing Muslims participants' negative religious coping and appraisals may require more creative attempts (e.g., behavioural observations, interviews with significant others, meeting several times with participants to build rapport).

The Social Desirability Scale has been used with Iranian students and, consistent with this study's results, it was associated with negative religious coping (Aguilar-Vafaie & Abiari, 2007). Although this scale had the lowest internal consistency ($\alpha = .66$), it was significantly correlated with the Negative Religious Coping scale, Negative Islamic Appraisals Questionnaire, and the Posttraumatic Cognitions Inventory. These relationships are consistent with previous research indicating that socially desirable responding bias is particularly likely to occur in response to socially sensitive queries (King & Brunner, 2000), such as those concerning religion (e.g., Amer et al., 2008) and mental health (Abu-Raiya & Pargament, 2011). This suggests that the Social Desirability Scale was a

meaningful addition to this study as most previous studies on religious coping with Muslims have failed to assess the potential effects of social desirability bias (e.g., Aflakseir & Coleman, 2009; Braam et al., 2010; Gardner et al., 2014). Potentially, this study offers a unique contribution to the existing literature because it controlled for the effects of social desirability, which seems to be a significant issue in this population.

The Posttraumatic Cognitions Inventory has been widely used in cross-cultural research (e.g., Gülec et al., 2013), but there are no published studies on its use with Arabic-speaking Muslim populations. Nevertheless, its significant correlation with PTSD symptoms, combined with its excellent internal consistency ($\alpha = .92$), potentially represents a novel finding, suggesting that it may be a useful tool for assessing negative posttraumatic cognitions in this population.

The Multidimensional Scale of Perceived Social Support measure had substantial ceiling effect, consistent with a previous study with Arab immigrants in the US (Aorian et al., 2010). Potentially, it would be useful to explore other aspects of support. Indeed, Dinenberg et al. (2014) have highlighted the role of tangible and relatedness social support, while Brewin and Holmes (2003) have emphasised the role of perceived criticism and blame in PTSD. Such forms of social support may be important to study because they are linked to appraisals of alienation and blame; factors that have been highlighted by important PTSD models (e.g., Ehlers & Clark's, 2000).

The Posttraumatic Diagnostic Scale has been extensively used in cross-cultural research, including with Muslim populations (Jobson et al., in press). Its internal consistency in this study ($\alpha = .89$) was similar to that found in Norris and

Aroian's (2008) study with Arab immigrants in the US, indicating good reliability. Moreover, given that symptoms of depression often accompany those of PTSD (e.g., Smith et al., 2006), the strong correlation found between this measure and the depression subscale within the Hopkins Symptom Checklist (r = .53) supports both measures' validity.

4.3.4 Procedure. The participation procedure required that participants met with the researcher. In addition to being a time-consuming practice, this process may have compromised participants' sense of anonymity. In turn, this may have contributed to demand characteristics or socially desirable responding bias. Indeed, a literature review has found that people tend to overreport desirable responses and underreport undesirable responses under conditions of poor privacy (Stocke, 2004). Future research could potentially curtail the effects of such biases by offering participants more anonymity. Participations via Internet surveys could be one option. However, this might exclude potentially important segments of the population, namely the older or less technically minded trauma survivors.

The procedure also had its strengths. Making face-to-face contact with community leaders and potential participants helped build trust, facilitated the snowball effect, and provided an opportunity for participants to clarify any potential ambiguities. Combining the present procedure with the option of internet-based participation would be ideal as it could also facilitate the participation of female trauma survivors.

4.3.5 Data analyses. The minimum number of participants, as indicated by a priori power analysis, was recruited. Hence, the results of the study were not necessarily due to insufficient power. However, only the variables assessing PTSD

symptoms and posttraumatic cognitions were normally distributed. Thus, most of the analyses used non-parametric tests, potentially increasing the likelihood of type II error because such tests can reduce the chance of detecting a genuine effect (Field, 2009). Nevertheless, the data allowed for mediation analysis, with bootstrapping, to be conducted as this test does not require the data to be normally distributed (Hayes, 2013). This resulted in potentially novel findings.

The Islamic Appraisals Questionnaire was specifically developed for this study. Although its two subscales had acceptable internal consistencies (see Table 3), further research is certainly needed to further investigate and improve its psychometric properties. This is important because although several measures of religious coping have been developed with Muslim populations (e.g., Abu-Raiya, Pargament, Mahoney, & Stein, 2008; Amer et al., 2008; Khan & Watson, 2006), these measures do not specifically assess participants' appraisals. Instead, they tend to measure the broader construct of religious coping, which includes a wide range of different coping methods of which 'religious appraisals' is only one. While the brief RCOPE is psychometrically sound (Pargament et al., 2011), it primarily investigated the religious *means* by which participants coped with the trauma. In contrast, the Islamic Appraisals Questionnaire attempted to assess participants' religious *interpretations* and *meaning-making* of the trauma. Given the importance of appraisals in PTSD (e.g., Ehlers & Clark, 2000) and the centrality of Islam to its adherents (e.g., Abu-Raiya et al., 2008), further development of the Islamic Appraisals Questionnaire, or other measures of religious appraisals, represents an important step towards achieving a more culturally sensitive assessment and formulation of PTSD in Muslim trauma survivors.

4.4 Theoretical Implications

4.4.1 Religious coping, Islamic appraisals, and PTSD. The findings of this study do not provide any support for previous research that has suggested a direct relationship between negative religious beliefs and psychological distress in Muslim trauma survivors (e.g., Aflakseir & Coleman, 2009). Instead, this study suggests that religious coping and appraisals may have an indirect influence on PTSD symptoms via negative posttraumatic cognitions; in particular negative posttraumatic self cognitions. Thus, the role of religious beliefs in PTSD appears to be more complex than what has been suggested to date.

This study found that participants tended to endorse high levels of positive religious coping and positive Islamic appraisals. This finding supports Pargament's (1997) religious coping theory, which predicts that religious coping is more likely among religiously committed people and during life adversity in religious, cultural environments. Therefore, the role of religious beliefs in posttraumatic adjustment should not be dismissed based on the absence of a direct relationship with PTSD symptoms.

The significant indirect effect of religious coping and appraisals on PTSD symptoms suggests that Islam may play a subtle, yet important role in posttraumatic adjustment among Muslim trauma survivors. This would be consistent with the social-cognitive theories of PTSD (e.g., Janoff-Bulman, 1992), which argue that traumatic experiences challenge the individual's previous beliefs and assumptions. Given that Islam portrays God as omnipotent and omniscient, Muslims may wonder why such a God would allow (if not cause) suffering. Thus, trauma may challenge one's religious beliefs that depict one as an individual of primary value in a world

of meaning sustained by a just and personal God. The on-going meaning-making process of trauma may consequently involve one's religious beliefs in relation to the self (e.g., "why did God allow this to happen to me?"). Therefore, religious beliefs and appraisals may require a greater emphasis in current PTSD models that emphasise appraisals in the onset and maintenance of PTSD (e.g., Ehlers & Clark, 2000; Dalgleish, 2004).

The indirect role of religious coping and appraisals on PTSD symptoms is also consistent with Jobson's (2009) TCS model, which argues that trauma essentially threatens the individual's culturally constructed self-concept. Religion is an important part of Muslim individuals' self-image and identity (e.g., Smither & Khorsandi, 2009). Thus, a threat to their conceptual self may implicate a threat to their religious identity. More specifically, traumatic experiences may threaten one's view of oneself as a devout Muslim and may be seen as punishment for one's sins. As suggested by the mediating role of negative self cognitions, negative religious appraisals appear to influence the severity of PTSD symptoms via a general negative view of the self, enduring negative changes to the self, hopelessness, and diminished self-trust. Accordingly, posttraumatic cognitions may reflect underlying appraisals of a religious motif consistent with the core Islamic belief of divine will, which states that people's lives are pre-destined by God.

4.4.2 Negative posttraumatic cognitions and PTSD. In line with Ehlers and Clark's (2000) model, this study found that negative posttraumatic cognitions were positively associated with, and predictive of, PTSD symptoms. This result extends the findings of research conducted with Western populations to indicate that the theoretical emphasis on posttraumatic appraisals is also applicable to

Muslim trauma survivors. Despite the influence of religion on its followers' cognitions and coping (Pargament, 1997), these findings essentially indicate that Muslim trauma survivors experience appraisals that are similar to those reported by Western PTSD sufferers. However, self-blame appraisals were found to be unrelated to PTSD symptoms. This suggests that there may also be a cultural influence on Muslim individuals' posttraumatic cognitions.

The absent relationship between participants' self-blame appraisals and their PTSD symptoms may be viewed as further evidence in line with the TCS model (Jobson, 2009). Supported by cross-cultural research findings (e.g., Engelbrecht & Jobson, 2014; Jobson & O'Kearney, 2009) this model argues that collectivistic cultures emphasise relatedness and social harmony, thus rendering appraisals of personal control and autonomy (i.e., self-blame) less threatening to the interdependent self. Appraisals of self-blame may therefore be less relevant for Muslim trauma survivors than perceived alienation. Potentially, fear of alienation could also explain why participants tended to report significantly higher levels of positive religious coping and appraisals than negative religious cognitions. Indeed, expressing religious struggle and doubt is considered socially unacceptable in Islamic cultures (Amer et al., 2008; Pargament & Abu-Raiya, 2011). As a result, Muslim trauma survivors may avoid expressing negative religious cognitions in fear of social isolation, which would pose a threat to their collectivistic self-concept (Jobson, 2009). This, in turn, would create a sense of serious current threat (Ehlers & Clark, 2000). Thus, in addition to negative self cognitions, alienation may mediate the relationship between religious struggle and negative outcomes. This

finding, however, only tacitly supports the TCS model because appraisals of alienation were not explicitly investigated in this study.

The Islamic faith may also help explain the absent association between self-blame appraisals and PTSD symptoms. Indeed, previous research has demonstrated that Muslim trauma survivors often perceive God not only as the cause of their misfortunes, but also as the solution (e.g., Nir et al., 2013; Zeilani & Seymour, 2010). Hence, believing in a transcendent being may protect against appraisals relating to loss of autonomy and control by engendering hope and acceptance. Promising as this explanation might be, it is important to highlight that no empirical research has investigated the influence of fatalistic religious beliefs on disorder onset and prognosis. Indeed, believing in a fatalistic ideology may also foster helplessness and passivity (Beshai, Clark, & Dobson, 2013). Therefore, fatalistic religious appraisals require further theoretical and empirical consideration.

Moreover, it is important to recognise that some previous studies have also found no significant relationship between self-blame and PTSD symptoms in Western trauma survivors (e.g., Beck et al., 2004; Moser, Hajack, Simons, & Foa, 2007), and one study found a negative association between self-blame and PTSD symptom severity (Startup, Makgekgenene, & Webster, 2007). Potentially, these findings may reflect a conflation of characterological blame (i.e., the event happened because of who I am) with behavioural blame (i.e., the event happened because of my actions, or inactions) (Janoff-Bulman, 1979). Given the Islamic belief that God is in control of one's life, behavioural blame might not be associated with PTSD in Muslim trauma survivors. Muslims may instead attribute the event to God's will, which may promote the perception that the trauma was

beyond personal control. That is, regardless of one's behaviour during the trauma, the event was unavoidable because it was God's decree (e.g., Farsi et al., 2010; Harandy et al., 2010). Characterological blame, however, may play a more prominent role because it implies a belief in personal deservingness and predicts global negative implications for the future (Startup et al., 2007). This type of self-blame would be consistent with the Islamic belief of free will and the notion of sin and punishment. Thus, characterological self-blame in Muslim trauma survivors may take a religious expression. For example, one may believe that the event happened because of one's lack of devotion or sins, not because of one's behaviour during the event. Future research is required to distinguish between the two types of self-blame in order to investigate the mechanisms by which self-blame is involved in onset and maintenance of PTSD.

4.4.3 Social support and PTSD. This study found no significant relationship between social support and PTSD symptoms. This provides no support for previous research (e.g., Brewin et al., 2000) and models of PTSD (e.g., Dalgelish, 2004) that have emphasised the role of social support in posttraumatic adjustment. Further, this finding can also be viewed as contradictory to the TCS model, which highlights the role of social isolation for trauma survivors from collectivistic cultures. Nevertheless, it is important to note that this study did not explicitly investigate appraisals of alienation, which are thought to be especially problematic for interdependent self-concepts because such appraisals threatens one's sense of self as being capable of fulfilling social roles and obligations (Jobson, 2009).

The absent relationship between perceived social support and PTSD symptoms does not reject its role in posttraumatic recovery for this population. As outlined in section 1.3.2, social support entails more than perceived emotional support (Brewin & Holmes, 2003). Indeed, previous research has highlighted the significance of tangible and relatedness support (Dinenberg, 2014), as well as perceived criticism and blame (e.g., Ullman & Filipas, 2001). Negative social support is central to both the TCS and Ehlers and Clark's (2000) model because both models hold appraisals of blame and alienation as important predictors of persistent PTSD. Furthermore, Pargament's (1997) religious coping theory argues that religious-based social support, such as spiritual support from one's religious congregation, may be an important source of comfort for religious individuals in distress. Thus, there were several theoretically important aspects of social support that were not captured in this study.

4.5 Clinical Implications

Contemporary psychological models of PTSD hold trauma-related appraisals as key in the onset and maintenance of PTSD, and social support as an important factor in recovery (e.g., Ehlers & Clark, 2000; Jobson, 2009). These two factors have substantial empirical support (e.g., Kleim et al., 2007; Kleim et al., 2013). Consequently, TF-CBT, one of the two psychological treatments currently recommended by NICE guidelines (2005), views posttraumatic appraisals as a primary treatment target. However, while current psychological treatments of PTSD are theoretically sound, based on empirical evidence, and achieve good outcomes (Bisson et al., 2013), their suitability for non-Western trauma survivors may be questioned (Bracken, 2002; Foa et al., 2009). This poses a serious limitation

because the UK is one of most popular destinations for refugees and asylum seekers who often escape war trauma and persecution (UNHCR, 2013). Given the historic and on-going violence in the Middle East, Muslim trauma survivors are expected to form a significant proportion of past and future refugees. Indeed, there are over two million Muslims in this country (ONS, 2011), yet little is known about their adjustment to, and meaning-making of, traumatic stressors. Despite its modest scope and results, this study has potentially important implications for clinicians working with Muslim trauma survivors. These implications will be discussed with reference to posttraumatic cognitions and the potential impact of social desirability bias on this population's engagement with psychological treatments.

There was a significant relationship between participants' negative posttraumatic cognitions and their PTSD symptoms. Consistent with Ehlers and Clark's (2000) model, assessing and correcting maladaptive trauma-related appraisals may therefore be an important part of PTSD treatment for this population. Specifically, appraisals concerning the self and the world may be particularly important. Further, it is important for clinicians to understand that Muslim individuals tend to view both fortunes and misfortunes to be originating from, or allowed by, God (e.g., Haque, 2004). Thus, self-blame appraisals, found to be unrelated to PTSD symptoms in this study, may require less attention in this population. This has an important implication for CBT's meditational proposition, arguing that emotional change follows cognitive restructuring (Beshai et al., 2013). The Muslim trauma survivor, for example, may disagree with this model and maintain that change can only occur by God's will. Therefore, challenging such cognitions might not be appropriate because the alternative may be seen as being

incompatible with the belief in divine destiny and God's will. Hence, an understanding of the Muslim patient's religious beliefs may help clinicians understand that such fatalistic beliefs may in fact engender acceptance and hope through positive religious coping strategies (e.g., Alqaissi & Dickerson, 2010; Taleghani et al., 2006).

Similarly, it is important that clinicians consider the potential impact of trauma on Muslim trauma survivors' socially and culturally structured self-concept (Jobson, 2009; Engelbrecht & Jobson, 2014). As indicated by the indirect, yet significant, effect of negative religious coping and appraisals on PTSD symptoms, such a consideration should also include Islam. Although this study showed that Muslim trauma survivors primarily report negative self appraisals similar to those reported by Western trauma survivors, clinicians should always consider how Islamic beliefs might influence the patient's view of the posttraumatic self and future. Indeed, participants rated Islam as highly important in their lives and they endorsed high levels of positive religious coping and appraisals. Therefore, it may be important that clinicians explore how the trauma might have challenged the Muslim patient's self in relation to God. This may involve a direct inquiry about the importance of Islam to the patient, investigating and validating potential religious doubt and struggle (i.e., negative religious appraisals), and potentially seeking support from the patient's religious community (Abu-Raiya & Pargament, 2010). Clinicians could also use the Islamic Appraisals Questionnaire to explore their patients' religious appraisals. However, considering that this measure requires further psychometric evaluations, it may be more appropriate to use it as a reminder of potentially important religious attributions for Muslim trauma survivors.

Significant effects of social desirability bias were noted in participants' reports of religious coping, appraisals, and posttraumatic cognitions. This indicates that Muslim trauma survivors may not necessarily provide an accurate description of their symptoms during the initial meeting with clinicians. Wagner et al. (2012) reported similar findings in their study on the efficacy of an internet-based cognitive behavioural intervention for traumatised people in Iraq. Although the intervention led to a highly significant decrease in participants' PTSD symptoms, the authors found that a substantial proportion of the recipients discontinued the treatment (n = 25; 63%), with several participants suspecting that the programme was supported by foreign intelligence agencies (e.g., the Central Intelligence Agency, Mossad). A follow-up study on Arabic-speaking trauma survivors receiving the same treatment emphasised the importance of the therapeutic alliance, which was found to be a significant predictor of treatment outcome (Wagner, Brand, Schulz, & Knaevelsrud, 2012). These findings, combined with the significant effects of social desirability bias noted in this study, highlight the importance of trust and anonymity when working with this population. These factors are especially important because Middle Easterners commonly view mental health problems as taboo and may therefore be reluctant to seek or engage in psychological interventions (Norris & Aroian, 2008).

4.6 Future Research

This study provides preliminary evidence supporting the theoretical and clinical emphasis on posttraumatic appraisals in PTSD (Ehlers & Clark, 2000; Jobson, 2009). However, the literature on the relationship between Islam and mental health remains scarce (Abu Raiya & Pargament, 2010) and these findings,

as discussed in section 4.3, are not free of limitations. Accordingly, there is an urgent need for more rigorous research on the key components of current PTSD models to test their suitability for Muslim trauma survivors.

Given that appraisals serve to maintain PTSD (e.g., Dalgleish, 2004; Ehlers & Clark, 2000), future research may benefit from adopting a longitudinal design to study the long-term effects of appraisals on posttraumatic adjustment in this population. This is particularly important because effective treatment of PTSD requires identifying and understanding key factors that may promote and impede recovery. By replicating the current findings and showing that trauma-related appraisals also maintain PTSD, future research can help generalise the current PTSD treatments to Muslim trauma survivors. Moreover, it is important to highlight that this study did not consider the role of autobiographical memories in relation to PTSD symptoms. Considering that autobiographical memory disturbance is thought to play a key role in the onset and maintenance of PTSD (e.g., Conway, 2005), future research should expand the field of inquiry to include the role of memory in this population's posttraumatic adjustment.

Clearly, the rich literature on Western trauma survivors provides important indications as to which processes might be involved in PTSD among non-Western trauma survivors. However, the study of these processes must take into account the role of culture and its impact on appraisals and subsequent emotional reactions (Jobson, 2009). Given that Islam tends to be central in the lives of its adherents, the role of religion may therefore form another important area of future research. Such work could help clarify this study's findings. That is, whether religion has a direct relationship with PTSD (Aflakseir & Coleman, 2009), or whether the relationship is

more complex and indirect, as shown here. Studying a more homogenous sample may increase the chance of identifying such effects.

Furthermore, it is important not to lose sight of the complex and multidimensional nature of religion (Thune-Boyle et al., 2006). Dichotomising religious coping and appraisals into positive and negative categories may provide a simplistic understanding of the influence of religion on trauma appraisals and recovery. An important area of future research may therefore involve studying the impact of individual appraisals on posttraumatic adjustment as opposed to grouping such appraisals under broader categories. Indeed, Dawson et al., (2014) recently found that Muslim children in Aceh believed that honouring God would keep them safe from danger; a belief that is typically categorised as "positive" because it is thought to foster hope and acceptance. Such beliefs, according to the literature, would correlate positively with psychological wellbeing. By contrast, the "honouring God" belief correlated positively with higher PTSD symptoms. As the authors speculated, the belief could reflect the children's sense of vulnerability and their attempt to protect and reassure themselves. Such an interpretation would render the belief "positive" because it aims to reduce threat. Alternatively, as the authors continued to speculate, believing that one's life is controlled by God may have heightened the children's sense of vulnerability because it suggests that they are not in control, thus heightening their sense of threat. Hence, individual religious appraisals require more attention in future research.

Finally, this study showed no significant relationship between participants' levels of perceived social support and their PTSD symptoms. However, more research intro this area is needed because this finding was based on a measure of

perceived emotional support to the exclusion of other important forms of social support. Given that current PTSD models emphasise the role of social support in recovery process, future research should consider studying a more comprehensive range of perceived social support in relation to PTSD (e.g., tangible, relatedness, blame).

4.7 Conclusion

This community-based study sought to first, investigate whether levels of PTSD symptoms are associated with negative religious coping and negative Islamic appraisals. Second, the study aimed to examine whether PTSD symptoms are related to perceived social support. Finally, the study investigated whether these factors combined with negative posttraumatic cognitions can predict symptoms of PTSD in a sample of Arabic-speaking Muslim trauma survivors, originating from the Middle East.

Contrary to previous research, this study found that negative religious coping and negative Islamic appraisals have an indirect, yet significant, effect on levels of PTSD symptoms. Consistent with the TCS model (Jobson, 2009), this finding highlights the role of cultural processes (i.e. religion) in posttraumatic appraisals. Further, the relationship between participants' negative religious beliefs and their PTSD symptoms was mediated by their negative self cognitions. This indicates a close relationship between participants' religious beliefs and their self-perception. In contrast to previous research with Western populations (e.g., Brewin et al., 2000), perceived social support was not related to PTSD. This finding may reflect a narrow measure of perceived social support in this study. Moreover, consistent with Ehlers and Clark's (2000) emphasis on appraisals, negative

posttraumatic appraisals were associated with, and predictive of, PTSD symptoms. Self-blame appraisals, however, were found to be unrelated to PTSD symptoms. While this finding may be explained by the measure's failure to distinguish between characterological and behavioural blame, the Islamic belief in God's will and the interdependent self-construal, which emphasises relatedness as opposed to personal control and autonomy, may have also contributed to this finding. Overall, the results of this study highlight that further research is required to further investigate the mechanisms by which religion, cultural variation in self-construal, and perceived social support are involved in the aetiology and maintenance of PTSD.

Despite its methodological limitations, this study indicates that cognitive appraisals and religious beliefs may play an important role in this population's posttraumatic adjustment. Thus, it may be important that clinicians explicitly explore the role of religion in the trauma survivor's life and normalise any expressions of religious doubt or struggle. Finally, the significant effect of socially desirable responding bias emphasises the role of anonymity and trust when working with this population.

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6. Appendices

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Appendix A

Questionnaire Booklet

My name is Azi Berzengi, and I am a Trainee Clinical Psychologist at the University of East Anglia (UEA). Thank you for considering participating in this study, which is part of my Doctorate in Clinical Psychology. Please read the instructions carefully and be as honest as possible in your answers. Please do not hesitate to ask if anything is unclear or if you would like more information.

Section 1:

INSTRUCTIONS

Part 1.
Many people have lived through or witnessed a very stressful and traumatic event at some point in their lives. Below is a list of traumatic events. Put a tick in the box next to ALL of the events that have happened to you or that you have witnessed.

(1) □ Serious accident, fire, or explosion (for example, an industrial, farm, car, plane, or boating accident)
(2) □ Natural disaster (for example, cyclone, flood, tornado, hurricane, flood, or major earthquake)
(3) □ Non-sexual assault by a family member or someone you know (for example, being mugged, physically attacked, shot, stabbed, or held at gunpoint)
(4) □ Non-sexual assault by a stranger (for example, being mugged, physically attacked, shot, stabbed, or held at gunpoint)
(5) □ Sexual assault by a family member or someone you know (for example, rape or attempted rape)
(6) □ Sexual assault by a stranger (for example, rape or attempted rape)
(7) □ Military combat or war zone
(8) □ Sexual contact when you were younger than 18 with someone who was 5 or more years older than you (for example, contact with genitals, breasts)
(9) □ Imprisonment (for example, prison inmate, prisoner of war, hostage)
(10) □ Torture
(11) □ Life threatening illness
(12) □ Other traumatic event

(13) If you marked item 12, specify the traumatic event below.

_____

_____

_____

Part 2.

(14) If you marked more than one traumatic event in Part 1, put a tick in the box below next to the event *that bothers you the most*. If you only marked one traumatic event in Part 1, mark the same one below.

□ Accident
□ Disaster
□ Non-sexual assault by a family member or someone you know
□ Non-sexual assault by a stranger
□ Sexual assault by a family member or someone you know
□ Sexual assault by a stranger
□ Combat
□ Sexual contact when you were younger than 18 with someone who was 5 or more years older
□ Imprisonment
□ Torture
□ Life threatening illness
□ Other

In the lines below, briefly describe the traumatic event you marked above.

_____
_____
_____

Below are several questions about the traumatic event you just described above.

(15) How long ago did the traumatic event happen? (circle ONE)

1 Less than 1 month
2 1 to 3 months
3 3 to 6 months
4 6 months to 3 years
5 3 to 5 years
6 More than 5 years

For the following questions, circle Yes or No.

During this traumatic event:

(16) Were you physically injured? **YES** **NO**

(17) Was someone else physically injured? **YES** **NO**

(18) Did you think your life was in danger? **YES** **NO**

(19) Did you think someone else's life was in danger? **YES** **NO**

(20) Did you feel helpless? **YES** **NO**

(21) Did you feel terrified? **YES** **NO**

Part 3.

Below is a list of problems that people sometimes have after experiencing a traumatic event. Read each one carefully and circle the number (0-3) that best describes how often that problem has bothered you IN THE PAST MONTH. Rate each problem with respect to the traumatic event you described in Item 14.

0	Not at all or only one time
1	Once a week or less/once in a while
2	2 to 4 times a week/half the time
3	5 or more times a week/almost always

(22)	Having upsetting thoughts or images about the traumatic event that came into your head when you didn't want them to	0	1	2	3
(23)	Having bad dreams or nightmares about the traumatic event	0	1	2	3
(24)	Reliving the traumatic event, acting or feeling as if it was happening again	0	1	2	3
(25)	Feeling emotionally upset when you were reminded of the traumatic event (for example, feeling scared, angry, sad, guilty, etc.)	0	1	2	3
(26)	Experiencing physical reactions when you were reminded of the traumatic event (for example, breaking out in a sweat, heart beating fast)	0	1	2	3
(27)	Trying not to think about, talk about, or have feelings about the traumatic event	0	1	2	3
(28)	Trying to avoid activities, people, or places that remind you of the traumatic event	0	1	2	3
(29)	Not being able to remember an important part of the traumatic event	0	1	2	3
(30)	Having much less interest or participating much less often in important activities	0	1	2	3
(31)	Feeling distant or cut off from people around you	0	1	2	3
(32)	Feeling emotionally numb (for example, being unable to cry or unable to have loving feelings)	0	1	2	3
(33)	Feeling as if your future plans or hopes will not come true(for example, you will not have a career, marriage, children, or a long life)	0	1	2	3
(34)	Having trouble falling or staying asleep	0	1	2	3
(35)	Feeling irritable or having fits of anger	0	1	2	3
(36)	Having trouble concentrating (for example, drifting in and out of conversation, losing track of a story on television, forgetting what you read)	0	1	2	3
(37)	Being overly alert (for example, checking to see who is around you, being uncomfortable with your back to the door, etc.)	0	1	2	3
(38)	Being jumpy or easily startled (for example, when someone walks up behind you)	0	1	2	3

(39) How long have you been experiencing the problems that you reported above? (circle ONE)

1 Less than 1 month
2 1 to 3 months
3 More than 3 months

(40) How long after the traumatic event did these problems begin? circle ONE)

1 Less than 6 months
2 6 or more months

Part 4

Indicate below if the problems you rate in Part 3 have interfered with any of the following areas in your life DURING THE PAST MONTH. Circle YES or NO.

(41) Work	**YES**	**NO**
(42) Household chores and duties	**YES**	**NO**
(43) Relationships with friends	**YES**	**NO**
(44) Fun and leisure activities	**YES**	**NO**
(45) Schoolwork	**YES**	**NO**
(46) Relationships with your family	**YES**	**NO**
(47) Sex life	**YES**	**NO**
(48) General satisfaction with life	**YES**	**NO**
(49) Overall level of functioning in all areas of your life	**YES**	**NO**

Section 2

The following items deal with ways you coped with a significant trauma or negative event in your life. There are many ways to try to deal with problems. These items ask what part religion played in what you did to cope with this negative event. Obviously different people deal with things in different ways, but we are interested in how you tried to deal with it. Each item says something about a particular way of coping. We want to know to what extent you did what the item says. *How much or how frequently*. Don't answer on the basis of what worked or not – just whether or not you did it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

	Not at all	Somew hat	Quite a bit	A great deal
1. Looked for a stronger connection with God.				
2. Sought God's love and care.				
3. Sought help from God in letting go of my anger.				
4. Tried to put my plans into action together with God.				
5. Tried to see how God might be trying to strengthen me in this situation.				
6. Asked forgiveness for my sins.				
7. Focused on religion to stop worrying about my problems.				
8. Wondered whether God had abandoned me.				
9. Felt punished by God for my lack of devotion.				
10. Wondered what I did for God to punish me.				
11. Questioned God's love for me.				
12. Wondered whether my church had abandoned me.				
13. Decided the devil made this happen.				
14. Questioned the power of God.				

Section 3

Please rate the following statements on a scale between 1 (not at all) and 7 (very much so)

How religious do you consider yourself to be?	1	2	3	4	5	6	7
How important is Islam in your life?	1	2	3	4	5	6	7

Please circle the number that best matches your thoughts and feelings in relation to the event your described in Part 2 of the PDS

	Totally Disagree	Disagree Very Much	Disagree Slightly	Neutra	Agree Slightly	Agree Very Much	Totally Agree
The event could not have been prevented. It was God's decree	1	2	3	4	5	6	7
I sometimes feel angry with God for letting this happen to me	1	2	3	4	5	6	7
God punished me for my lack of faith	1	2	3	4	5	6	7
I sometimes wonder whether I deserved to experience the event	1	2	3	4	5	6	7
The event was a test of my faith by God	1	2	3	4	5	6	7
What happened to me was unfair	1	2	3	4	5	6	7
I must be patient with what happened, God will reward me in the afterlife	1	2	3	4	5	6	7
God punished me for my sins	1	2	3	4	5	6	7
I have to accept what happened as it is my fate	1	2	3	4	5	6	7
I thought that each hardship is followed by ease	1	2	3	4	5	6	7
The event was a sign of God's anger at me	1	2	3	4	5	6	7

Section 4

Instructions

Below is a list of thoughts people sometimes have after a stressful life events. Please read each item, and then indicate how much you agree with each statement in regards to the past seven days with respect to the traumatic event you described above on page 3. Please circle the appropriate response.

	Totally Disagree	Disagree Very Much	Disagree Slightly	Neutral	Agree Slightly	Agree Very Much	Totally Agree
Nothing good can happen to me anymore	1	2	3	4	5	6	7
My life has been destroyed by the trauma	1	2	3	4	5	6	7
I have no future	1	2	3	4	5	6	7
I am a weak person	1	2	3	4	5	6	7
I can't stop bad things from happening to me	1	2	3	4	5	6	7
I have permanently changed for the worse	1	2	3	4	5	6	7
My reactions since the event show that I am a lousy coper	1	2	3	4	5	6	7
If I think about the event, I will not be able to handle it	1	2	3	4	5	6	7
I will never be able to feel normal emotions again	1	2	3	4	5	6	7
I feel like an object not a person	1	2	3	4	5	6	7

I can't deal with even the slightest upset	1	2	3	4	5	6	7
I can't rely on myself	1	2	3	4	5	6	7
My reactions since the event mean that I am going crazy	1	2	3	4	5	6	7
I used to be a happy person but now I am always miserable	1	2	3	4	5	6	7
I feel dead inside	1	2	3	4	5	6	7
I can't trust that I will do the right thing	1	2	3	4	5	6	7
I feel like I don't know myself anymore	1	2	3	4	5	6	7
There is something wrong with me as a person	1	2	3	4	5	6	7
I am inadequate	1	2	3	4	5	6	7
I feel isolated and set apart from others	1	2	3	4	5	6	7
I will not be able to control my anger and will do something terrible	1	2	3	4	5	6	7
I have to be especially careful because you never know	1	2	3	4	5	6	7

what can happen next							
People are not what they seem	1	2	3	4	5	6	7
The world is a dangerous place	1	2	3	4	5	6	7
You can never know who will harm you	1	2	3	4	5	6	7
People can't be trusted	1	2	3	4	5	6	7
I have to be on my guard at all times	1	2	3	4	5	6	7
I can't rely on other people	1	2	3	4	5	6	7
The event happened because of the way I acted	1	2	3	4	5	6	7
There is something about me that made the even happen	1	2	3	4	5	6	7
The event happened to me because of the sort of person I am	1	2	3	4	5	6	7
Somebody else would not have gotten into the situation	1	2	3	4	5	6	7
Somebody else would have stopped the event from happening	1	2	3	4	5	6	7

Section 5

Instructions: We are interested in how you feel about the following statements. Read each statement carefully.

Indicate how you feel about each statement.

	Very strongly disagree	Strongly disagree	Mildly disagree	Neutral	Mildly agree	Strongly agree	Very strongly agree
There is a special person who is around when I am in need	1	2	3	4	5	6	7
There is a special person with whom I can share my joys and sorrows	1	2	3	4	5	6	7
My family really tries to help me	1	2	3	4	5	6	7
I get the emotional help and support I need from my family	1	2	3	4	5	6	7
I have a special person who is a real source of comfort to me	1	2	3	4	5	6	7
My friends really try to help me	1	2	3	4	5	6	7
I can count on my friends when things go wrong	1	2	3	4	5	6	7

I can talk about my problems with my family	1	2	3	4	5	6	7
I have friends with whom I can share my joys and sorrows	1	2	3	4	5	6	7
There is a special person in my life who cares about my feelings	1	2	3	4	5	6	7
My family is willing to help me make decisions	1	2	3	4	5	6	7
I can talk about my problems with my friends	1	2	3	4	5	6	7

Section 6

Instructions

Below is not related to any event. Listed below are some symptoms or problems that people sometimes have. Please read each one carefully and decide how much the symptom bothered or distressed you in the last week, including today. Place a tick in the appropriate column

Depression Symptoms	Not at all	A Little	Quite a bit	Extremely
1. Feeling low in energy, slowed down				
2. Blaming yourself for things				
3. Crying easily				
4. Loss of sexual interest or pleasure				
5. Poor appetite				
6. Difficulty falling asleep, staying asleep				
7. Feeling hopeless about future				
8. Feeling blue/ sad				
9. Feeling lonely				
10. Thoughts of ending your life				
11. Feeling of being trapped or caught				
12. Worrying too much about things				
13. Feeling no interest in things				
14. Feeling everything is an effort				
15. Feelings of worthlessness				

Section 7

Please read the following statements carefully and circle the appropriate response.

1. It is sometimes hard for me to go on with my work if I am not encouraged.	**True**	**False**
2. I sometimes feel resentful when I don't get my way.	**True**	**False**
3. On a few occasions, I have given up doing something because I thought too little of my ability.	**True**	**False**
4. There have been times when I felt like rebelling against people in authority even though I knew they were right.	**True**	**False**
5. No matter who I'm talking to, I'm always a good listener.	**True**	**False**
6. There have been occasions when I took advantage of someone.	**True**	**False**
7. I'm always willing to admit it when I make a mistake.	**True**	**False**
8. I sometimes try to get even rather than forgive and forget.	**True**	**False**
9. I am always courteous, even to people who are disagreeable.	**True**	**False**
10. I have never been irked when people expressed ideas very different from my own.	**True**	**False**
11. There have times when I was quite jealous of the good fortune of others.	**True**	**False**
12. I am sometimes irritated by people who ask favors of me.	**True**	**False**
13. I have never deliberately said something that hurt someone's feelings.	**True**	**False**

Section 8

Demographic Information

Age_____years

Gender (please circle): Male Female

Country of origin:_____

Sect: Sunni Shia

Another sect (please specify):_____

How many years of education have you received? _____years

Length of stay in the UK:_____

Have you received a diagnosis of posttraumatic stress disorder?

YES **NO** **I DON'T KNOW**

Appendix B

Ethical Approval

Faculty of Medicine and Health Sciences Research Ethics Committee

University of East Anglia

Azi Berzengi
Doctorate Course in Clinical Psychology
Norwich Medical School
University of East Anglia
Norwich Research Park
Norwich
NR4 7TJ

Research & Enterprise Services
West Office (Science Building)
University of East Anglia
Norwich Research Park
Norwich, NR4 7TJ

Telephone: +44 (0) 1603 591720
Email: fmh.ethics@uea.ac.uk

Web: www.uea.ac.uk/researchandenterprise

7th April 2014

Dear Azi,

Title: Investigating the Relationship between Religious and Alienation Appraisals, and Symptoms of Posttraumatic Stress Disorder (PTSD): A Correlational Study using an Islamic Community Sample.
Reference: 2013/2014 - 43

Thank you for sending such a thorough and complete response. The amendments to your above proposal have been considered by the Chair of the Faculty Research Ethics Committee and we can confirm that your proposal has been approved.

Please could you ensure that any further amendments to either the protocol or documents submitted are notified to us in advance and also that any adverse events which occur during your project are reported to the Committee. Please could you also arrange to send us a report once your project is completed.

The Committee would like to wish you good luck with your project.

Yours sincerely,

Yvonne Kirkham

Yvonne Kirkham
Project Officer

cc Laura Jobson

Appendix C

Participant Information Sheet

A Study Investigating the Relationship between Religious and Alienation Appraisals, and Symptoms of Posttraumatic Stress Disorder

My name is Azi Berzengi, and I am a Trainee Clinical Psychologist at the University of East Anglia (UEA). Thank you for considering participating in this study, which is part of my Doctoral in Clinical Psychology. Please read this information carefully. It will tell you more about the study and what will happen to the results. Please do not hesitate to ask if anything is unclear or if you would like more information.

What is the purpose of the study?

The study is about trauma reactions and how religion, more specifically Islam, may affect the way people make sense of their past traumatic experiences.

Who is being invited to take part?

You are invited to take part in the study if you are a first generation Muslim adult aged 18 and above, who can read and write in Arabic, and has experienced a significantly distressing life event in the past.

Do I have to take part?

No, your participation is completely voluntary. If you decide to participate, you will be asked to complete a consent form to show that you are happy to participate in this study. You are free to withdraw from the study at any time, without giving a reason.

How can I take part?

If you would like to take part in this study, you can email me at A.berzengi@uea.ac.uk. I will try to answer any questions you may have and then arrange for a meeting in private rooms in your community centre, at the public library, or at the University of East Anglia. You can either attend the meeting alone or with others who may also want to participate. This decision will be based on your preference.

What will happen if I take part?

I will ask you to attend a meeting during which you will complete a consent form followed by a questionnaire booklet, which should take approximately 50 minutes to complete. Once finished, you will receive £10 for your time and you will be asked to sign a receipt confirming that you have received the money. Some people may find some of the questions distressing since they ask you to think about distressing life events and personal experiences. If you agree to participate and find that you become too distressed to answer the rest of the questions, you have the right to end your participation and not return your questionnaire booklet. Also, you do not have to answer any question that you do not wish to, or make you uncomfortable.

Will my results be confidential?

Yes – all the forms and questionnaires will be kept strictly confidential. Your questionnaire booklet will have a unique number to use instead of your name to ensure that no one else can see which questionnaire booklet belongs to which person. All the forms will be kept in a locked cupboard at UEA, where they will be kept for

10 years, and will only be available to my supervisor and myself. After 10 years, the information will be securely destroyed.

If during the study you tell us something that suggests that you, or someone else, are being hurt, then I will contact the relevant agencies in order to provide you with the necessary support.

What will happen to the results of the study?

I will write up the results of the study in my doctoral thesis, which may also be sent to peer-reviewed journals. You will not be identified in any reports.

What are the possible disadvantages or risks of taking part?

Given that some of the questions ask you to recall traumatic experiences, you may experience some distress during or after your participation. However, research shows that questions about trauma are not harmful to participants' wellbeing. If you feel upset during the study, you may withdraw at any point. If you feel distressed following the study, then you are advised to contact your GP, one of the support organisations listed on your 'important information' sheet, my supervisor, or myself.

What are the possible benefits of taking part?

Apart from receiving £10 for your time and effort, the results of this study may help gain a better understanding about how religion impacts on people's interpretation and coping with life adversities. The results may also help Psychologists design and deliver more culturally appropriate therapies for people from the Islamic faith.

What if there is a problem, or I am unhappy with the study?

If you have any queries during the study, or if you are not happy about the study the please ask me, or contact my supervisor on the details below.

Who has reviewed the study?

The UEA Faculty of Medicine and Health Sciences Research Ethics Committee has reviewed and approved the study.

Further information and contact details

If you have any other queries about the study or if you are interested in finding out more about the results of the study, then please ask me or contact me, my supervisor, or Professor Kenneth Laidlaw on the details below;

Researcher: Azi Berzengi (Trainee Clinical Psychologist)

School of Medicine, Health Policy, and Practice. UEA, Norwich, NR4 7TJ. E-mail: A.Berzengi@uea.ac.uk.

Research Supervisor: Dr Laura Jobson (Clinical Lecturer in Clinical Psychology)

School of Medicine, Health Policy, and Practice. UEA, Norwich, NR4 7TJ. E-mail: L.Jobson@uea.ac.uk

Course Director: Professor Kenneth Laidlaw

School of Medicine, Health Policy, and Practice. UEA, Norwich, NR4 7TJ. E-mail: k.laidlaw@uea.ac.uk. Telephone: 01603 59 3600

Appendix D

Consent Form

Please initial the boxes below if you agree with the following statements;

I confirm that I have read and understood the information on the Participant Information Sheet. ☐

I understand who will have access to my results. ☐

I understand that the information will be kept confidential. ☐

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason. ☐

I agree to take part in the study ☐

Printed Name:_____

Signature:_____ Date:_____

Appendix E

Contact Details for Support Agencies

Thank you for agreeing to participate in this study. Your involvement is very much appreciated! Due to the nature of the study, there is a possibility that some people may find certain questions within the questionnaire booklet distressing since they ask you think about distressing life experiences.
Should you experience any distress following the completion of the questionnaires, you are advised to contact your GP or one of the organisations listed below.

Alternatively you can contact my supervisor or myself (details provided below) if you have any further questions or concerns about the study or your participation in it.

Norwich Mind
50 Sale Road, Norwich, NR7 9TP
Tel: 01603 432 457

Muslim Community Helpline
Monday to Friday 10:00-13:00
0208 904 8193 or 0208 908 6715

The Samaritans
24hr helpline: 08457 909 090

For support and advise in the UK
British Association for Counseling and Psychotherapy (BACP): 0870 443 5252

ASSIST (Assistance, Support and Self-Help in Surviving Trauma), 24hr PTSD helpline: 01788 560 800

Azi Berzengi (Trainee Clinical Psychologist)

School of Medicine, Health Policy, and Practice. UEA, Norwich, NR4 7TJ. E-mail: A.Berzengi@uea.ac.uk.

Dr. Laura Jobson (Clinical Lecturer in Clinical Psychology)
School of Medicine, Health Policy, and Practice. UEA, Norwich, NR4 7TJ. E- mail: L.Jobson@uea.ac.uk

Appendix F

Debriefing Sheet

Thank you for participating in this study, which aimed at understanding how Islam influences people's interpretations and meaning making of past traumatic events. If your participation has caused you any distress, then please contact your General Practitioner or any of the support organisations listed on your Important Information Sheet.

Should you have any questions about the study or its findings, then please contact me or my supervisor who will be able to answer your questions and provide you with a summary of the study's findings once completed.

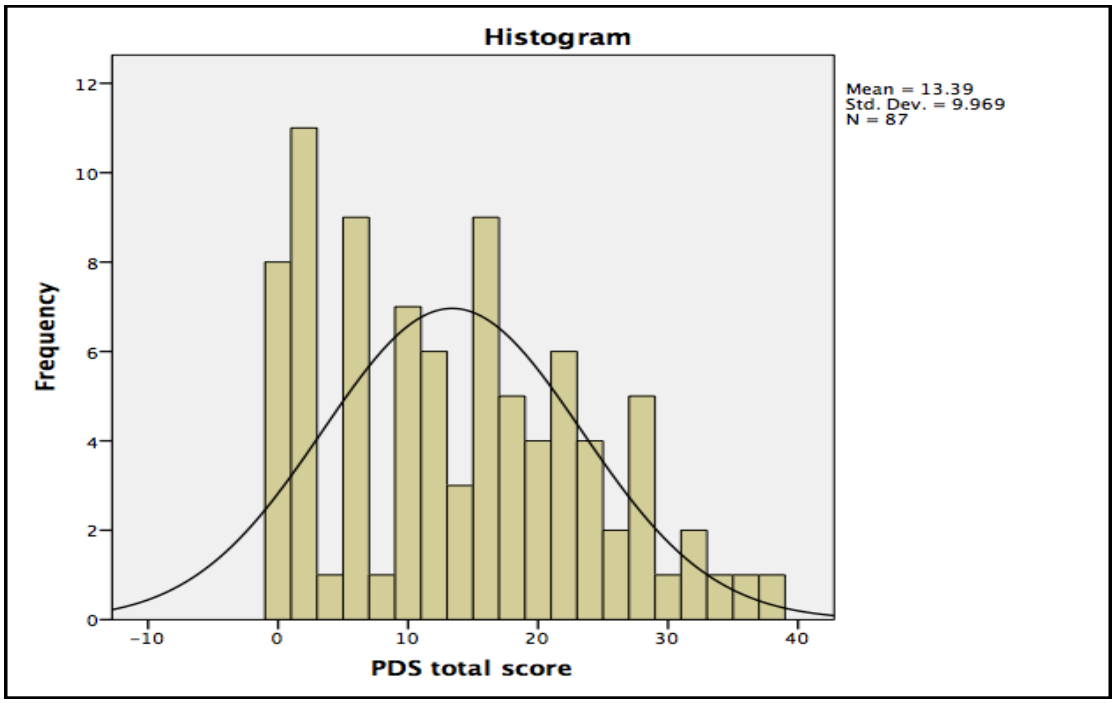
Azi Berzengi (Trainee Clinical Psychologist)

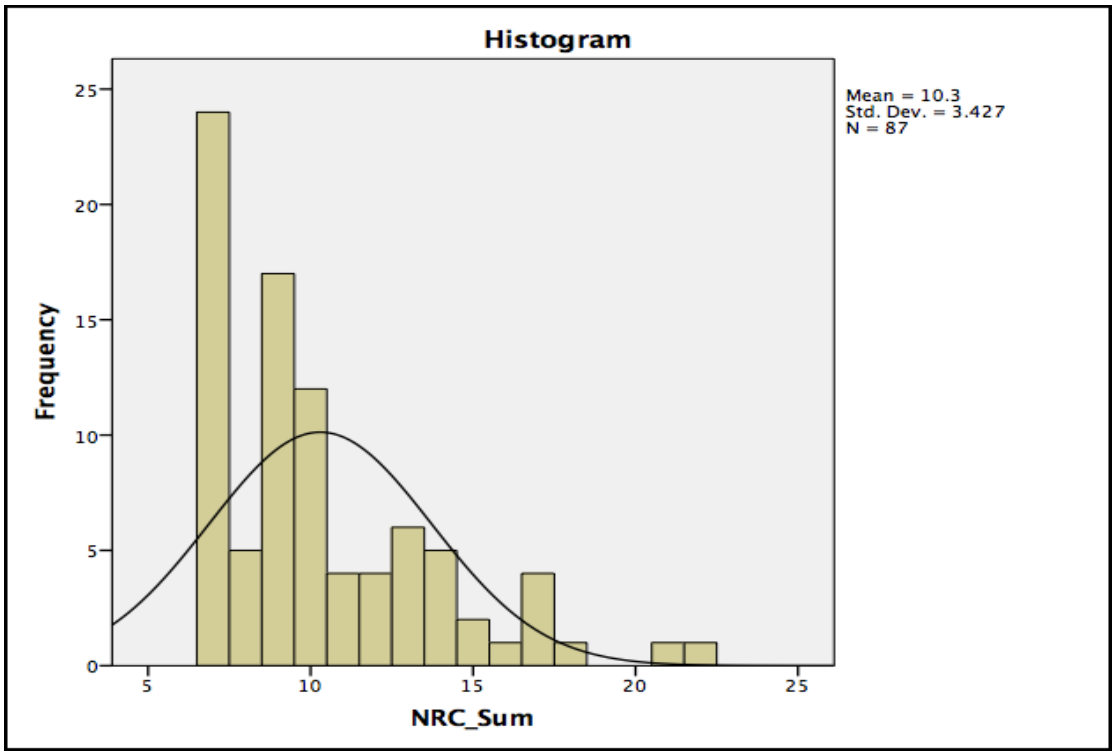
School of Medicine, Health Policy, and Practice. UEA, Norwich, NR4 7TJ. E-mail: A.Berzengi@uea.ac.uk.

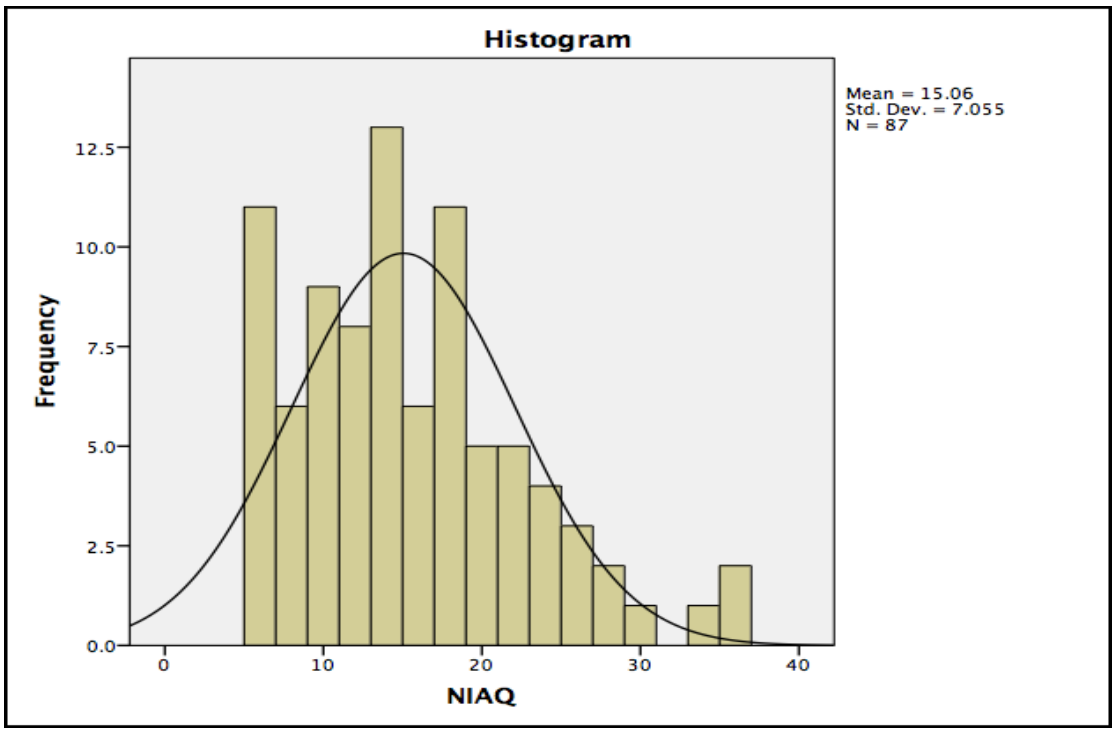
Dr. Laura Jobson (Clinical Lecturer in Clinical Psychology)
School of Medicine, Health Policy, and Practice. UEA, Norwich, NR4 7TJ. E- mail: L.Jobson@uea.ac.uk

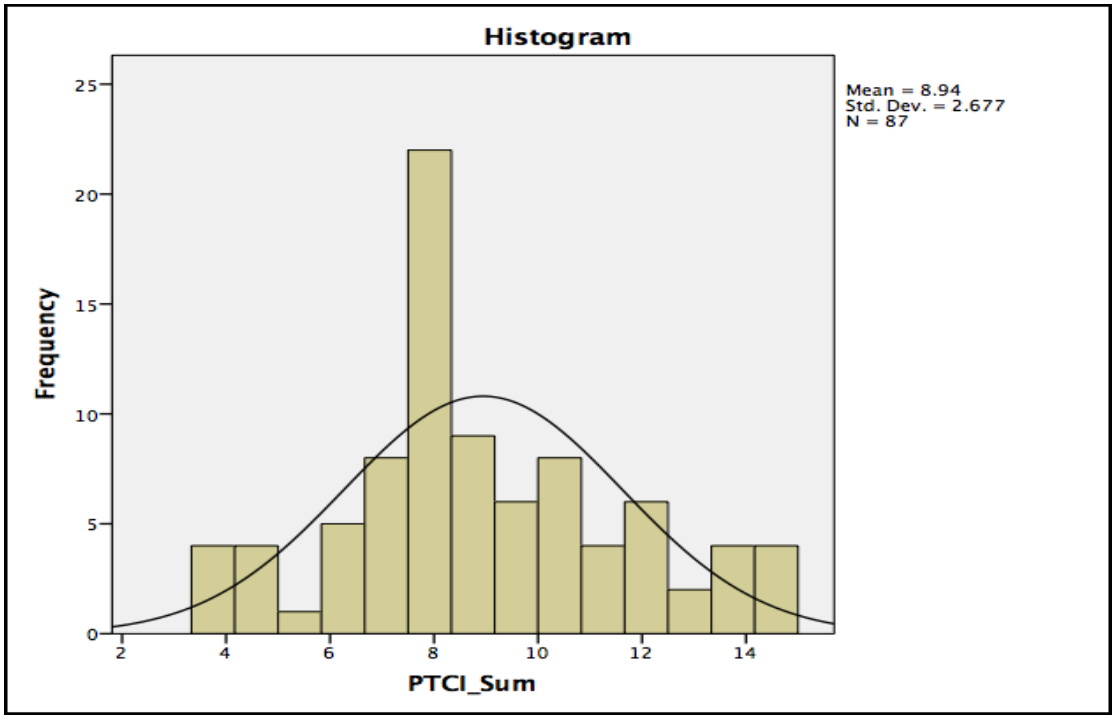
Appendix G

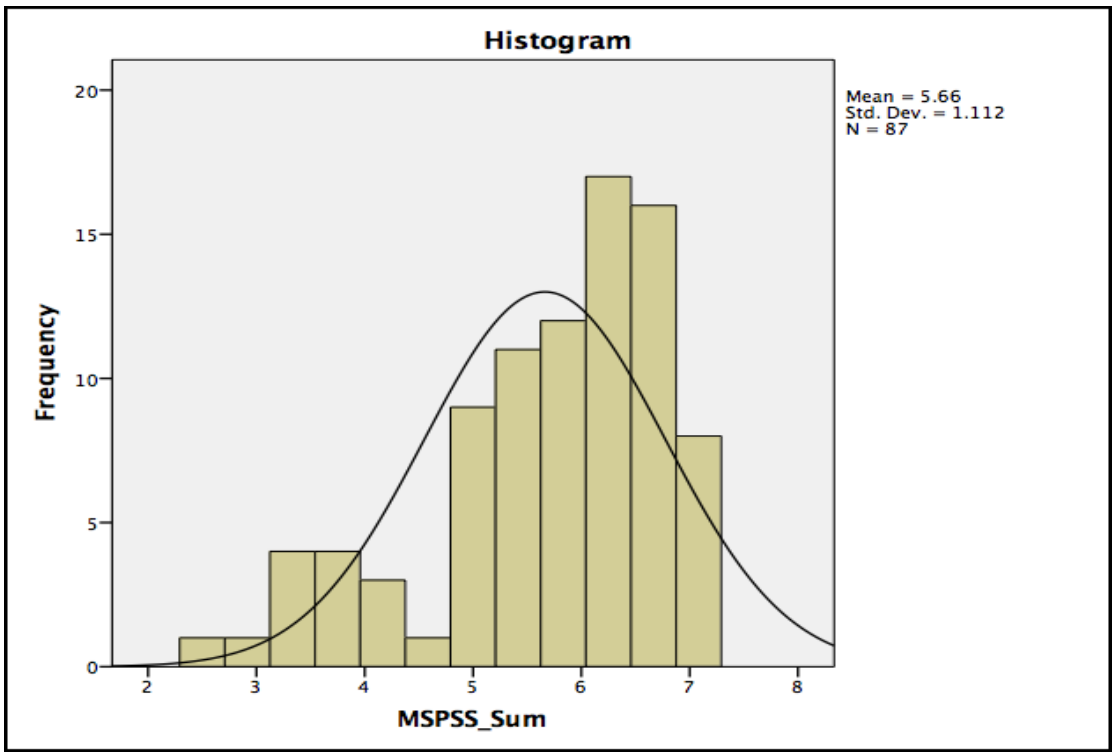
Histograms Showing the Data Distribution for the Main Study Variables





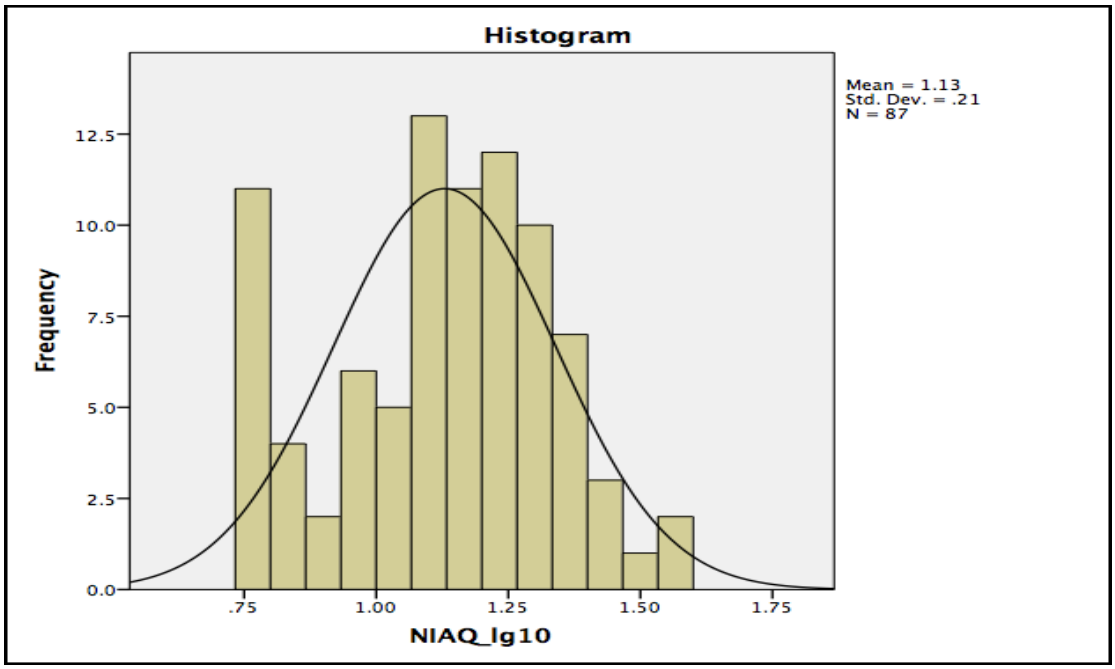

Histogram
Mean = 15.06
Std. Dev. = 7.055
N = 87
Frequency
NIAQ

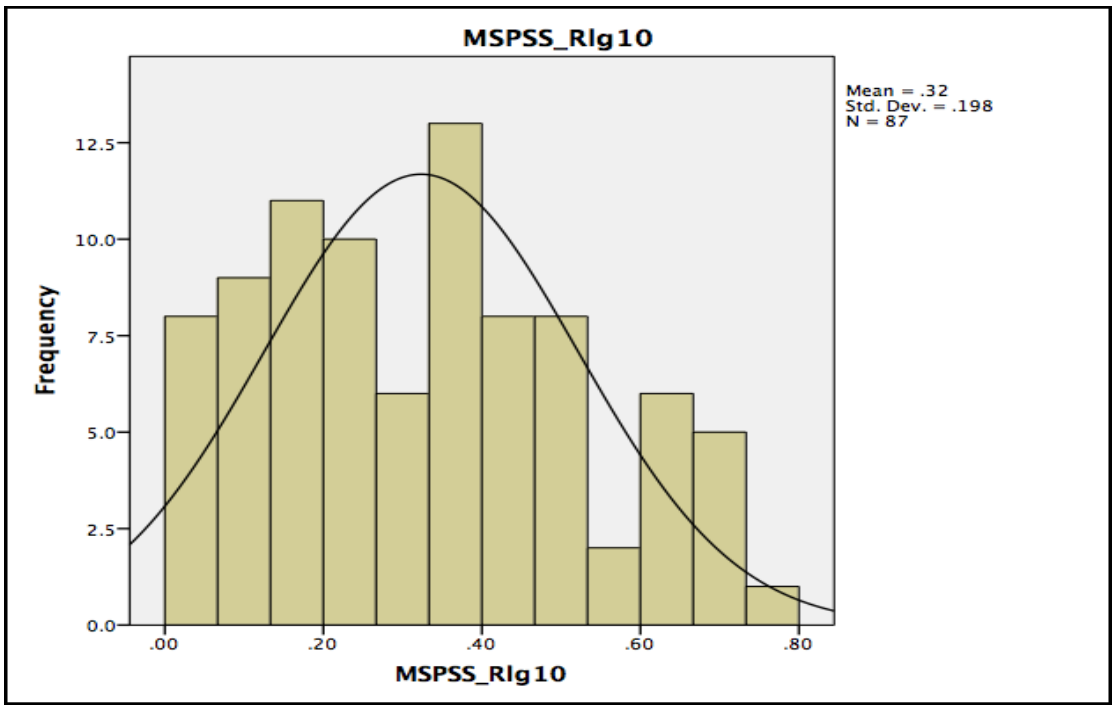

Histogram
Mean = 8.94
Std. Dev. = 2.677
N = 87
Frequency
PTCI_Sum


Histogram
Mean = 5.66
Std. Dev. = 1.112
N = 87
Frequency
MSPSS_Sum
0
5
10
15
20
2
3
4
5
6
7
8

Appendix H

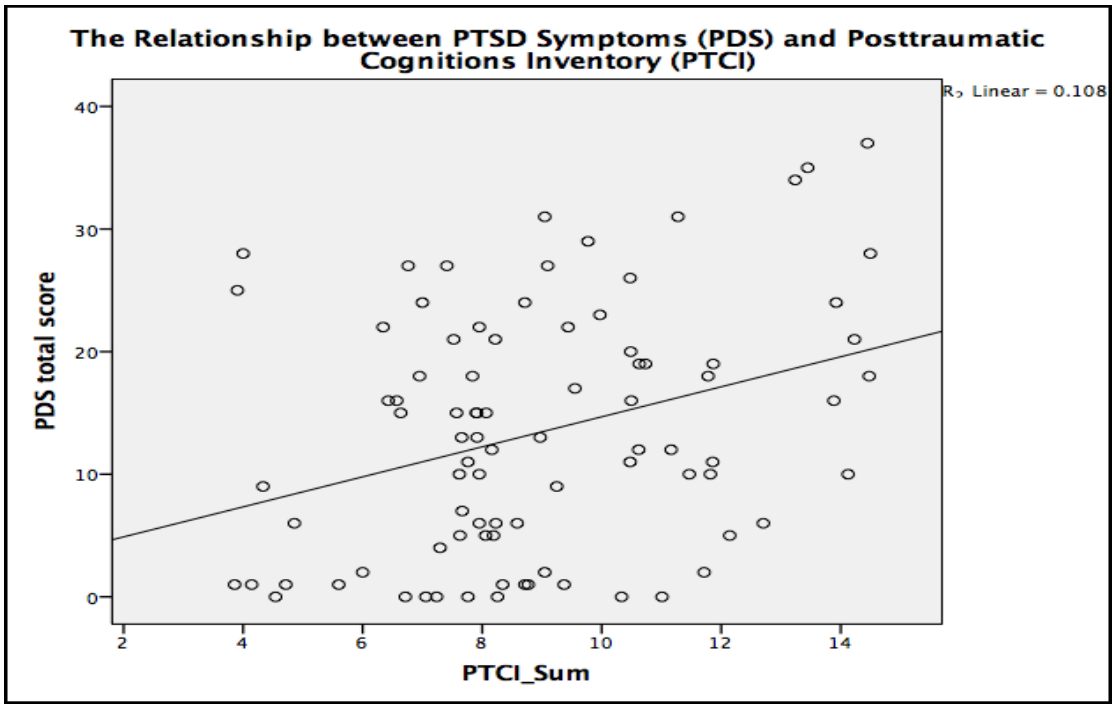
Histograms Showing the Statistically Transformed Data Distribution for the NIAQ and MSPSS

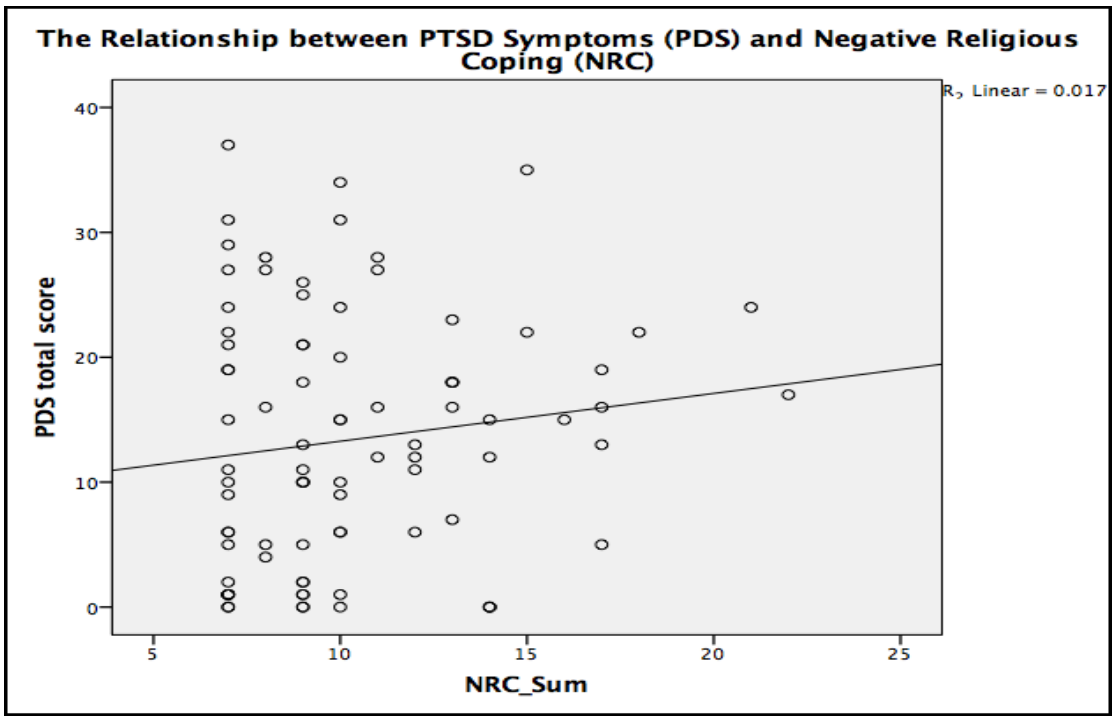


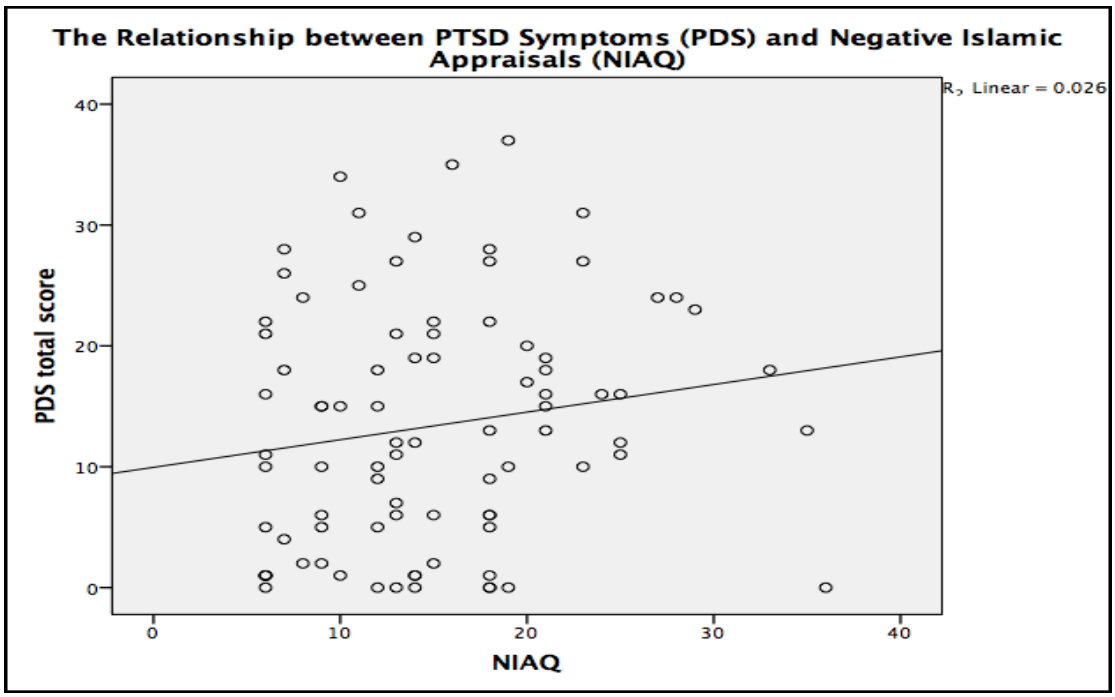


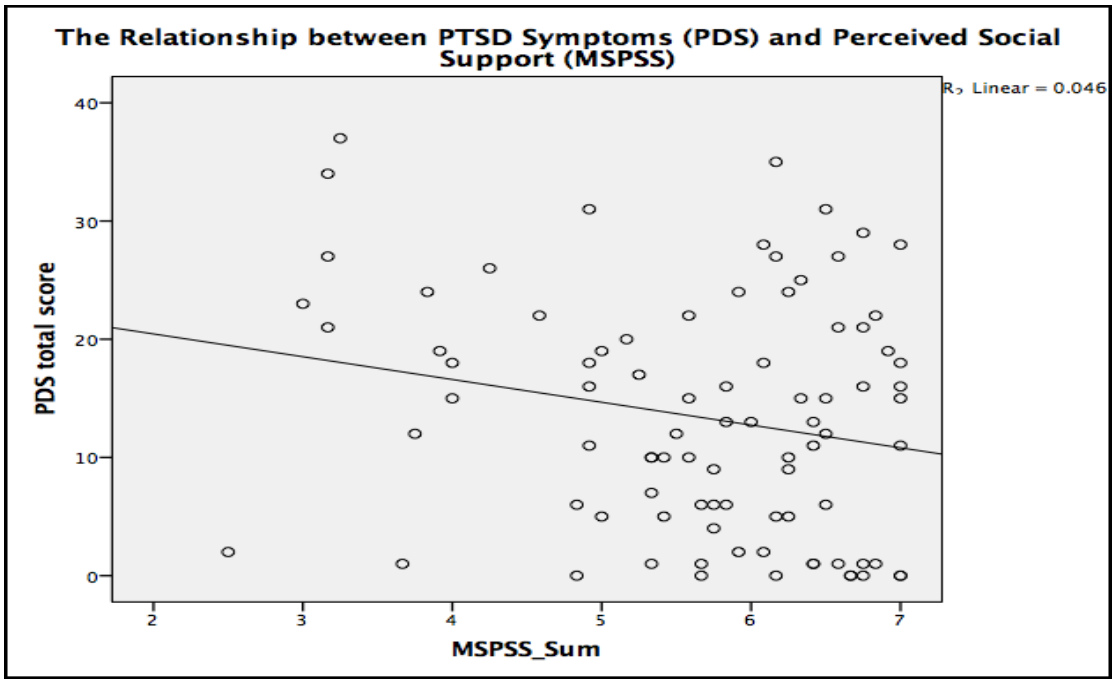
Appendix I

Scatter Plots Showing the Relationships between the Main Study Variables



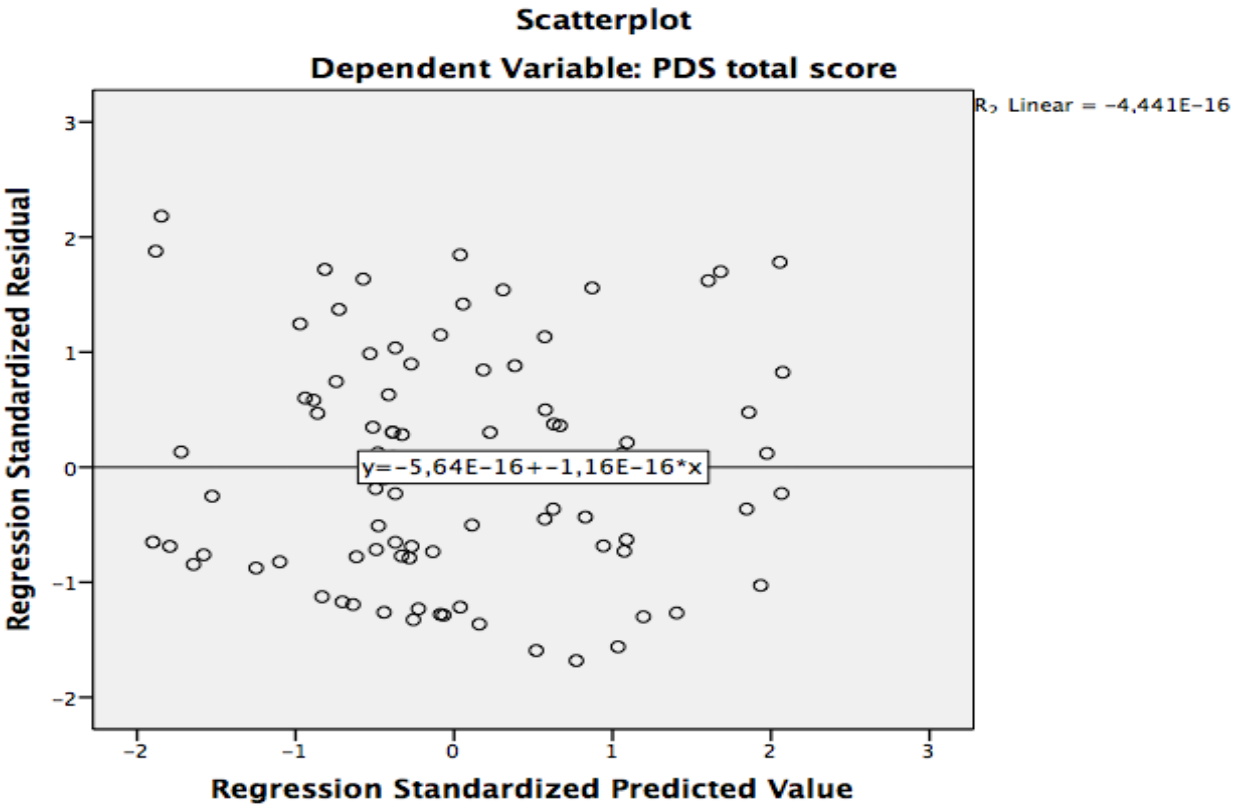


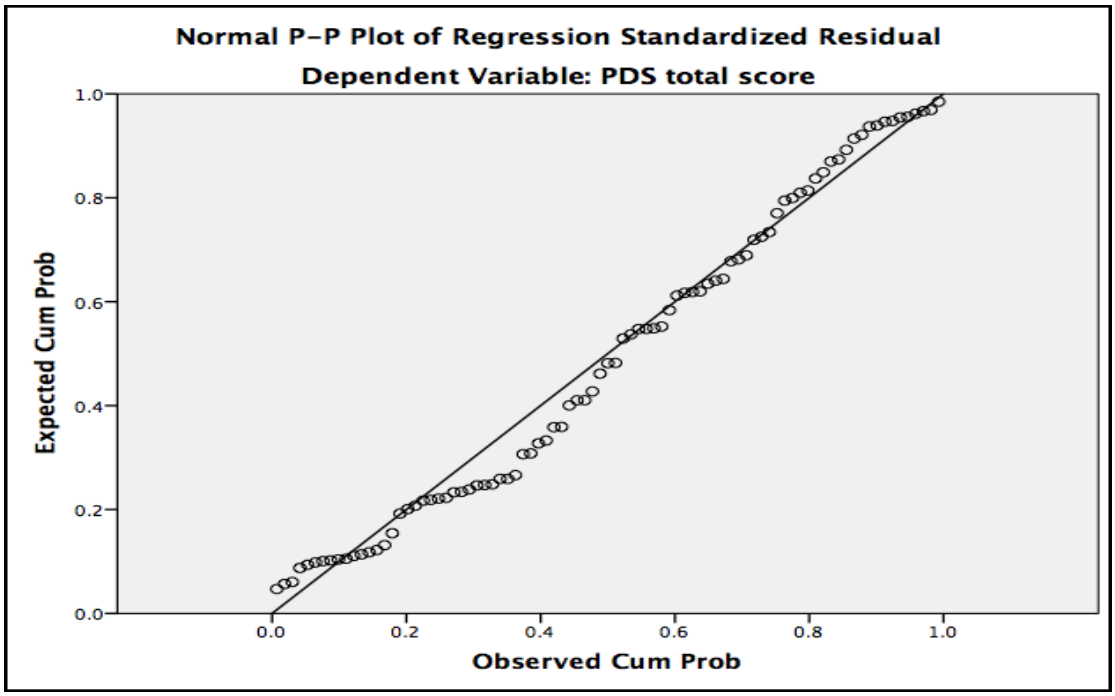

The Relationship between PTSD Symptoms (PDS) and Negative Islamic Appraisals (NIAQ)
R, Linear = 0.026
PDS total score
NIAQ
0
10
20
30
40


The Relationship between PTSD Symptoms (PDS) and Perceived Social Support (MSPSS)
R, Linear = 0.046
PDS total score
MSPSS_Sum
0
10
20
30
40
2
3
4
5
6
7

Appendix J

Homoscedasticity and Error Distribution Assumptions for the PDS and PTCI





Appendix K

Questionnaire Booklet (Arabic Version)

كُتَ#ب (لإستب#ا !

&شكُر ! لوقتك في2لمشا .كة ب6ـ22لبحث. =2ـ22لكُتَب: حتو 8
على عـN من2لفقر2 2I لتي تستكشف2لأحـ2C 2لمجـ6@ في
ماضـيكU NUN2لفعل2لعـVفـة U2N 2كـ2ـة لخاصة بك.
رجى قر2@ كل2لبنو2N لو2 @N في2لاستبـ \] بما في Zلك:
2لتعـلـما I[U2لرN بصـد f بقد .2لمستطـاd. بعض2لأسئلة
تستفسر عن2لصدما I2لنفسـة.2Zk شعر I بـأنّ\ =ـ2hلأسئلة
مؤلمة] فبإستطاعتك& \ لا تُكمل =ـ2hلأسئلة. بالإضافةkلى
Z]لك تحـNkستما@2لمعلوما I2لـ6مة لمنظَّما I2لتي :مكن
2لاتصا q بـ6ا في حا q كنت تشعر بالأسى.

القِسم الأوّل: التعليمات

الجزء الاول

ان كثيرا من الناس قد عاشوا او شهدوا حادثة صدمة او حادث نفسي في فترة من فترات حياتهم . ادناه قائمة من حوادث الصدمة. ضع اشارة (✓) في الصندوق المقابل **لكل** الحوادث التي تعرضت لها او شهدتها .

١: حادث خطير، حريق، او انفجار (مثلا، مصنع، مزرعة، داخل سيارة، او حادث قارب)	
٢: كارثة طبيعية (مثلا، زوبع ، فيضان ، اعصارقمعي ،اعصار (مصحوب برعد وبرق ومطر)، او زلازل كبيرة	
٣: اعتداء غير جنسي من قبل احد اعضاء العائلة او احد تعرفه (مثلا، السلب، هجوم جسدي، اطلاق نار، طعن، تهديد بالسلاح)	
٤: اعتداء غير جنسي من قبل شخص غريب (مثلا، السلب ، هجوم جسدي ، اطلاق نار، طعن ، تهديد بالسلاح)	
٥: اعتداء جنسي من قبل احد اعضاء العائلة او احد تعرفه (مثلا، اغتصاب ، او محاولة اغتصاب)	
٦: اعتداء جنسي من قبل شخص غريب (مثلا، اغتصاب، او محاولة اغتصاب)	
٧: معركة (او هجوم) عسكري او تواجد في منطقة حرب	
٨: اتصال جنسي عندما كنت في سن اقل من (١٨) سنة مع شخص يكبرك بخمس سنوات او اكثر	
٩: سجن (مثلا، نزيل سجن، اسير حرب، رهينة)	
١٠: تعذيب	
١١: مرض يهدد الحياة	
١٢: حادثة صدمة اخرى	

١٣: اذا كنت قد اشرت رقم (١٢) اعلاه، حدد حادثة الصدمة ادناه:

_____

_____

الجزء الثاني

١٤: اذا كنت قد اشرت على اكثر من حادثة صدمة في الجزء الاول، فضع (✓) في الصندوق ادناه امام <u>الحادث الذي يزعجك أكثر</u>. واذا كنت قد اشرت حادثة صدمة واحدة في الجزء الاول، فأشر على نفسه ادناه :

	حادث
	كارثة
	اعتداء غير جنسي من قبل احد اعضاء العائلة او احد تعرفه
	اعتداء غير جنسي من قبل شخص غريب
	اعتداء جنسي من قبل احد افراد العائلة او شخص تعرفه
	اعتداء جنسي من قبل شخص غريب
	معركة (او هجوم) عسكري
	اتصال جنسي عندما كنت في سن تحت (١٨) مع شخص يكبرك بخمس سنوات او اكثر
	سجن
	تعذيب
	مرض يهدد حياتك
	اخرى

في الاسطر ادناه، صِف بأختصار الصدمة التي اشرت اليها اعلاه

_____

_____

ادناه عدة اسئلة حول حادثة الصدمة التي وصفتها اعلاه

١٥: كم مضى على تعرضك لحادثة الصدمة؟ (ضع دائرة واحدة حول الجواب المناسب)

١	اقل من شهر
٢	شهر الى ثلاثة اشهر
٣	ثلاثة الى ستة اشهر
٤	ستة اشهر الى ثلاث سنوات
٥	من ثلاث الى خمس سنوات
٦	اكثر من خمس سنوات

ومايخص الاسئلة الاتية، ضع دائرة حول نعم او لا.

خلال حادثة الصدمة:

١٦: هل اصبت جسديا ؟	**نعم**	**كلا**
١٧: هل اصيب شخص اخر جسديا؟	**نعم**	**كلا**
١٨: هل تصورت (اعتقدت) بأن حياتك كانت في خطر؟	**نعم**	**كلا**
١٩: هل تصورت (اعتقدت) بأن حياة شخص اخر كانت في خطر؟	**نعم**	**كلا**
٢٠: هل شعرت بالعجز (بالضعف) ؟	**نعم**	**كلا**
٢١: هل شعرت بالفزع ؟	**نعم**	**كلا**

الجزء الثالث

ادناه قائمة من المشاكل التي يعاني منها الناس احيانا بعد تعرضهم لحادثة صدمة. اقرأ كل مشكلة بعناية وضع دائرة حول اي رقم من (٠ - ٣) يصف بشكل دقيق كم غالبا ازعجتك المشكلة في الشهر الماضي. قيم كل مشكلة حسب حادثة الصدمة التي وصفتها في الفقرة ١٤ (صفحة ٣).

٠ ليس اطلاقا او مرة واحدة فقط

١ مرة في الاسبوع او اقل / احيانا

٢ مرتان الى اربع مرات في الاسبوع / نصف الوقت

٣ خمس مرات او اكثر في الاسبوع / تقريبا دائما

٢٢: راودتك افكار او صور مزعجة حول حادثة الصدمة التي اتت الى ذهنك والتي لم ترغب بها اصلا	٠	١	٢	٣
٢٣: راودتك احلاما مزعجة او كوابيس حول حادثة الصدمة	٠	١	٢	٣
٢٤: إسترجعتَ حادثة الصدمة، الفعل او الشعور كما لو أنها تحدث ثانية	٠	١	٢	٣
٢٥: شعرت بأنزعاج عاطفي عندما ذُكِرتَ بحادثة الصدمة (مثلا، شعور بالخوف، الغضب، الحزن، الذنب، الخ ..)	٠	١	٢	٣
٢٦: شعرت بردود فعل جسدية عندما ذُكِرتَ بحادثة الصدمة (مثلا، التعرق، ضربات قلب قوية)	٠	١	٢	٣
٢٧: تحاول ان لاتفكر، تتحدث، او تشعر بحادثة الصدمة	٠	١	٢	٣
٢٨: تحاول ان تتجنب النشاطات، الناس، او الامكنة التي تذكرك بحادثة الصدمة	٠	١	٢	٣
٢٩: لاتكون قادرا ان تتذكر جزءا مهما من حادثة الصدمة	٠	١	٢	٣
٣٠: لديك رغبة أقل بكثير او تشارك أقل بكثير في النشاطات المهمة	٠	١	٢	٣
٣١: تشعر بالانعزال او الوحدة ممن حواليك	٠	١	٢	٣
٣٢: تشعر بفقدان الاحساس العاطفي (مثلا عدم القدرة على البكاء او عدم امتلاك مشاعر الحب)	٠	١	٢	٣
٣٣: تشعر وكأن خططك او امالك المستقبلية سوف لن تتحقق (مثلا، لن تكون لديك وظيفة، زواج، اطفال، او حياة طويلة)	٠	١	٢	٣

٣٤: لديك مشكلة في الخلود الى النوم او البقاء نائما	٠	١	٢	٣
٣٥: تشعر بالانزعاج او لديك نوبات من الغضب	٠	١	٢	٣
٣٦: لديك مشكلة في التركيز (مثلا، التحول من موضوع الى اخر اثناء الحديث، عدم تذكر احداث قصة على التلفاز، نسيان ماتقرأه)	٠	١	٢	٣
٣٧: تكون متنبهاً الى حد كبير (مثلا، تدقق ان ترى من حولك، تشعر بعدم الراحة وظهرك على الباب، الخ...)	٠	١	٢	٣
٣٨: سريع الإهتياج, او تتفاجئ من الامور بسرعة (مثلا عندما يمشي احدهم خلفك)	٠	١	٢	٣

٣٩: كم مضى عليك وانت تعاني من المشاكل التي ذكرتها اعلاه ؟ (ضع دائرة واحدة حول الجواب المناسب)

١ اقل من شهر

٢ شهر الى ثلاثة اشهر

٣ اكثر من ثلاثة اشهر

٤٠: كم مضى من الوقت بعد حادثة الصدمة عندما بدأت المشاكل تظهر لديك (ضع دائرة واحدة حول الجواب المناسب)

١ اقل من ستة اشهر

٢ ستة اشهر او اكثر

الجزء الرابع

بيِّن ادناه فيما اذا كانت المشاكل التي اشرتها في الجزء الثالث قد تداخلت مع اي من نواحي حياتك ادناه خلال الشهر الماضي. ضع دائرة حول نعم او كلا.

٤١: العمل	**نعم**	**كلا**
٤٢: الأعمال المنزلية والواجبات	**نعم**	**كلا**
٤٣: العلاقات مع الاصدقاء	**نعم**	**كلا**
٤٤: المتعة ونشاطات اوقات الفراغ	**نعم**	**كلا**
٤٥: العمل المدرسي	**نعم**	**كلا**
٤٦: علاقاتك مع عائلتك	**نعم**	**كلا**
٤٧: الحياة الجنسية	**نعم**	**كلا**
٤٨: القناعة العامة بالحياة	**نعم**	**كلا**
٤٩: المستوى العام للعمل في جميع مجالات حياتك	**نعم**	**كلا**

القِسم الثاني: التعليمات

ان الفقرات الاتية تتعامل مع طرق أو أساليب التعامل مع صدمة كبيرة أو حادث سلبي في حياتك. هناك طرق عديدة للتعامل مع المشاكل. ان الفقرات الاتية تسأل عن الدورالذي لعبه الدين فيما قمت به للتعامل مع حادثة الصدمة التي وصفتها في الفقرة ١٤ (صفحة ٣). ومن الواضح ان الناس يتعاملون مع الاشياء بطرق مختلفة، ولكننا مهتمون بمعرفة كيفية تعاملك مع ذلك الحادث السلبي. ان كل فقرة من الفقرات الاتية تقول شيئا عن طريقة معينة للتعامل. نحن نريد معرفة الى اي مدى فعلت ما يقوله كل فقرة من الفقرات الاتية. كم أو كم غالبا. لاتجب على الاسئلة على اساس ما نفع أم لا ـ فقط قل فيما اذا فعلت ذلك ام لا. أجب حسب الاختيارات الموجودة أدناه. حاول أن تقييم كل فقرة بمعزل عن الفقرات الاخرى في فكرك. كن صادقا مع نفسك عند الاجابة على الاسئلة. (ضع دائرة حول الجواب المناسب).

	لا على الإطلاق	قليلا	الى حد ما	الى حد كبير
بحثت عن علاقة قوية مع الله.	١	٢	٣	٤
بحثت عن حب الله ورعايته.	١	٢	٣	٤
بحثت عن المساعدة من الله لاخرج عن غضبي.	١	٢	٣	٤
حاولت ان اضع خططي محل التنفيذ بمشيئة الله.	١	٢	٣	٤
حاولت ان ارى كيف ان الله سيقويني في هذا الموقف.	١	٢	٣	٤
طلبت المغفرة عن ذنوبي.	١	٢	٣	٤
ركزت على الدين لاوقف قلقي بشأن مشاكلي.	١	٢	٣	٤
تساءلت فيما اذا تخلى الله عني.	١	٢	٣	٤
شعرت بأنني معاقب من الله لنقص اخلاصي وتقواي.	١	٢	٣	٤
تساءلت عن ماذا فعلت ليعاقبني عليه الله.	١	٢	٣	٤
شككت عن حب الله لي.	١	٢	٣	٤
تساءلت اذا كان مسجدي/مجتمعي قد تخلى عني.	١	٢	٣	٤
قررت بأن الشيطان هو من جعل هذا يحدث	١	٢	٣	٤
شككت في قدرة الله.	١	٢	٣	٤

القِسم الثالث: التعليمات
أرجو أن تُقيّم البيان التالي على الجدول بين **١ (ليس على الإطلاق)** و **٧ (كثيراً جداً)**.

كم تعتبر نفسك متديناً	١	٢	٣	٤	٥	٦	٧
ما مدى أهمية االإسلام في حياتك	١	٢	٣	٤	٥	٦	٧

يُرجى وضع دائرة حول الرقم الذي يلائم تفكيركَ ومشاعركَ فيما يتعلق بالحدث الذي وصفته في الفقرة ١٤ (صفحة ٣).

	لا أتفق إطلاقاً	لا أتفق كثيرا	لا أتفق قليلا	محايد	أتفق قليلا	أتفق كثيرا	أتفق كليا
لم يكنْ من الممكن منع هذا الحدث. كانَ قضاء الله.	١	٢	٣	٤	٥	٦	٧
أنا أحياناً أشعُرُ بالغضب من الله لأنهُ سَمَحَ أن يحدث ليَّ هذا.	١	٢	٣	٤	٥	٦	٧
عاقبني الله لقلة إيماني.	١	٢	٣	٤	٥	٦	٧
أنا أحياناً أتسائل فيما إذا كُنتُ أستحقُ تجربة هذا الحدث.	١	٢	٣	٤	٥	٦	٧
هذا الحدث هوإختبار من الله لإيماني.	١	٢	٣	٤	٥	٦	٧
ما حدثَ ليَّ كان غير مُنصف.	١	٢	٣	٤	٥	٦	٧
يجب أن أكونَ صبوراً مع ماحدث، الله سوف يكافئني في الحياة الآخرة.	١	٢	٣	٤	٥	٦	٧
عاقبني الله على ذنوبي.	١	٢	٣	٤	٥	٦	٧
يجب أن أتقبل ما حدثَ لأنهُ قدري.	١	٢	٣	٤	٥	٦	٧
أنا فكرتُ بأنَ بعدَ كُلِّ عسرٍ يُسرْ.	١	٢	٣	٤	٥	٦	٧
هذا الحدث دلالة على غضب الله عليّ.	١	٢	٣	٤	٥	٦	٧

القِسم الرابع: التعليمات

ادناه قائمة من الافكار التي تراود الناس احيانا بعد حوادث حياتية مؤلمة. رجاء اقرأ كل فقرة، وثم بين كم تتفق مع كل عبارة فيما يتعلق بالسبعة أيام الماضية فيما يخص حادثة الصدمة التي وصفتها في الفقرة ١٤ (صفحة ٣). رجاء ضع دائرة حول الجواب المناسب .

	لا أتفق إطلاقاً	لا أتفق كثيرا	لا أتفق قليلا	محايد	أتفق قليلا	أتفق كثيرا	أتفق كليا
لا شئ حسن سيحدث لي بعد الان.	١	٢	٣	٤	٥	٦	٧
حياتي قد تدمرت بسبب الصدمة.	١	٢	٣	٤	٥	٦	٧
ليس لدي مستقبل.	١	٢	٣	٤	٥	٦	٧
انا انسان ضعيف.	١	٢	٣	٤	٥	٦	٧
لااستطيع منع الامور السيئة من الحدوث لي.	١	٢	٣	٤	٥	٦	٧
انا تغيرت بشكل دائمي نحو الاسوأ.	١	٢	٣	٤	٥	٦	٧
ان ردود افعالي منذ الحادث تبين بأنني مكافح سئ.	١	٢	٣	٤	٥	٦	٧
إذا فكّرتُ بالحادث ، سوفَ لن اكون قادرا على التعامل معه.	١	٢	٣	٤	٥	٦	٧
لن يكون بمقدوري ابدا الاحساس بعواطف طبيعية ثانية.	١	٢	٣	٤	٥	٦	٧
اشعر بأنني شئ لانسان.	١	٢	٣	٤	٥	٦	٧
لااستطيع التعامل حتى مع ابسط اضطراب.	١	٢	٣	٤	٥	٦	٧
لايمكنني الاعتماد على نفسي.	١	٢	٣	٤	٥	٦	٧

	لا أتفق إطلاقاً	لا أتفق كثيرا	لا أتفق قليلا	محايد	أتفق قليلا	أتفق كثيرا	أتفق كليا
ان ردود افعالي منذ الحادث تعني بأنني سوف اجن.	١	٢	٣	٤	٥	٦	٧
اعتدت ان اكون انسانا سعيدا ولكنني الان تعيس دائما.	١	٢	٣	٤	٥	٦	٧
اشعر بالموت داخلي.	١	٢	٣	٤	٥	٦	٧
لااؤمن بأنني سوف اقوم بفِعل الشيء الصحيح.	١	٢	٣	٤	٥	٦	٧
اشعر بأنني لااعرف نفسي بعد الان.	١	٢	٣	٤	٥	٦	٧
هناك شئ ماخطأ بي كأنسان.	١	٢	٣	٤	٥	٦	٧
انا انسان غير كاف.	١	٢	٣	٤	٥	٦	٧
اشعر بالعزلة وبالانفصال من الاخرين.	١	٢	٣	٤	٥	٦	٧
سوف لن اكون قادرا على السيطرة على غضبي وسوف افعل شيئا فظيعا.	١	٢	٣	٤	٥	٦	٧
عليّ ان اكون حذرا بشكل خاص لانك لن تعلم ابدا مالقادم (ماذا سيحدث لاحقا).	١	٢	٣	٤	٥	٦	٧
الناس ليسوا على مايظهرون عليه.	١	٢	٣	٤	٥	٦	٧
العالم مكان خطر.	١	٢	٣	٤	٥	٦	٧
لايمكنك ابدا معرفة من سيؤذيك.	١	٢	٣	٤	٥	٦	٧
لايمكن الوثوق بالناس.	١	٢	٣	٤	٥	٦	٧

	لا أتفق إطلاقاً	لا أتفق كثيرا	لا أتفق قليلا	محايد	أتفق قليلا	أتفق كثيرا	أتفق كليا
يجب ان اكون حذرا في كل الاوقات.	١	٢	٣	٤	٥	٦	٧
لايمكنني الاعتماد على الناس الاخرين.	١	٢	٣	٤	٥	٦	٧
الحادث حدث لي بسبب الطريقة التي تصرفت بها.	١	٢	٣	٤	٥	٦	٧
هناك شئ خاص بي الذي جعل الحادث يحدث.	١	٢	٣	٤	٥	٦	٧
حدث الحادث لي بسبب نمط الشخص الذي انا عليه.	١	٢	٣	٤	٥	٦	٧
شخص اخر ماكان ليقع في الموقف.	١	٢	٣	٤	٥	٦	٧
شخص اخر كان ليمنع الحادث من الحدوث.	١	٢	٣	٤	٥	٦	٧

القِسم الخامس: التعليمات

نحن مهتمون ان نعرف كيف تشعر حول العبارات الاتية، اقرأ كل عبارة بدقة. وبيّن كيف تشعر تجاه كل فقرة. رجاء ضع دائرة حول الجواب المناسب.

	لا أتفق إطلاقاً	لا أتفق كثيرا	لا أتفق قليلا	محايد	أتفق قليلا	أتفق كثيرا	أتفق كليا
هناك شخص خاص (هام) حولي عندما اكون بحاجة اليه.	١	٢	٣	٤	٥	٦	٧
هناك شخص خاص (هام) استطيع مشاركة افراحي واحزاني معه.	١	٢	٣	٤	٥	٦	٧
ان عائلتي حقا تسعى ان تساعدني.	١	٢	٣	٤	٥	٦	٧
احصل على الدعم والاسناد العاطفي الذي احتاجه من عائلتي.	١	٢	٣	٤	٥	٦	٧
لدي صديق خاص (هام) الذي هو مصدر حقيقي للراحة (الطمأنينة) لي.	١	٢	٣	٤	٥	٦	٧
ان اصدقائي حقا يحاولون ان يساعدونني.	١	٢	٣	٤	٥	٦	٧
يمكنني الاعتماد على اصدقائي عندما تسوء الامور.	١	٢	٣	٤	٥	٦	٧
استطيع ان اتحدث عن مشاكلي مع عائلتي.	١	٢	٣	٤	٥	٦	٧
لدي اصدقاء استطيع مشاركة افراحي واحزاني معهم.	١	٢	٣	٤	٥	٦	٧
هناك شخص خاص (هام) في حياتي يهتم بمشاعري.	١	٢	٣	٤	٥	٦	٧
عائلتي راغبة ان تساعدني لأتخذ قراراتي.	١	٢	٣	٤	٥	٦	٧
يمكنني التحدث عن مشاكلي مع اصدقائي.	١	٢	٣	٤	٥	٦	٧

القِسم السادس: التعليمات

ما ادناه غير متصل بأي حادث. مامذكور ادناه هو بعض الأعراض أو المشاكل التي يعاني منها الناس احيانا. رجاء اقرأ كل فقرة بعناية وقررّ إلى أي مدى تسبب هذه الأعراض في إزعاجك أو شعورك بالأسى خلال الاسبوع الماضي، ومن ضمنها اليوم. ضع اشارة (✓) في المكان المناسب.

	لا على الإطلاق	قليلا	إلى حدٍ ما	كثيرا جدا
الشعوربالانحطاط في الطاقة و التباطأ.				
إلقاء اللوم على نفسك في الكثير من الأمور.				
البكاء بسهولة.				
فقدان الرغبة أو المتعة في الجنس.				
قلّة الشهية.				
صعوبة النوم، او البقاء نائما.				
الشعور باليأس حول المستقبل.				
الشعور بالحزن.				
الشعور بالوحدة.				
مراودة افكار حول انهاء حياتك.				
الشعور بالوقوع في فخٍ ما أو كأنّك حبيس.				
القلق الشديد حول الامور.				
إنعدام الرغبة في الأمور.				
الشعور بأن كل شئ يتطلب جهدا كبيرا.				
الشعور بعدم الاهمية (الشعور برخص الذات)				

القِسم السابع: التعليمات رجاء اقرأ كل فقرة بعناية وضع دائرة حول الجواب المناسب.		
في بعض الأحيان يصعبُ عليّ الإستمرار في عملي إذا لم أُشَجَعْ.	صحيح	خطأ
في بعض الأحيان أشعُرُ بالإستياء عندما لا أحصل على ما أريدْ.	صحيح	خطأ
في بعض الأحيان، تنازلتُ عن فعل بعض الأشياء لأنني لم أثقْ بمقدرتي.	صحيح	خطأ
كان هناك أوقات عندما شعرتُ بالتمرد ضد الناس في السلطة حتى عندما كنتُ أعلمُ إنهم على حق.	صحيح	خطأ
بغَضْ النظر مع من أتحدث، أنا دائماً مستمع جيد.	صحيح	خطأ
كان هناك بعض الأوقات عندما كُنتُ أستغلُ شخصٌ ما.	صحيح	خطأ
أنا دائماً أرغبُ بالإعتراف عندما أخطأ.	صحيح	خطأ
أنا أحياناً أحاولُ أن آخذ حقي عِوضاً عن السماح و النسيان.	صحيح	خطأ
أنا دائماً لطيف، حتى مع الناس الذين لديهم طبع سيء.	صحيح	خطأ
أنا لم أنزعج أبداً عندما عبَّر الناس عن أفكار تختلف جداً عن تفكيري.	صحيح	خطأ
كان هناك أوقاتٌ، عندما كُنْتُ أغارُ من الآخرين لحسن حضهم.	صحيح	خطأ
أنا أحياناً أنزعج من الناس الذين يطلبون خدمةً مني.	صحيح	خطأ
أنا لم أتَعَّمَدْ أبداً قول شيء يمكنه أن يجرح مشاعر شخصٍ آخر.	صحيح	خطأ

القِسم الثامن: التعليمات

من فضلك أكمل المعلومات التالية.

العمر_____ **سنة**

نوع الجنس (ضع دائرة حول الجواب المناسب) **أنثى** **ذكر**

االبلد االأصلي_____

المذهب (ضع دائرة حول الجواب المناسب) **سُنّي** **شيعي**

مذهب آخَر (حدد من فضلك)_____

كم عدد سنوات التعليم الذي تلقيته؟_____ **سنة**

طول الفترة الزمنية التي تعيش في المملكة المتحدة (بريطانيا) _____ **سنة**

هل تلقيت تشخيص اضطراب ما بعد الصدمة؟ (أو شِدّة ما بعد الحادثة)

نعم **كلا** **لا أعرف**

شكراً على مُشاركتِك في هذا البَحثْ

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