POSTTRAUMATIC CULTURAL DIFFERENCES IN TRAUMA-CENTERED IDENTITY AND SELF-CONSISTENCY

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Abstract

Posttraumatic stress disorder (PTSD) is an anxiety disorder that can occur in response to traumatic experiences. Research has shown that the trauma memory may become central to a survivor's life story and result in a trauma-centred identity. Posttraumatic changes to identity vary across cultures. Trauma-centred identity has been found to be positively associated with PTSD symptoms in individualistic cultures, but not in collectivistic cultures. Cultural differences have also been observed in levels of self-consistency. Individualistic cultures value high levels of consistency, whereas collectivistic cultures promote identity flexibility and adaptation to different social contexts. Several PTSD models describe the involvement of self-consistency in posttraumatic coping, but research to date has yet to examine cultural variations in self-consistency and their relation to trauma-centred identity and PTSD.

The present study investigated the relationships between self-consistency, trauma-centred identity and posttraumatic symptoms across cultures. Trauma survivors from individualistic (n= 60 British) and collectivistic (n= 37 Soviets) cultures completed the Centrality of Events Scale, a self-consistency measure, and provided self-defining memories and self-cognitions. Trauma-centred identity was positively associated with posttraumatic symptoms in both cultural groups. Self-consistency was negatively associated with trauma-centred identity in the two groups, and with posttraumatic symptoms in the Soviet culture. Mediation analyses indicated that levels of self-consistency mediated the impact of trauma-centeredness on the development of PTSD. It can be concluded that, following trauma, self-consistency appears to be protective for British and Soviets. The clinical implications of the present finding, particularly the benefits of self-consistency in the treatment of clients from British and Soviet cultures, are discussed.

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1 Introduction

1.1 Overview

Posttraumatic stress disorder (PTSD) is an anxiety disorder that can develop in the aftermath of trauma. Several of the dominant theoretical models of PTSD highlight the role of the self, and various ways the self may be influenced by traumatic experiences, in the development and maintenance of PTSD (e.g., Conway & Pleydell-Pearce, 2000; Ehlers & Clark, 2000; Jobson, 2009; Rubin, Berntsen, & Bohni, 2008). A prominent idea, supported by empirical findings, is that the memory of the trauma may become a cornerstone of one's life story (Conway & Pleydell-Pearce, 2000). This may lead to a self or an identity that is centred round the traumatic experience. Levels of trauma-centred identity have been found to be associated with PTSD symptoms. These results have been found repeatedly, using different methods of identity assessment, in clinical and non-clinical participants from Western, individualistic populations (e.g., Berntsen & Rubin, 2004). However, emerging evidence suggests that individuals with PTSD from non-Western, collectivistic populations do not display higher levels of trauma-centred identity (e.g., Jobson & O'Kearney, 2008). Such findings suggest cultural differences in posttraumatic changes to identity.

Identity consistency, also referred to as self-consistency, is defined as a congruent view of the self (Boucher, 2011). High levels of self-consistency have been shown to relate to, and predict, psychological well-being (e.g., Donahue, Robins, Roberts, & John, 1993). It has been hypothesised that self-consistency needs are involved in posttraumatic coping, particularly concerning the incongruence of the trauma with non-trauma aspects of the self (Conway & Pleydell-Pearce, 2000; Ehlers & Clark, 2000; Jobson, 2009; Rubin et al., 2008). A number of

PTSD models regard the need for self-consistency as leading to changes to survivors' identity (Conway & Pleydell-Pearce, 2000; Jobson, 2009; Rubin et al., 2008). Yet the nature of the relationships between self-consistency, the centrality of the trauma to identity and the eventual development of PTSD, had received little theoretical and empirical attention.

Cross-cultural research has provided evidence for cultural differences in the desired levels of self-consistency. Maintaining a consistent sense of self across relationships and social contexts is normative and valued in Western, individualistic cultures. Non-Western, collectivistic cultures have a different perception of self-consistency, whereby one is expected to be flexible and adaptive to different situations, and thus, being highly self-consistent is viewed as a marker of arrogance or immaturity (e.g., Suh, 2002). Therefore, the evidence points to cultural differences in the desired levels of self-consistency and in posttraumatic changes in identity. It is necessary to investigate these cultural differences to enable a better understanding of the relationships between self-consistency levels, the development of trauma-centred identity and PTSD, as well as to provide culturally-appropriate models of PTSD.

This introductory chapter begins with a brief description of the diagnostic and clinical characteristics of PTSD. Next, contemporary cognitive theories of PTSD are described. The literature on the relationship between PTSD and trauma-centred identity is reviewed, followed by a description of the self and theories of self-consistency with relation to cultural differences and PTSD. Finally, the chapter concludes with a description of the rationale and research questions for this study.

1.2 Posttraumatic Stress Disorder

1.2.1 Definition and diagnosis.

Posttraumatic stress disorder (PTSD) is an anxiety disorder that affects a significant proportion of those who experience trauma. Events considered as traumas include combat, torture, accidents, assault, rape, life threatening illness and natural disasters. The diagnosis of PTSD is characterised by three symptom clusters: re-experiencing, avoidance and hyperarousal. Re-experiencing symptoms are unwanted and repetitive flashbacks, nightmares, memories, reliving of the trauma and emotional and bodily reactions to trauma reminders. Avoidance and numbing symptoms include efforts to escape the thoughts, places and behaviours associated with the event, difficulties to remember or discuss the trauma, a diminished interest in previously enjoyable activities and emotional numbing or lack of positive emotions toward others. Hyper-arousal symptoms consist of hyper-vigilance, increased startle response, difficulties concentrating, poor sleep, irritability and bursts of anger (American Psychiatric Association [APA], 2000).

1.2.2 Prevalence rates, chronicity and costs of PTSD.

Lifetime exposure to trauma has been found to range from 69-81% (e.g., de Vries & Olff, 2009; Norris, 1992; Stein, Walker, Hazen, & Forde, 1997). The majority of survivors display symptoms of PTSD in the initial period following the trauma, but for many of them these symptoms vanish spontaneously within three to six months (Foa & Riggs, 1995). Around 25% of trauma survivors develop PTSD (Green, 1994), and 74% of people diagnosed with PTSD experience symptoms for more than six months (Breslau, 2001).

Trauma and PTSD are documented throughout the world. PTSD is increasingly being observed in most societies and cultures (Figueira et al., 2007; Foa, Keane, Friedman, & Cohen, 2009). The evidence on the prevalence of trauma exposure and PTSD across ethnicities and cultures is mixed. Roberts, Gilman, Breslau, Breslau, and Koenen's (2011) comprehensive study found that 84% of White Americans were exposed to potentially traumatic events, compared with 66% of Asian Americans. Of those, 7.4% of the former and 4% of the latter developed PTSD during the course of their life. Similar lifetime prevalence rates of PTSD have been reported in Western populations (e.g., 6.8% in North Americans; Kessler, Berglund, Demler, Merikangas, & Walters, 2005). Although higher prevalence rates have been documented in non-Western cultures, they often pertain to post-conflict populations, such as refugees (e.g., Hinton et al., 2006) and internally displaced people (Thapa & Hauff, 2005). One study that compared posttraumatic reactions to similar events across different cultures found comparable prevalence rates of PTSD in Kenyans and Americans (North et al., 2005).

Posttraumatic responses carry a heavy social and financial burden. PTSD is associated with health risks, illness and social and occupational problems (Green & Kimerling, 2004; Lauterbach, Vora, & Rakow, 2005). Often, trauma survivors seek help from non-psychiatric medical services for a host of physical conditions, either instead or alongside mental health services (Rauch et al., 2009). PTSD is associated with workplace costs, especially lost productivity (Greenberg et al., 1999). In the United States, the annual expenditure of lost productivity due to PTSD was $3 billion (Kessler, 2000) and the annual mental health spending for trauma-related crime was $166.5 billion (Solomon & Davidson, 1997). Altogether, PTSD is a debilitating condition, reported in one in four trauma survivors, and associated with grave social and economic costs.

1.2.3 Comorbidity of PTSD and other conditions.

There is a high comorbidity for PTSD and other health conditions. Individuals with PTSD are more than twice as likely to suffer physical health conditions compared to those without PTSD, even when age, socioeconomic status and depression are accounted for (Kimerling, 2004). Further evidence suggests that PTSD mediates the association between trauma exposure and the negative impacts on physical health (Schnurr & Green, 2004). PTSD is associated with a unique disregulation of the immune system, a condition that is related to chronic physiological and mental stress (Altemus, Dhabhar, & Yang, 2006). In veterans, there is evidence that the severity of PTSD symptoms predicts health problems at 18-24 months (Wagner, Wolfe, Rotnitsky, Proctor, & Erickson, 2000). According to the World Health Organization's Global Burden of Disease (2004), PTSD costs 3.5 million years of healthy life worldwide.

Alongside the increased physical health risk, nearly 80% of people with PTSD meet the diagnostic criteria for additional mental health disorders (Helzer & Pryzbeck, 1988; Solomon & Davidson, 1997). PTSD usually predates the comorbid condition and is associated with having a history of mental illness (Kessler et al., 1995). The co-existence of PTSD and depression is especially high. A national comorbidity study reported that 47.9% of PTSD sufferers had comorbid Major Depression, compared with 11.7% of those without PTSD (Kessler et al., 1995). Shalev et al. (1998) reported similar comorbidity rates one month and four months after the traumatic incident. The comorbidity of PTSD and depression is associated with increased severity of symptoms and with decreased levels of functioning (Shalev et al., 1998). An extensive, epidemiologic study by Breslau et al. (2000) suggests a shared vulnerability to PTSD and depression in trauma victims. Given that PTSD is the more

common primary diagnosis when the two co-occur, Kessler et al. (1995) speculated that PTSD instigates depression. Additional disorders found to have high rates of comorbidity with PTSD are substance misuse, obsessive compulsive disorder and panic disorder (Kessler et al., 1995).

In summary, trauma survivors often endure occupational, economic, physical and mental health difficulties in addition to PTSD. Thus, PTSD sufferers often demand high levels of resources from the health care system (Solomon & Davidson, 1997).

1.3 Psychological Models of PTSD

Conceptual models of PTSD have drawn on socio-cognitive (e,g., Horowitz, 1976; Janoff-Bulman, 1992), conditioning (e.g., Keane, Zimering, & Caddell, 1985), information processing (e.g., Foa, Steketee, & Rothbaum, 1989) and emotional processing (Foa & Riggs, 1993; Foa & Rothbaum, 1998) theories. These were described by Brewin and Holmes (2003). Other models draw attention to the trauma memory and identity. These latter theories relate more closely to the variables examined in the present investigation. These models and their relevance to the current study are discussed below.

1.3.1 Dual representation theory (DRT).

A fundamental premise of the DRT (Brewin et al., 1996; Brewin & Holmes, 2003) regards trauma memories in PTSD as fundamentally different to ordinary memories. According to DRT, trauma memories are kept in two distinct and parallel memory systems. Memories that are stored in the Verbally Accessible Memory system (VAM) are integrated with other autobiographical information and can be intentionally summoned. They are verbal or written accounts of what was consciously noticed during and after the traumatic event. They also contain the primary and secondary emotions that were felt during and after the trauma.

Differently, perceptual information from the trauma which was noticed too briefly to be consciously registered is encoded and analyzed in a Situationally Accessible Memory system (SAM). In this perceptual processing, events are not stored verbally, but rather, as sensory and somatic memories. SAM memories can be very powerful, as they often elicit the primary emotions that were felt during the trauma, for instance, fear (Brewin & Holmes, 2003). The DRT hypothesises that in PTSD, the SAM takes over and repeatedly brings emotional and perceptual elements of the trauma experience into consciousness. Memories in SAM are sensory rather than verbal, and therefore, they are difficult to describe, and often remain unintegrated with and uninformed by other autobiographical knowledge (Brewin & Holmes, 2003). Flashbacks, a hallmark symptom of PTSD, are hypothesised to be stored in SAM, as they are highly emotional and involuntarily triggered. Intrusive trauma memories, another core PTSD symptom, also share similarities with SAM memories, as they are often fragmented, chronologically disorganized and involve sensory-perceptual components (Brewin, 2011; Brewin et al., 1996; Foa, Molnar, & Cashman, 1995; Jelinek, Randjbar, Seifert, Kellner, & Moritz, 2009; Jones, Harvey, & Brewin, 2007).

Brewin (2001) outlined neurological processes that provide evidence for the DRT. They involve the amygdala, a brain structure associated with hard-wired reactions to danger, and the hippocampus, an important structure for creating coherent and integrated memories. Trauma information is transported to the amygdala via hippocampal and non-hippocampal neural circuits. Hippocampal pathways are hypothesised to be related to the VAM system because they are associated with well-integrated, consistent and intentional memories. Memories stored in the hippocampus have temporal information that locates them in the past (Kesner, 1998), similarly to VAM memories. Information that is transported via non-

hippocampal pathways is associated with the SAM system, because it tends to be unintegrated with other existing information and it may be triggered automatically by perceptual cues. Non-hippocampal memories lack temporal context, and much like SAM memories, they are experienced as if they were happening at present (Brewin, 2001).

In terms of therapy, the dual existence of the trauma memory in two memory systems requires interventions in both VAM and SAM. In the VAM, treatment includes a conscious reappraisal of the event, so that the trauma memory becomes integrated, and less conflicting, with previously existing beliefs. Another component of therapy aims to construe new and less emotionally-laden SAMs to obstruct the original ones (Brewin, 1989; Brewin & Holmes, 2003).

1.3.2 The schematic, propositional, analogue and associative representation (SPAARS) model.

The SPAARS model (Dalgleish, 1999; Dalgleish, 2004) proposes that in PTSD, there is a problematic discrepancy, or inconsistency, between the trauma memory and one's pre-trauma schemas. Like the DRT (Brewin et al., 1996), it regards the trauma memory as qualitatively different to non-trauma memories.

The SPAARS describes four levels of mental representation. These levels overlap with other cognitive models of PTSD. The *schematic* level resembles the concept of schemas and represents abstract, generic knowledge. The *propositional* level is similar to VAM and represents referential meaning in verbal, narrative form. With some resemblance to SAM, the *analogical* level processes memories as sensory and proprioceptive images accompanied by non-verbal information. Finally, the *associative* level connects information from the other three levels, similar to the fear network theory by Foa, Steketee, and Rothbaum (1989). The

former three levels encode new information and function as working memory where active information is manipulated. Referential information, such as thoughts and visual images, is processed in the propositional and analogical levels, and is then integrated at the schematic level to a consistent schematic sense of an entire event. Information processing is governed by the presently dominant schema, and thus, information that is congruent with the dominant schema is preferred.

According to SPAARS, emotions are generated in two ways. Information processed at the schematic level generates emotions that are in line with future goals. A second type is that of automatically-generated emotions that result from previous emotional experiences. Traumatic events generate goal-driven emotions, for example, fear may be generated if the goal of safety is threatened. Information about these events is encoded in the first three levels and is linked by the associative level.

PTSD symptoms may develop when traumatic events are continually appraised as threatening and as inconsistent with previous schemas. Re-experiencing symptoms occur when trauma-related information enters awareness. Hyper-arousal symptoms are associated with the constant activation of the fear association and its sense of danger. This leads to processing biases in favour of trauma-related information that trigger the trauma representations and lead to more intrusions. The trauma representations are linked across the different levels, but are not integrated with existing information. Therefore, triggers that are related to discrete aspects of the trauma activate the whole trauma network. Attempts to protect the self from these uncomfortable experiences ultimately lead to avoidance symptoms.

The model acknowledges the importance of individual differences in the types of dominant pre-trauma schemas, and whether they remain dominant post-trauma.

Therapeutically, SPAARS suggests that the resolution of PTSD symptoms requires change at the propositional and analogical levels. New meanings may then be generated at the higher, schematic level, to resolve the discrepancy between the trauma and pre-trauma schemas (Dalgleish, 1999; Dalgleish, 2004). While the multilevel nature of SPAARS may enhance its explanatory potential, the model is criticized for being overly complex and challenging to use and to test empirically (Power, 2005).

1.3.3 The self-memory system (SMS).

The SMS (Conway & Pleydell-Pearce, 2000) is a cognitive model of autobiographical memory which, like the models described above, conceptualises the trauma memory in PTSD as different to non-trauma memories. The SMS has two main elements: an *autobiographical memory knowledge base* and a *working self.* The autobiographical memory knowledge base consists of three levels of knowledge specificity: lifetime periods (e.g., "when I was at school"), general events (e.g., "playing basketball") and event-specific knowledge (e.g., specific details of an incident, including images and emotions). Autobiographical memories are specific patterns of activity across the knowledge levels. The second element, the working self, draws on Baddeley's (1986) working memory as a set of control processes that organize and modify other systems. In SMS, it is defined as a complex hierarchy of goals and sub-goals, connected by positive and negative feedback loops (Carver & Scheier, 1982; 1998). The working self encodes autobiographical knowledge and coordinates new information to reduce inconsistency between desired goals and the present state. Consequently, the working self has a crucial role in the construction of memories in the process of remembering.

More recently (Conway, Meares, & Standart, 2004), the *conceptual self* was introduced within the SMS as a system that recognizes "socially- constructed schema and categories that

define the self, other people, and typical interactions with the surrounding world… drawn from the influences of familiar and peer socialization, schooling and religion, as well as the stories, fairy-tales, myths and media influences that are constitutive of an individual's culture" (Conway, 2005, p.597). The conceptual self is independent of temporally defined knowledge, and can activate autobiographical information linked with self concepts. Therefore, the conceptual self, alongside the working self, controls and regulates autobiographical remembering.

The SMS suggests that in PTSD, trauma memories are not integrated in long-term autobiographical knowledge, and instead, their encoding is strongly associated with the goals of the working self. Consequently, the trauma memory remains an uncontextualised episodic experience, highly accessible and intrusive. Reminders of trauma-related goals (e.g., to be safe) may bring the destabilizing trauma memories actively into consciousness (Conway & Pleydell-Pearce, 2000). Without the autobiographical context, there is no signal to the survivor that the trauma is being remembered, as opposed to being experienced, and symptoms of re-experiencing may then follow (Conway, Meares, & Standart, 2004). Environmental triggers (i.e., event-specific knowledge) can elicit trauma memories directly, because these memories have not been integrated in the long-term autobiographical memory which normally impedes direct access to episodic memories. These highly accessible trauma memories demand goal change, and so their activation is followed by inhibition, resulting in symptoms of avoidance (Ehlers & Clark, 2000).

Correspondence and coherence are important processes in the SMS. Correspondence aims to keep an accurate record of reality, and is seen as having evolutional sources (e.g., the knowledge that lions pose a threat; Conway et al., 2004). Coherence, also known as self-

coherence or self-consistency, aims to maintain consistency between memories and present goals, self perceptions and beliefs (Conway, 2005; Greenwald, 1980). Coherence is involved in encoding, remembering and re-encoding, so that beliefs and knowledge are confirmed by matching memories. Coherence generally helps to maintain current goals. Goal maintenance is desirable because goal change requires subsequent changes to other goals, overall a taxing process. Thus, the working self aims to minimize the appearance of memories which may challenge or threat the coherence of the self system. It may distort such threatening memories as a way of prioritizing those that meet current goals. Hence, individuals tend to retain memories that correspond with their working self goals and to alter information which requires goal change (Conway, 2005). To a certain extent, coherence between the trauma and the conceptual self may be accomplished through inhibition or distortion of the trauma memory (Conway, 2005). Over time, these inconsistencies are too psychologically demanding, and may result with transformations to the existing self-schema. In PTSD, these schema modifications often emphasize victimhood or changes to the self following the trauma (Conway, 2005).

One criticism of the SMS involves the hypothesised schema modifications. The model described changes to the self in PTSD, but trauma-themed self-schemas, and their specific causations, require further elaboration. In addition, the SMS regards coherence needs, but individual differences in self-consistency levels and their implications for PTSD are not accounted for.

1.3.4 Ehlers and Clark's model.

Ehlers and Clark's (2000) cognitive appraisal model of PTSD builds on Brewin et al's (1996) premise: the trauma memory is inadequately integrated in autobiographical memory. Ehlers and Clark's model refers to theories of classical conditioning to explain how trauma

reminders become exceptionally associated with future danger. These associations lead to strong perceptual priming, defined as an unusually low perceptual threshold for stimuli associated with the trauma. That is, objects or details related to the traumatic event can activate the trauma memory, and due to the low perceptual threshold, they are more easily noticed (Ehlers & Clark, 2000).

Negative appraisals about the traumatic event and its effects are hypothesised to have an important role in the development and maintenance of PTSD. In PTSD, appraisals of the self may highlight meaningful and permanent self changes following the traumatic event. They may also disconfirm, or appear inconsistent with, positive self appraisals that existed before the trauma. Vulnerability to negative self-appraisals (e.g., “I am weak”) is particularly associated with the cognitive state of mental defeat, which refers to a perceived inability to influence one’s future. Negative self-appraisals (e.g., “I am vulnerable”) are also related to previous experiences of trauma or helplessness (Dunmore, Clark, & Ehlers, 1997, 1998, 1999). The impact of the trauma memory on the type of appraisals results with selective retrieval of congruent memories and information. PTSD appraisals are often themed with danger, violation of standards and loss. Therefore, they may create a sense of ongoing threat and PTSD symptoms. Posttraumatic symptoms are perpetuated by self-relevant appraisals about the trauma and its sequelae. Cognitive and behavioural responses, such as safety behaviours, initially aim to reduce the threat, but they stand in the way of cognitive change and maintain the problem.

Ehlers and Clark’s (2000) model is well supported empirically. There is evidence that PTSD severity relates to mental defeat (e.g., Dunmore, Clark, & Ehlers, 2001) and to alienation and perceived permanent and negative change to one’s character (e.g., Ehlers,

Maercker, & Boos, 2000). Further empirical evidence relates PTSD with peri-traumatic processing (i.e., cognitive processing during the event), safety behaviours and avoidance (for a review, see Conway & Holmes, 2003). Negative self-appraisals have been related to PTSD diagnosis and symptom severity, and reductions of these appraisals following treatment was associated with fewer symptoms (Karl, Rabe, Zollner, Maercker, & Stopa, 2009).

In sum, Ehlers and Clark's model describes four cognitive domains in the development and maintenance of PTSD. First, the trauma memory is shaped in part by peri-traumatic processing of the nature of the traumatic event (e.g., sudden versus predictable), previous trauma exposure and reactions, prior beliefs (e.g., about personal safety) and one's state during the event (e.g., high arousal, which may impact cortisol levels and impede the encoding of the event). Second, the model describes negative appraisals of the event and its sequelae. Third, the trauma memory is associated with a sense of current threat and with PTSD symptoms. Fourth, maladaptive cognitive and behavioural strategies that maintain the symptoms are outlined. The model emphasizes the role of appraisals, and regards early experiences and beliefs in themselves as insufficient to the development of PTSD.

1.3.5 The mnemonic model.

The mnemonic model (Berntsen & Rubin, 2006a) challenges the idea that traumatic memories are qualitatively different to other autobiographical memories, proposed by Brewin et al. (1996). Rather, the mnemonic model claims that "there is no partial or complete, indelible memory of the initial encoding that can be recovered….. just normal memory functioning in extreme situations" (Rubin, Berntsen, & Klindt Johansen, 2008, p. 986).

In the mnemonic model, trauma memories are seen as explicit (i.e., conscious, voluntary or involuntary) and influenced by goals, beliefs, attitudes, and individual and

personality factors, such as gender and neuroticism. The more available and self-defining the memory, the more likely it is to result in PTSD. As trauma memories are hypothesised to be similar to other autobiographical memories, theoretical models and research findings on general autobiographical memory are seen as relevant to PTSD (Rubin et al., 2008). The model is supported by the findings that schema violations do not necessarily cause fragmented memories (Schank, 1982; 1999). Memories of extremely emotional experiences are encoded and consolidated to a greater extent than less emotionally arousing events, because of the personal relevance, uniqueness, emotional intensity of the experience and the release of stress hormones during encoding (Cahill & McGaugh, 1998). Research shows that such distinctiveness makes memories more enhanced, well-remembered (Hunt & McDaniel, 1993; McGaugh, 2003) and accessible (Brewer & Treyens, 1981; Brown & Kulik, 1977; Rubin & Kozin, 1984).

The mnemonic model describes *turning points* as key life events that shape self-definition and structure, and maintain the self-concept (e.g., getting married, having children). Important memories often serve as turning points that organize narratives and life stories, or as *reference points* that anchor less significant events and memories in the self-system (Conway & Pleydell-Pearce, 2000; Pillemer, 1998). Highly accessible trauma memories can act as reference or turning points, and subsequently, to carry a crucial role in structuring life stories and new knowledge. Attempts to merge trauma-related turning points within a consistent life story may alter the self concept, with the trauma becoming heavily anchored in identity. That is, the trauma memory becomes vividly remembered and frequently present in the process of referring to other memories and generating expectations for the future.

The model differs from others concerning the hypothesised role of self-consistency. As discussed, the SMS suggests that the requirement for coherence between the autobiographical memory and the trauma may cause schema or self change. In the mnemonic model, the mere centrality and accessibility of the trauma memory, together with self-consistency needs, lead to self schema change. The mnemonic model acknowledges individual differences in the development of trauma-centred identity, but variations in self-consistency needs have not yet been conceptualised.

1.3.6 The Threat to the Conceptual Self (TCS).

The TCS (Jobson, 2009) is unique to other cognitive theories of PTSD in its consideration of culture, and cross-cultural differences, in the development and maintenance of PTSD. The TCS joins the three core structures of the SMS (the autobiographical knowledge base, the working self and the conceptual self) with the mnemonic model's assumption that in PTSD, the trauma memory becomes a turning and reference point to other self-knowledge. These frameworks are further enlightened using cross-cultural research (e.g., Suh, 2002), to provide a culturally-sensitive account of PTSD (Jobson, 2009). Given this model's cultural emphasis, it is described at greater length in section 1.5.7 on culture and self-consistency.

1.3.7 Summary of PTSD models.

A number of sophisticated PTSD models share the notion that one's identity, or self, can be altered following trauma. Several theories support Brewin et al.'s (1996) view of the trauma memory in PTSD as distinct to other memories. Of those, Brewin (2011) associates PTSD with identity fragmentation, the SPAARS (Dalgleish, 2004) proposes a discrepancy between the trauma memory and pre-trauma schemas, the SMS (Conway & Pleydell-Pearce,

2000) associates the trauma memory with the goals of the working self, which, owing to self-consistency needs, can lead to trauma-related changes to the self concept, and Ehlers and Clark's model (2000) describes appraisals of the self as permanently changed. The TCS (Jobson, 2009) hypothesises a unique orientation to the trauma memory (i.e., autonomous orientation), leading to (culturally varied) posttraumatic changes to identity. Lastly, the mnemonic model (Berntsen & Rubin, 2006a), whilst depicting the trauma memory as central and available (i.e., rather than poorly integrated as preceding models have), postulates that the constant remembering of the trauma may position the traumatic experience as a central component of identity (e.g., a turning/ reference point for other autobiographical material).

Therefore it appears that, regardless of the nature of the trauma memory, a common idea in many cognitive PTSD models concerns the integration of the trauma with identity. Yet, other than the TCS (Jobson, 2009), a limitation of these models is that the pathway connecting identity changes and PTSD appears overly simplified. That is, these theoretical conceptualisations of PTSD lack clarity: how, and in whom, do changes in self/identity develop, and ultimately result in PTSD? To overcome this weakness in the theoretical field, and examine posttraumatic identity changes further, the scientific evidence linking PTSD and identity is critically analyzed and integrated in the section to come.

1.4 Empirical Evidence for the Relationship between Trauma-Centred Identity and PTSD

To review the empirical evidence on PTSD and identity, a literature search was conducted in November 2011. An initial computerized search of PsychINFO, PubMed, MetaLib, and Google Scholar databases included the terms *PTSD*, * trauma*, and *identity*. To ensure all relevant literature was obtained, the terms *traumatic*, *self*,

Centrality of Events Scale (CES; a measure of the centrality of traumatic memories to one's identity) and *CES* were also searched. PubMed was searched for names of key researchers in the area: Dorthe Berntsen, David Rubin, Chris Brewin, Kylie Sutherland, Richard Bryant, and Laura Jobson. In all searches the language was restricted to English and no year limitations were applied.

The search was extended by hand searching key journals (Applied Cognitive Psychology, Behaviour Research and Therapy, Journal of Consulting and Clinical Psychology, Journal of Cross-Cultural Psychology, Journal of Memory and Language, Journal of Personality and Social Psychology, Journal of Traumatic Stress, Memory and Cognition, and Personality Processes and Individual Differences) and books (1990 to present) using the terms listed above.

1.4.1 Trauma-centred identity and PTSD.

The inclusion criteria for this review were limited to quantitative studies that assessed posttraumatic symptoms and trauma-centred identity. Case reports, qualitative studies and studies not published in peer-reviewed journals were excluded.

The terms search yielded 157 results and the author search 346. Of these, 21 studies met the inclusion criteria. For presentation purposes, they are grouped according to the measures they used to assess trauma identity. Table 1 details the reviewed studies in terms of sample, measures and the main findings.

Table 1

Sample Characteristics, Measures and Main Findings of the 21 Reviewed Studies

Study	Sample	Identity Measures	Main Findings
		Studies that assessed trauma-centred identity indirectly	
Byrne, Hyman, and Scott (2001).	Female American students (*n*=113).	The Memory Characteristics Questionnaire (Jonson et al., 1988; Hyman et al., 1998).	PTSD symptoms were positively associated with the significance of the trauma memory for self understanding.
McNally, Lasko, Macklin, and Pitman (1995).	American Vietnam veterans with (*n*=19) and without (*n*=13) PTSD.	An autobiographical memory test.	Poorer retrieval of specific autobiographical memories in PTSD veterans, especially in regalia wearers; No latency differences in memory retrieval in regalia-wearers compared with faster retrieval for positive adjectives in non-regalia wearers (when PTSD severity and depression were controlled).
		Studies that used the Centrality of Events Scale (CES)	
Berntsen and Rubin (2004).	Danish Psychology students (*n*=111).	Five CES items.	CES items correlated with PTSD symptoms and depression.
Berntsen and Rubin (2006a).	American students (*n*=707).	7-item CES.	CES items correlated with PTSD symptoms and with depression; Full and 7-item CES versions were highly reliable and correlated with each another.
Berntsen and Rubin	Danes	Three questions	Composite CES score was the

(2006b, two studies).	(*n*=1,021, age 18-58; *n* =423, age 59-90)	from the CES.	strongest predictor of posttraumatic stress levels in both samples.
Berntsen and Rubin (2007, two studies).	Danish (*n*=247) and American (*n*=442) students.	20- and 7-item CES.	CES scores positively correlated with and predicted PTSD, independently of event type and severity; CES scores positively correlated with depression, state and trait anxiety; Trait anxiety and depression were stronger predictors of PTSD than CES.
Berntsen, Rubin, and Siegler (2011).	American university alumni in their 60s (*n* =2,526)	7-item CES (completed twice, for a traumatic event and for a highly positive event).	Trauma-centred identity correlated with PTSD severity, event severity, number of lifetime traumas, neuroticism and openness; CES scores for trauma events were predicted by PTSD symptoms and previous trauma severity; Recent traumas were more central to identity; Evidence for cultural influences on identity.
Berntsen and Thomsen (2005).	Danes (*n* =145, age 72-89).	Three CES items	CES scores correlated positively with intrusive memory frequency, dreams and perceived impact.
Bentsen, Willert, and Rubin (2003).	Danish students (*n*=181, 62% trauma survivors).	Two CES items.	PTSD diagnosis associated with CES items; Trauma-centred identity was related to intrusive memories (when treatment effects controlled).
Boals (2010, two studies).	American students (*n*=170, 58% female) and (*n*=111, 53% female).	7-item CES	Females perceived negative events as more central to identity and were more influenced by negative events; Events with high CES scores correlated with emotional intensity and repetitive recall in the entire sample; CES scores predicted intrusive symptoms and frequency of health care visits.

Boelen (2009).	American participants who had experienced bereavements (*n* =254).	7-item CES.	The centrality of loss to identity was associated with PTSD symptoms, but not when neuroticism, attachment, background variables, complicated grief and depression were controlled.
Brown, Antonius, Kramer, Root, and Hirst (2010).	American veterans (*n*=46, 44% probable PTSD).	7-item CES.	PTSD associated with trauma-centred identity in the entire sample when depression was controlled; Trauma centrality and depression independently predicted PTSD.
Robinaugh and McNally (2010).	American students and community participants (*n*=120).	16 items of the 20-item CES.	PTSD symptoms positively correlated with CES scores for shame/ guilt events; Visual perspectives of the trauma memory were mediated by the centrality of shame-provoking events to identity, and moderated the relationship between emotional intensity and PTSD.
Robinaugh and McNally (2011).	Females (*n*=102) with child sexual abuse history.	20-item CES.	CES predicted PTSD symptoms (when five variables were controlled); CES was underlined by three factors, each correlated with PTSD; The 'viewing the future through the lens of the trauma' factor was most strongly correlated with PTSD.
Rubin, Boals, and Berntsen (2008, three studies).	American students (*n* ranged 81-533)	20-item CES.	CES correlated with PCL (when depression and dissociation were controlled); Involuntary memories were accompanied by emotional reaction and mood change, but were less central to the life story than voluntary memories.
Rubin, Dennis, and	Western	20-item CES.	CES scores correlated with

Beckham (2011).	community sample (*n*=117, 64% with PTSD diagnosis).		PTSD; PTSD was related to trauma-centred identity, emotional responses to trauma and voluntary and involuntary memories.
Schuettler and Boals (2011).	American students (*n*=2,326).	20-item CES.	CES was the second strongest predictor of PTSD.
	Studies that used self-defining memories (SDM)		
Jobson and O'Kearney (2006).	Australian (*n*=26) and Asian (*n* =24) students.	SDM.	Trauma-themed ratios were not significantly different in the two groups; Trauma-themed SDM correlated with PTSD in Australians only.
Jobson and O'Kearney (2008)	Community sample from independent (PTSD *n* =26, no PTSD *n*=31) and interdependent (PTSD *n* =24, no PTSD *n*=25) cultures.	SDM 15 goals Twenty-Statements Test	PTSD group had more trauma-themed SDM, goals and self-cognitions than the no-PTSD group in independent cultures, but no group differences were found in interdependent cultures.
Sutherland and Bryant (2006).	Australian trauma-exposed with (*n* =17)/ without (*n*=16) PTSD/ no-trauma controls (*n*=16).	SDM.	PTSD associated with trauma-related, negatively-themed SDM; Trauma-themed SDM correlated with personal goals about traumatic experiences.

Note. CES stands for the Centrality of Events Scale (Berntsen & Rubin, 2006a); PCL stands for the PTSD Check List (Weathers, Litz, Herman, Huska, & Keane, 1993); SDM stands for self-defining memories.

1.4.1.1 Studies that assessed identity indirectly.

Two early studies documented the impact of PTSD on participants' identity. McNally et al. (1995) asked Vietnam veterans to retrieve personal memories in response to positive and negative traits. Veterans with PTSD who attended the experiment wearing military regalia (e.g., war medals) retrieved significantly more war-related memories than veterans with PTSD who did not wear regalia. The researchers hypothesised that by wearing military regalia, veterans demonstrated the importance of their military service to their identity. Yet this inference is limited by the fact that participants without PTSD rarely wore regalia, and therefore, PTSD diagnosis may confound regalia wearing. Wearing regalia may indicate trauma-centred identity, but, it may predict autobiographical memory changes (i.e., the disproportionate retrieval of war-related memories) independently of PTSD status. Additionally, the statistical power was low because regalia effects were not predicted *a priori*.

Byrne et al. (2001) administered a modified version of the Memory Characteristics Questionnaire (Hyman, Gilstrap, Decker, & Wilkinson, 1998; Johnson, Foley, Suengas, & Raye, 1988). This measure has an item that enquires about the importance of a remembered event for self-definition. The data from the 77 participants who provided traumatic memories showed a significant positive correlation between the notion that the trauma memory was important for self understanding and PTSD symptoms as measured by the PTSD checklist (PCL; Weathers et al., 1993). While providing preliminary support for the association between PTSD and identity, this finding was derived from a single item and a university sample.

1.4.1.2 Studies using the Centrality of Events Scale (CES).

The Centrality of Events Scale (CES; Berntsen & Rubin, 2006a), discussed at length in section 2.3.4, measures the extent to which a stressful or traumatic memory is central to one's

life story and identity. The 20-item scale or 7-item version were used in 17 of the studies. In some cases, a smaller number of items were used, which hindered the accuracy of measure, but adequate reliabilities were described in all the studies. These studies are grouped by sample type.

Fourteen studies sampled Western student populations. In the first 10, PTSD was evaluated using the PCL. In the study by Berntsen et al. (2003), respondents whose symptom profiles met the diagnostic criteria for PTSD scored significantly higher on CES questions, intrusive memories and avoidance coping compared with respondents without PTSD. Several respondents had previously received treatment for their trauma. When the effects of treatment were statistically controlled, the item ‘‘I feel the traumatic event has become part of my identity’’ was significantly positively associated with the frequency of intrusive memories and with the degree to which the trauma had violated participants’ expectations. The study provided support for the validity of the trauma-centred identity construct, as it was investigated in relation to empirically expected variables (specific types of PTSD symptoms) and theoretically expected variables (violation of participant’s expectations). The ecological validity and generalisability of the results are enhanced in light of the sample range, size, and the heterogeneity of trauma type.

Several studies (Berntsen & Rubin, 2004; Berntsen & Rubin 2006a; Berntsen & Rubin, 2007; Schuettler & Boals, 2011; Smeets et al., 2010) found CES items were positively correlated with PTSD symptoms and were strong predictors of PTSD symptoms. CES scores have also been found to positively correlate with depression, state and trait anxiety. Furthermore, respondents whose traumatic events met the DSM-IV stressor criterion (American Psychiatric Association, 1994) had higher CES and PCL scores, compared with

participants whose traumas did not meet diagnostic criteria (Berntsen & Rubin, 2007). These studies found the CES and 7-item CES version to be reliable and valid.

Rubin et al. (2008) examined voluntary and involuntary memories for traumatic events. CES and PCL were positively associated when depression and dissociation were included as covariates. Involuntary memories were accompanied by more emotional reaction and mood change but were less central to the life story, compared with voluntary memories. The degree of emotional intensity of both memory types accounted for PTSD symptom variance when depression, dissociation and trauma-centred identity were entered into a regression model, suggesting that PTSD severity is increased in those who experience memories with higher emotional intensity and life story relevance. The strengths of the study include the measurement of important, non-traumatic events and the comparison of voluntary and involuntary memories. Emotion intensity, which mediated trauma-centred identity and PTSD, was also comprehensively assessed.

In Boals' (2010) studies, female participants were significantly more likely than males to perceive negative events as central to identity. Females were more negatively influenced by negative events (as indexed by higher ratings for negative emotions, emotional intensity and associated PTSD symptoms). Across the entire sample, memories of positive and negative events that had high CES scores correlated with emotional intensity and high intrusiveness (as indexed by repetitive recall), suggesting that emotional intensity and intrusiveness keep memories highly accessible and influential over new experiences and self perceptions. Trauma centrality was also found to predict a measure of physical health (as indexed by frequency of health care visits). Boals' work extends previous studies with regards to gender differences in

trauma-centred identity. It is criticized for conducting multiple simultaneous t-tests, as this potentially increases Type I error.

In a web-based survey, Robinaugh and McNally (2010) found that PTSD symptoms were positively correlated with CES scores for events associated with shame or guilt. Visual perspectives (i.e., experiencing the memory in first/ third person perspective) were mediated by the centrality of shame-provoking events to identity. One limitation is the restricted range of distressing events experienced by the predominantly student sample.

In the studies reviewed thus far, a repeated shortcoming was the use of Western, student samples. Such samples limit the generalisability of findings to populations of other age groups and cultures. The next series of studies administered the CES to community, older adult and veteran samples.

Three studies sampled participants from the general community. Berntsen and Rubin (2006b) found that trauma-centred identity, as measured with the composite CES score, was the largest predictor of posttraumatic stress levels for traumatic events experienced after young adulthood, when time since the events and age at time of the events were included as covariates. The variance in time since trauma and age at time of the event increase the external validity of these findings. In a study by Rubin et al. (2011), participants with PTSD had more emotional responses to trauma memories, and considered them as more central to their identity compared with controls. This evidence suggests that the tendency in PTSD to perceive the traumatic event as central to identity extends to non-student samples. The diversity of the sample in terms of gender, age and civilian-veteran participants, and the inclusion of subjects with dual-diagnoses, extend the generalisability of the findings. Robinaugh and McNally (2011) found that trauma-centred identity correlated with PTSD symptoms and predicted

PTSD symptoms in female participants with a history of sexual abuse in childhood, when age, intelligence, depression, self-esteem and dissociation were statistically controlled. Additionally, a principal component analysis of the CES identified three factors. Of these, *the extent to which survivors view the future through the lens of the trauma* was more strongly associated with PTSD than the other two factors, namely *centrality to identity* and *the trauma as a turning point*. These results suggest that the centrality of the trauma to the future is most detrimental.

Three studies focused on participants over the age of 60. In Berntsen and Thomsen's (2005) study, composite CES scores correlated positively with intrusive memory frequency, dreams about the German occupation period, and with participants' notion that the occupation "left a scar on their soul". Trauma-centred identity was related to well-being over the longer-term period. In the study by Berntsen et al. (2011), regression analyses indicated an increased tendency to perceive traumatic events as central to identity when they occurred in the recent past compared to earlier in life, with the exception of traumatic experiences in early childhood. The centrality of traumatic events to identity was found to be positively correlated with PTSD symptom severity, event severity, number of traumas during life, neuroticism and openness. The centrality of positive events, but not of traumas, corresponded with cultural national life events, suggesting cultural influences on the structuring of life story and identity. These studies extend the assessment of trauma-centred identity to older populations, although the latter study is criticized for differences in measure administration times and cohort effects. Boelen's (2009) finding that the centrality of loss to identity was positively associated with PTSD symptoms became non-significant when personality characteristics (neuroticism, attachment and attachment avoidance), background variables, complicated grief and

depression were statistically controlled. The centrality of the loss in the bereaved participants correlated with emotional problems following the loss. However, constructs hypothesised to be associated with bereavement-related distress, such as rumination, were not assessed.

Brown et al. (2010) examined combat-related trauma centrality in veterans. PTSD symptom severity was positively associated with trauma-centred identity in veterans with and without PTSD, when depression was controlled. Trauma centrality and depression were independent predictors of PTSD symptom severity in the entire sample. The study limitations include the use of only few measures, and the predominantly male sample.

1.4.1.3 Studies using self-defining memories.

Trauma-centrality has additionally been assessed using Singer and Salovey's (1993) self-defining memories task (SDM), discussed at length in section 2.3.4. In this research paradigm, participants initially read a short definition of self-defining memories as clearly remembered, important memories that are associated with strong, positive or negative feelings, and "convey powerfully how you have come to be the person you are" (Jobson & O'Kearney, 2008, p.99). The trauma-centrality index score is the ratio of trauma- themed to non-trauma-themed SDM. In Sutherland and Bryant's (2006) study, participants with PTSD provided significantly more negative, trauma- themed SDM. Trauma- themed SDM also correlated with personal goals that concerned traumatic experiences. By using a different measure to the CES, Sutherland and Bryant's (2006) findings extend the evidence base on the relationship between trauma-centered identity and PTSD. They also provide support for the SMS model (Conway & Pleydell-Pearce, 2000), in which traumatic information is seen as a threat to self-related goals and the need for self-consistency. The study strengths are the inclusion of a control group, which reduced the likelihood that findings resulted from a predisposition to recall negative

events, and controlling the type of traumatic event in the statistical analysis, which ensured that trauma type did not influence the observed associations. The limitations include the potential order effects, as SDM were elicited before goals, and the small, Western and predominantly female sample as it limits the generalisability of findings.

Jobson and O'Kearney (2006; 2008) conducted two studies. The first study recruited Australian and Asian university students. The two groups were not significantly different in trauma-themed identity ratios. A strong association was found between posttraumatic symptoms and the degree to which SDM were trauma-themed in the Australian group, but not in the Asian group, suggesting cultural differences in trauma-centred identity. A limitation of the study was that only SDM were used as a measure of identity. Another limitation is the small sample size of which few met criteria for PTSD, as it reduced confidence in statistical outcomes and ecological validity. Jobson and O'Kearney (2008) asked trauma survivors from individualistic and collectivistic cultures with and without PTSD to complete three identity measures: SDM, 15 goals and self-cognitions. Self cognitions were measured using the Twenty Statements Test (TST; Kuhn & McPartland, 1954). The TST, discussed at length in section 2.3.3, asks participants for 20 statements in response to the question 'who am I?'. In agreement with previous findings in Western, individualistic cultures, those with PTSD produced more SDM, goals and self-cognitions that were trauma-themed than those without PTSD. In contrast, in non-Western, collectivistic cultures participants with and without PTSD were similar in terms of their trauma-themed SDM, goals and self cognitions. These outcomes challenge previous findings reported in individualistic cultures as well as theoretical models that associate trauma-centred identity with PTSD (Berntsen & Rubin, 2006a; 2007; Conway,

2005). Jobson and O'Kearney's findings suggest cultural variability in the relationship between trauma-centred identity and PTSD.

1.4.2 Summary.

There is strong evidence linking PTSD symptoms with trauma-themed changes to identity. This association is independent of trauma type and severity. CES scores and posttraumatic symptoms have been found to predict each another in various Western populations and across the age span. This evidence supports theoretical models that highlight changes to the self in PTSD. As discussed, the SMS model (Conway, 2005; Conway & Pleydell-Pearce, 2000) postulates that when the traumatic event is inconsistent with one's self-concept, the self-system may alter the trauma memory and the self-concept with the wish of achieving consistency. Changes to the self-concept may include adopting a victim identity or highlighting how the self has changed following the trauma (Conway, 2005). According to the mnemonic model (Berntsen and Rubin, 2006a), the recurrent and easily-emerging nature of trauma memories lead survivors to perceive the trauma as a significant life turning point. Attempts to incorporate the trauma memories into a coherent life narrative might heavily anchor the trauma in survivors' identity. However the SMS and mnemonic models and the evidence in their favour are based on participants and views from Western, individualistic cultures. The reviewed studies that assessed trauma-centred identity using SDM in non-Western, collectivistic cultures suggest cultural differences in the relationship between trauma-centred identity and PTSD (Jobson & O'Kearney, 2006; 2008). The influence of traumatic experiences on identity, as it appears, may be less pronounced in people from non-individualistic cultures. These findings call into question the cross-cultural suitability of PTSD theories that link posttraumatic symptoms with trauma-themed changes to identity.

1.5 Self and Identity

As discussed above, posttraumatic shifts to the self or identity are perhaps culturally-dependent. The following section explores the self further, focusing on a particular facet of the self: self-consistency, and its putative role in psychological wellbeing and PTSD.

1.5.1 Definition of the self.

The study of the "self" in modern psychology began with William James' definitions of the self in his 1890 text *Principles of Psychology* (Conway, 2005). More recently, the self has been conceptualised as a dynamic force that interprets and organizes information about oneself, responds to the social environment and motivates behaviour (e.g., Markus & Wurf, 1987). Cognitive approaches share a multifaceted view of the self as a system of self-schemas. Self-schemas capture experiences and affect the processing of self-relevant information (Markus, 1977). They are situationally-triggered and easily elicited, especially when they have recently been activated. The accessible schemas heighten awareness to relevant information and its encoding, and guide subsequent behaviour (Leary & Tangney, 2003). Schemas vary in content (e.g., information about one's qualities, roles and goals), structure (e.g., their integration, organization and clarity; Campbell, 1990; Campbell & Lavallee, 1993; Donahue et al., 1993; Linville, 1985; 1987) and coherence (i.e., the degree to which one perceives oneself as being consistent; Markus, 1977).

1.5.2 Definition of self-consistency.

Self-consistency is often understood as a state of internal and cross-situational consistency. Internal consistency refers to a congruent view of oneself, free from conflict or ambivalence (Boucher, 2011). Cross-situational consistency, also named interpersonal

consistency, refers to congruency across roles, relationships and contexts (Cross, Gore, & Morris, 2003). Interpersonal consistency is described by Block (1961) as a dimension bound by two extremes: “At one end of this dimension, there is ‘role diffusion’, where an individual is an interpersonal chameleon, with no inner core of identity, fitfully reacting in all ways to all people.....At the other extreme, there is what might be called ‘role rigidity’, where an individual behaves uniformly in all situations, disregarding the different responsibilities different circumstances may impose” (p.392). Recently, Brewin (2003) described identity as a collection of multiple selves that manifest in different occasions and contexts.

1.5.3 Theories of self-consistency.

1.5.3.1 Dissonance theory.

In social psychology, Festinger (1957) defined ‘cognitive dissonance’ as the experience of having inconsistent cognitions that relate in some way. Cognitive dissonance produces aversive feelings, unpleasant physiological arousal and ‘dissonance motivation’ to release the unease. The dissonance may be solved by reducing the salience of one of the dissonant cognitions to enable a smooth assimilation, by modifying one of the cognitions so that it can be replaced by the other, or by gaining social support (Festinger, 1957; Festinger, Riecken, & Schachter, 1956). Inconsistent cognitions may lead to aversive emotional states such as anger, anxiety, or shame, and they may impact subsequent action (Harmon-Jones, 1999).

1.5.3.2 Self-consistency theories.

Another theory in social psychology, Kelley’s (1967), hypothesised that consistency mediates attribution processes. High levels of self-consistency (e.g., involvement in a

typical/familiar behaviour) are associated with dispositional attributions. Low levels of self-consistency (e.g., displaying unusual behaviour) are associated with situational attributions. Allport (1937) assumed that personality traits are stable and consistent; being able to recognize others' traits may assist individuals to predict their behaviour. Consistency in how one portrays and conducts oneself was hypothesised to provide a reassuring sense of personal continuity and integrity (Block, 1961; Lecky, 1945). Consistency is also thought to promote self-verification, defined as the need to ensure that others' perceptions are consistent with our own self views (reviewed in Swann, Rentfrom, & Guinn, 2003). Self-verification helps individuals to validate and maintain their existing self-concept, for instance, by selectively attending to those who regard them similarly to their own perceptions (Swann & Read, 1981). Thus, self-consistency serves epistemic (e.g., need to avoid ambiguity) and pragmatic (e.g., mutual predictability) needs, and facilitates more comfortable interpersonal interactions.

Whether new information is consistent with one's existing self-concept will affect the individual's response. Research on self-referential processing had shown that reaction time is quicker with relation to information consistent with one's existing self-judgement (Tschanz & Rhodewalt, 2001). In cognitive-affective terms, change to the self-concept is taxing and inefficient (Conway, 2005).

1.5.4 Self-consistency and psychological adjustment.

Consistency is regarded by many as important for well-being and self-actualization. James (1929) viewed individuals with conflicting temperaments and inconsistent qualities as "sick souls" leading chaotic lives. Lecky (1945) defined self integrity as "seeking those experiences which support our values, and avoiding, resisting, or if necessary forcibly rejecting those which are inconsistent with them" (p.99). Humanistic psychologists Maslow

(1954), Rogers (1951) and Jourard (1965) also perceived inconsistencies in the self-concept or between behaviours and the self-concept as unhealthy and provoking anxiety and defences. Maslow (1954) claimed specifically that to achieve self-actualization, inner conflicts must be "merged and coalesced to form unities" (p. 233). Self-discrepancy theory (Higgins, 1987) brings these ideas together, stating that actual self-views which are incongruent with one's ought and ideal selves may result in anxiety and depression. There is empirical evidence supporting the idea that identity consistency is a fundamental psychological predictor of well-being (e.g., Donahue et al., 1993; Roberts & Donahue, 1994). There is also evidence that discrepancies across roles and situations are associated with reduced self-esteem and higher depression, anxiety and somatisation symptoms (Block, 1961; Donahue et al., 1993; Sheldon, Ryan, Rawsthorne, & Ilardi, 1997).

Others have claimed that high levels of self-consistency may become maladaptive. One theory in social psychology argues that consistency limits the capacity to react to different situations in a flexible and adaptive manner (Gergen, 1971; Sande, Goethals, & Radloff, 1988). With regards to traits that are perceived as negative or undesirable, high levels of self-consistency may cultivate a "spillover effect" of negative experiences from one situation to others (Linville, 1985; 1987). The latter view received support in Locke's (2006) findings; consistency of desirable traits predicted well-being, whereas consistency of undesirable traits and well-being were inversely associated.

1.5.5 Self-consistency and PTSD.

Horowitz (1976) proposed that trauma information that is incongruent with previously held beliefs may lead to posttraumatic symptoms. Similarly, Berntsen and Rubin (2006a), and Conway (2005) hypothesised that the need for consistency mediates psychological adjustment

in the aftermath of trauma. Cultural sanctions or expectations encourage individuals to identify with culturally- expected social roles. Individuals whose trauma memories have become turning points are hypothesised to adopt the social role of trauma victims/ survivors, and this may result with trauma-centred identities (Berntsen & Rubin, 2007). Conway's contention about the need for agreement between trauma-specific goals and present goals also predicted a form of goal change to maintain coherence. When present goals shift to accommodate trauma-related goals, the trauma can become increasingly central to identity (Conway, Meares, & Standart, 2004). However, the cross-cultural research reviewed above had identified cultural differences in the relationship between PTSD and trauma-centred identity (Jobson & O'Kearney, 2006; 2008). Therefore, it is possible that the theoretical assumptions on self-consistency and PTSD may be limited to individualistic cultures. In order to consider cultural differences in self-consistency and their relation to PTSD, the influence of culture on self-consistency will now be discussed.

1.5.6 Culture and self-consistency

Cultural individualism and collectivism describe the extent to which one's self is defined in relation to others (Triandis, 1995). From a cultural psychology position, individualism and collectivism are regarded by some as separate dimensions (Schwartz, 1990; Triandis, 1995; Triandis & Gelfand, 1998) and by others as a single dimension: 'the comparison between whether one's identity is defined by personal choices and achievements, or by the character of the collective groups to which one is more or less permanently attached' (Smith & Bond, 1993, p.38).

Individualism, typically associated with Western cultures, is where self-definition is derived from internal traits and there is an emphasis on an autonomous self (Choi, Nisbett, &

Norenzayan, 1999). Individualists typically seek autonomy, achievement and appreciation (Hui & Villareal, 1989). Britain has been recognized as an individualistic culture (Hofstede & Hofstede, 2004) and is seen to have become increasingly more individualistic since the 1980s (reviewed in Tower, Kelly, & Richards, 1997). Collectivism, also referred to as cultural interdependence, is commonly associated with non-Western cultures, and is where people are perceived to be embedded within a larger social structure, their identity defined through relationships with others in different social contexts (Markus & Kitayama, 1991; 2010). Collectivists typically aim to gain affiliation, social support and care (Hui & Villareal, 1989). Russia has been identified as a collectivistic culture (Triandis, 1995). The communist rule of the former Soviet Union promoted collectivistic thinking and behaviour, as state goals came before individual ones (Kerberly, 1983; Triandis, 1995). Reliance on others was mandatory for survival, and events and individual actions were viewed as having situational causes (Varnum, Grossman, Katunar, Nisbett, & Kitayama, 2008). Studies have shown that Russians regard friendships very highly (Rokeach, 1973), and place friends before family life and self-fulfilment (Karpukhin & Kutsenko, 1983). These findings correspond with the definition of collectivism as being part of a group that provides support in exchange for loyalty, whereas individualistic values are seen to promote caring for oneself and one's close family (Hofstede & Bond, 1984). During the transition away from communism and to the present day, Russians continue to be more collectivistic than Americans (reviewed in Hofstede, 2001). Compared with British participants, Russians were found to present more collectivistic opinions and to stress the importance of preserving in-group harmony when striving for collective aims (Tower et al., 1997). Additional evidence suggests that the collectivistic tendencies in Russians and other former-USSR nationalities are intentional rather than inevitable (Smith, Dugan, &

Trompennars, 1996). In all cultures, the degree to which people demonstrate individualistic or collectivistic orientations varies (e.g., Lee & Zane, 1998). However, significant differences between individualistic and collectivistic cultures have been documented (e.g., Fiske, Kitayama, Markus, & Nisbett, 1998; Kagitcibasi, 1996).

Suh (2000) described cultural differences in self-consistency needs. According to Suh, the need to establish an internally and cross-situationally consistent self is fundamental for well-being in Western, independent cultures, whereas collectivistic cultures perceive increased self-consistency as indicating arrogance or immaturity. Boucher's (2011) review suggests that members of collectivistic cultures are more prone to choose contradictory personality traits as self-descriptive and to choose items that correspond with both positive and negative self-esteem, compared with members of individualistic cultures. Collectivists provide more varied self roles and are less disturbed by inconsistent self descriptions across different contexts, compared with individualists (reviewed in Boucher, 2011).

Suh (2002) compared self-consistency needs in 84 American and 123 Korean students. Participants were asked to rate the extent to which 20 personality traits described them generally and across five interpersonal contexts. Americans were found to have a significantly more consistent self-view than Koreans. The American sample displayed significantly higher correlations between their general self and social roles ratings. The Korean participants displayed more flexibility across the different roles. Self-consistency, while related to subjective well-being in both samples, was a stronger predictor of subjective well-being for Americans than for Koreans. The evidence from Suh's work supports the idea that members of individualistic cultures have higher levels of self-consistency, whereas in collectivistic cultures self views are more flexible and less consistent. The strengths of Suh's work included

sampling individuals in their cultural environment, (i.e., in their home countries), deriving self-consistency results through statistical calculations which introduced less intrusion of cultural norms to participants' responses, and piloting the study to construe the self-consistency measure. A limitation was the use of young, student samples.

Webb and Jobson (2011) were the first to explore the relationships between levels of self-consistency, trauma-centred identity and posttraumatic symptoms. In 134 British students, the study replicated (e.g., Jobson & O'Kearney, 2008) the previously described positive correlation between trauma-centred identity and posttraumatic symptoms. A positive association between self-consistency and intrusive posttraumatic symptoms emerged when depressive symptoms were controlled. This is of interest as previous studies have found that states of aversive affect, such as depression, anxiety, stress and low-self esteem, were negatively associated with self-consistency (e.g., Donahue et al., 1993). Therefore, Webb and Jobson's work proposed a unique relationship between self-consistency and PTSD compared to other psychological disorders. Yet this finding should be interpreted with caution, given Miller and Chapman's (2001) contention that the effects of depression must not be removed from PTSD as the two are too closely associated. Webb and Jobson (2011) also reported that self-consistency was not correlated with trauma-centred identity, and that depression and trauma-centred identity, but not self-consistency, significantly predicted intrusive posttraumatic symptoms. A weakness of this work was the unusually low level of posttraumatic symptoms reported, compared with community samples. Further limitations concern the use of just one identity measure and the absence of a trauma history assessment. In addition, these finding may be limited to Western, individualistic cultures.

1.5.7 The Threat to the Conceptual Self (TCS).

The TCS (Jobson, 2009) is a theoretical model that builds on the SMS. It incorporates empirical findings about cultural variations in the self construct and their implications for the development and maintenance of PTSD. In TCS, individuals are hypothesised to have relatedness and autonomous goal hierarchies, as well as separate independent and interdependent sections of the autobiographical knowledge base. Cultural and social expectations lead to and continuously reinforce the dominance of one of the orientations. Culturally-appropriate activations of autonomous or relatedness goals enable the integration of memories into the independent or interdependent location of the autobiographical knowledge base. The culturally-dominant orientation can be overruled by certain events, such as trauma. Information that differs from the dominant or schema-driven expectation, especially concerning unusual or emotional events, is highly accessible and well remembered (e.g., Rubin & Kozin, 1984; Berntsen & Rubin, 2007). Given that information in the trauma memory often differs from schema-driven expectations, the trauma is likely to be well remembered and to serve as a "reference point" (Berntsen & Rubin, 2007).

In the TCS, self-consistency needs are hypothesised to mediate the impact of the trauma memory on identity. Highly accessible autobiographical memories can define and anchor identity and the self-concept (e.g., Berntsen & Rubin, 2007). TCS proposes that the perception of the trauma as a central life turning point combined with a need for internal consistency, may cause trauma-related self perceptions (e.g., self as victim) to become central to one's identity. That is, the centrality of the trauma memory in individuals' identity is governed by self-consistency needs, which are culturally variable. Therefore, in survivors from individualistic cultures, where high levels of self-consistency are valued, it is hypothesised that

central trauma memories may lead to trauma-centred identity. In collectivistic cultures where self-consistency is less desirable, central trauma memories are less likely to influence survivors' identity (Jobson, 2009).

1.5.8 Summary: Cultural differences in self-consistency and identity.

The finding that low levels of self-consistency were associated with negative affective states in individualistic but not in collectivistic cultures (Suh, 2002) questions whether the theorized benefits of self-consistency (e.g., Festinger, 1957) apply to cultures who value a multiple and changing self. There is also evidence for cultural variability in posttraumatic changes to identity. For instance, in individualistic cultures identity was more trauma-centred in trauma survivors with PTSD than trauma survivors without PTSD, but in collectivistic cultures trauma survivors with and without PTSD had similar levels of trauma-centeredness (Jobson & O'Kearney, 2008). Yet the relationships between self-consistency, PTSD and posttraumatic changes to identity remain unclear, partially due to the paucity of studies that evaluated participants from non-individualistic cultures.

1.6 Implications for treatment

This final section discusses psychological therapies for PTSD relating to the theoretical models discussed before, and reviews the current evidence for the effectiveness of psychological and pharmacological treatments for PTSD.

1.6.1 Treatment based on PTSD models.

It is common for trauma survivors to experience symptoms in the days and even weeks after the event, and for these symptoms to resolve without treatment. Instinctively, the majority

of survivors process the meaning of the trauma, both cognitively and emotionally, and store the trauma memory alongside other past memories. Yet the prevalence rates of PTSD point to the cases in which recovery is interrupted.

According to Conway (2005) and Ehlers and Clark (2000), recovery from trauma requires the different aspects of the trauma memories to be well connected with one another and with pre-trauma autobiographical knowledge and memories. Poor posttraumatic coping may be improved through the elaboration of the trauma memory, to enable its integration with other aspects of the self. Hence, changes in self-consistency (i.e., enhanced coherence of the trauma within the self structure) are assumed, although not directly targeted in treatment. Rather, trauma-focused therapies are to concentrate explicitly on the memories and cognitive appraisals associated with the trauma (Resnick, 2001b). The evidence-based NICE guidelines for PTSD (National Institute for Health and Clinical Excellence, 2005) recommend Cognitive Behavioural Therapy (CBT) and Eye Movement Desensitisation and Reprocessing (EMDR), both of which centre upon the trauma memory and appraisals. Pharmacological interventions for PTSD have been recommended as well (Davidson, 1997).

1.6.2 Exposure therapy, cognitive therapy and other psychological therapies for PTSD.

Cognitive behavioural therapies for PTSD combine exposure, to facilitate habituation to trauma reminders, and cognitive restructuring, to challenge and accommodate trauma-related appraisals and schemas. Exposure may take different forms in the treatment of PTSD. Systematic desensitisation (Wolpe, 1958) involves the acquisition of relaxation skills, followed by gradual, mental exposure to fearful triggers associated with the trauma. Prolonged Exposure (PE; Foa & Rothbaum, 1998; Foa, Rothbaum, Riggs, & Murdock, 1991) aims to modify the

trauma memory via imaginal and real-life exposure. In real-life exposure, also called *in-vivo*, survivors expose themselves to anxiety-provoking reminders of the trauma (e.g., the street where the accident occurred) to realize that they no longer pose a threat. In imaginal exposure, also known as re-living, survivors recount their trauma narrative vividly and repeatedly, to achieve habituation to the trauma and its most distressing moments. Ehlers and Clark (2000) discuss 'hot spots', specific incidents within the trauma memory associated with extreme distress. 'Hot spots' are suggested to be indicative of the most meaningful elements of the trauma, and therefore exposure to 'hot spots' rather than to the entire trauma memory is hypothesised to be more effective (Ehlers & Clark, 2000).

Exposure aims to reduce memory-related fear and increase a sense of control over the trauma memory. These aims resonate with the idea that re-living enhances VAM-type memories and decreases the availability of SAM memories, expressed in the DRT (Brewin et al., 1996). In the process of exposure, fear memories are re-encoded from the SAM to the VAM, and stored in the past to enable deliberate rather than intrusive recall (Brewin, 2001). The mnemonic model (Berntsen & Rubin, 2006a) posits that by reducing the vividness of the trauma in memory, exposure obstructs internal and external cues from becoming associated with the trauma. Consequently, the trauma is less likely to form part of identity and to lead to PTSD symptoms (Berntsen & Rubin, 2006a). In the TCS model (Jobson, 2009) exposure is one of the therapeutic techniques hypothesised to lessen the inconsistency caused by PTSD symptoms, especially in individuals with high levels of self-consistency. In turn, maladaptive attempts to reduce inconsistency (e.g., attempting to emphasize the centrality of the trauma to the self) become unnecessary.

Cognitive therapy posits that the emotions associated with PTSD do not result from the event per se but from survivors' beliefs and attributions concerning the trauma. The modification of maladaptive appraisals is the therapeutic means for the reduction of negative affect. Target appraisals might be specific and intrusive negative thoughts or images, or more global rules and assumptions about the self and others (Ehlers & Clark, 2000).

With regards to the impact of the trauma on identity, Brewin (2003) claimed that PTSD may destabilize the victim's positive identity, reinforce a negative identity, or both. For those with PTSD, identity can become fragmented, intruded upon by trauma memories and cognitions, and changed due to one's sense that the trauma has come to control one's mental life (Brewin, 2011). Brewin and Holmes (2003) emphasised the need to recognize pre-trauma identities and life stories, which, if linked with the trauma narrative, may challenge and change negative cognitions and vulnerable identities. Differently, Berntsen and Rubin (2006a) posited that excessive attention to the trauma and its impact on identity is therapeutically harmful, as it may strengthen the accessibility of the trauma memory.

Cognitive processing therapy (CPT; Resick & Schnicke, 1992; 1993) is a cognitive behavioural model initially developed for the treatment of victims of sexual assault. In CPT, clients are asked to write their account of the trauma and their associated feelings, and read this daily. Via this daily exposure, feelings resulting from danger, loss and inflicted harm are hypothesised to subside (Resick, 2001a). CPT recognizes that certain negative and unrealistic thoughts may cause the trauma to become assimilated with pre-existing schemas, and lead to unwanted feelings (e.g., shame for thinking "I lured the predator"). These negative beliefs often do not decline by exposure alone and require cognitive challenging, to enable appropriate accommodation of the trauma alongside other schemas.

EMDR (Shapiro, 1995) employs eye movements to stimulate the information-processing system to 'unblock' trauma memories. The eye movement, or another bilateral stimulus such as the therapist's finger tapping, takes place while the patient imagines the trauma, its distressing moments and associated negative thoughts. The patient then attempts to move away from the traumatic visions and bring to mind new thoughts and images. Unlike other trauma-focused approaches, EMDR does not entail real-life exposure to trauma reminders, nor does it explore changes to identity.

Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999) is a contextualised cognitive behavioural model and therapy. ACT attempts to help clients move from perceiving their cognitions as literally true (e.g., "I am a victim because I was repeatedly abused") to viewing them as reflecting a current and temporary perspective. In ACT, over-identification with the trauma identity is problematic because it defines the survivor at all levels of personal existence. This idea agrees with the notion that an overly-consistent self is maladaptive. Employing mindfulness approaches, ACT teaches clients to notice 'good' or 'bad' cognitive content from the perspective of the present moment, a process which promotes being with changing or inconsistent experiences, as an alternative to avoidance (Walser & Hayes, 2006).

Imagery-based approaches (e.g., Hackmann, 1998; Smucker et al., 1995) aim to reconstruct the trauma memory in survivors' imagination. For instance, survivors may imagine a safer ending to the trauma. By pairing the original memory with distinct imagined attributes generated by the patient (given that self-generated information has been found to be better remembered; Hunt & McDaniel, 1993), the reconstructed memory is hypothesised to gain a retrieval advantage over the original trauma memory.

1.6.3 Evidence for the effectiveness of psychological therapies for PTSD.

Cognitive behavioural approaches and exposure therapy for PTSD have demonstrated their effectiveness in many empirical investigations. The NICE guidance for PTSD (National Centre for Health and Clinical Excellence, 2005) reviewed 24 RCTs that showed the efficacy of trauma-focused CBT when compared with wait-list or other psychological treatments. A review of seven studies of cognitive therapy for PTSD reported improved outcome (Resick, 2001b). In all studies, cognitive and exposure therapy were associated with clinically significant reductions in PTSD symptoms and PTSD diagnosis at the end of treatment (Resick, 2001b). Trauma- focused CBT has also been associated with faster recovery and reduced re-experiencing symptoms after five months (Foa, Hearst-Ikeda, & Perry, 1995) and with a reduction in the number of participants that met diagnostic criteria for PTSD after six months (Bryant, Harvey, Dang, Sackville, & Basten, 1998). In participants with a previous diagnosis of chronic PTSD, positive outcome was maintained at six months follow-up (Marks, Lovell, Noshirvani, Livanou, & Thrasher, 1998; Resick & Schnicke, 1992; Tarrier et al., 1999). Treatment outcome was not associated with time since trauma, trauma history or pre-treatment dissociation (Resick, 2001b). Cognitive therapy was shown to be a highly effective treatment compared to wait-list, relaxation or supportive counselling. Research into whether cognitive therapy alone is as efficacious as cognitive therapy and exposure together was indecisive and lacked statistical power (Marks et al., 1998; Tarrier et al., 1999).

Davidson and Parker (2001), in their meta-analysis of 34 studies, reported that EMDR was as effective as exposure and CBT, and more effective when compared with no treatment, with nonspecific therapies and with patients' condition before treatment.

ACT has not been formally recommended for the treatment of PTSD, although recent research provided evidence for its efficacy (Batten & Hayes, 2005; Follette et al., 1993; Twohig, 2009; Walser, Loew, Westrup, Gregg, & Rogers, 2003).

1.6.4 Effectiveness of pharmacological treatments for PTSD.

Albucher and Liberzon (2002) provided a comprehensive review of the literature on pharmacological interventions for PTSD published between the years 1966-2001. The review identified several pharmacotherapies as effective for PTSD. There was evidence supporting the use of antidepressants, namely tricyclic antidepressants, monoamine oxidase inhibitors and serotonin reuptake inhibitors. Selective serotonin reuptake inhibitors appeared as the superior treatment, estimated by their reported overall efficacy and side effects. There was emerging evidence for mood stabilizers, atypical neuroleptics, adrenergic agents, and newer antidepressants. Anxiolytics such as benzodiazepines were not recommended for PTSD, their ineffectiveness possibly the result of a rebound effect on discontinuation (Risse et al., 1990). The NICE guidance for PTSD (National Centre for Health and Clinical Excellence, 2005) suggest trauma-focused psychological interventions first.

1.6.5 A limitation of the research on treatments for PTSD.

The research evidence for interventions in the treatment of PTSD is based at large on Western, individualistic cultures. Despite the growing awareness that PTSD occurs globally, little is known about the treatment of PTSD in non-Western countries. Systemic research is needed to evaluate the extent to which psychological and psychopharmacological treatments, that are evidence-based in Western, individualistic cultures, are also successful in non-Western, collectivist cultures (Foa, Keane, Friedman, & Cohen, 2009). A “culturally

competent model of traumatic stress" (Osterman & de Jong, 2007, p. 439) has been called for, one which accommodates cultural differences within the existing models of PTSD.

1.7 Rationale for the present study

Contemporary theories and literature on PTSD and posttraumatic adjustment describe a link between PTSD symptoms and identity that is heavily trauma-centred. These are supported by a large body of research which shows that PTSD and trauma-centred identity are strongly related and predictive of one another. Yet the role that self-consistency plays in this relationship has largely been overlooked, with the exception of a few cognitive models that regard the influence of self-consistency needs on the development of trauma-centred identity. Still, trauma-centred identity, self-consistency and PTSD have only once been investigated together. Further to these gaps in knowledge, a consideration of cultural variations in trauma-centred identity, and cultural differences in what is perceived to be normative or desirable levels of self-consistency, has also been absent from this area of research.

There are clear clinical benefits for adopting more culturally-sensitive understanding and treatment approaches for PTSD. Given the rise in migration in modern-day Britain, it would be highly necessary to bring these research areas together and investigate whether levels of self-consistency are associated with posttraumatic-changes to identity and with PTSD, across different cultural groups. Bringing these questions to the cultural arena is mandatory given the fact that the current theories of PTSD and treatment guidelines for this condition are based almost entirely on studies that tested Western, individualistic participants. Therefore the applicability of these approaches to non-individualistic cultures is perhaps limited.

The present study aimed to investigate cultural differences in self-consistency and their relationship with trauma-centred identity and PTSD symptoms, in trauma-exposed community

participants from two cultural groups: British and Soviets. British have been recognized as an individualistic culture (Hofstede & Hofstede, 2004). Former-USSR nationalities, or Soviets[1], have been identified as a collectivistic culture (Smith, Dugan, & Trompennars, 1996). As concluded from this introductory chapter, cultural variations in self-consistency with relation to PTSD have not been empirically researched as of yet. Therefore, this study investigated the relationship between self-consistency and PTSD symptoms in British and Soviet participants. It additionally examined identity, and its association with culture, levels of self-consistency and trauma exposure. This study employed several measures to assess the centrality of trauma to identity, including the CES, a measure which has not been previously used with collectivistic cultures.

1.8 Research Questions

The overall objective of this study was to examine the relationships between self-consistency, trauma-centred identity and PTSD, in community samples of British (individualistic culture) and Soviet (collectivistic culture) trauma survivors. In light of the evidence reviewed beforehand, and the aims of the present study, the following research questions were addressed:

1. Do British have higher levels of self-consistency than Soviets?
2. Are there differences in the levels of trauma-centred identity between British and Soviets?
3. Is trauma-centred identity and posttraumatic symptoms associated in British and Soviets?

[1] The term soviets is used to refer to individuals from former Soviet Union states. It was chosen in consultation with individuals from the former USSR, as a sufficiently general term inclusive of this vast geo-political region.

4. Is self-consistency and posttraumatic symptoms associated in British and Soviets?
5. Is self-consistency and trauma-centred identity associated in British and Soviets?

In relation to these questions one hypothesis was generated. In terms of the first research question, given the evidence concerning lower levels of self-consistency in members of collectivistic cultures compared with individualistic cultures (Suh, 2002), this study predicted that Soviet participants would display significantly lower self-consistency levels than British participants. Regarding the other questions, previous research had been too dissimilar to the present study to enable hypotheses to be generated. Trauma-centred identity has never before been compared cross-culturally in British and Soviet samples. Webb and Jobson (2011) reported findings in an individualistic culture only, and examined posttraumatic symptom clusters when the effects of depression were statistically removed, whereas the present study aims to examine posttraumatic symptoms as a whole, without the removal of depression. Therefore, with the exception of the hypothesis pertaining to the first question, the subsequent four research questions remained as questions.

2 Method

2.1 Design

The current study used a cross-sectional between group design with an individualistic culture (British) and a collectivistic culture (Soviet).

2.2 Participants

Trauma survivors from the general community born in Britain or in the former USSR were recruited. Britain has been recognized as an individualistic culture (Hofstede & Hofstede, 2004) whereas Russia and other former USSR states have been classified as a collectivist culture (Smith, Dugan, & Trompennars, 1996; Triandis, 1995). A community sample was chosen for several reasons. First, sampling from the general community appeared appropriate for further examining the relationships between trauma-centred identity, self-consistency and PTSD previously identified in a student population (Webb & Jobson, 2011). Second, trauma-centred identity has been found to be associated with PTSD in nonclinical populations (e.g., Robinaugh & McNally, 2011). Finally, varying levels of self-consistency have been reported in community samples (e.g., Diehl & Hay, 2010).

Potential participants had to be older than 18 and identify their ethnicity as either British or as one of the 15 countries that formed the former Soviet Union (present-day Russia, Georgia, Ukraine, Moldova, Belarus, Armenia, Azerbaijan, Kazakhstan, Uzbekistan, Turkmenistan, Kyrgyzstan, Tajikistan, Estonia, Latvia and Lithuania). Only those who reported at least one trauma event on the Posttraumatic Diagnostic Scale (PDS; Foa et al., 1997) were included (i.e., those who had not experienced a Criterion A type trauma were excluded, $n = 6$). No further exclusion criteria were applied because the study aimed to gain representative samples of the British population and the Soviet community living in Britain.

The power calculation was based on within-group correlation analyses, the least powerful test from among the range of planned analyses. Previous research found medium-strong associations between PTSD symptoms and trauma-centred identity (Jobson & O'Kearney, 2008; McNally et al., 1995; Sutherland & Bryant, 2008). Self-consistency was not significantly associated with posttraumatic symptoms (when the effects of depression were not controlled for) and with trauma-centred identity in an individualistic culture (Webb & Jobson, 2011). The relationships between self-consistency, PTSD and trauma-centred identity have not yet been tested in collectivistic cultures. Therefore, a medium effect size was employed (.3), with power level .80 and significance level .05. This calculation indicated a required sample size of 128 (64 participants per group).

One hundred and three people participated in the study and six of those were excluded as they did not experience a traumatic event (three British, three Soviets). Of the remaining 97 participants, 37 participants (38%) were in the Soviet group and 60 participants (62%) were in the British group. In the Soviet group, there were seven males (18.9%), 29 females (78.4%), and one participant did not disclose their gender. The age range was 19 to 61, mean age 37.6 (*SD* = 9.8). As for nationality, 33 participants (89.2%) were Russian, two (5.4%) were Ukrainian, one was Belarusian and one Uzbekistani (2.7%, each). Participants in the Soviet group reported that they had been living in the UK on average 7 years (range 0-26, *SD*= 5.3). The British group had 11 males (18.3%) and 49 females (81.7%). Their age ranged between 18 and 76, mean age 39.8 (*SD* = 16.8). They had all (100%) described their nationality as British/English/ UK. Participants in the British group had been living in the UK for an average of 38.3 years (range 18-76, *SD*= 16.4).

2.3 Measures

2.3.1 Translation.

Participants in the Soviet group received Russian versions of the measures. Providing translated measures aimed to maximize participants' understanding. In addition, presenting the measures in Russian aimed to prime collectivistic tendencies in participants in the Soviet group. Priming is defined as a form of manipulation. When a concept is primed, the ideas related to it in one's memory are cued as well (Neely, 1977). Language is associated with culture, memory, and cognition (e.g., Chiu, Leung, & Kwan, 2007; Wang & Ross, 2007). Therefore, language in itself may be used to prime individualism and collectivism. In members of collectivistic cultures who live in Western countries, their mother-tongue languages hold knowledge about the home, collectivistic culture, whereas languages such as English activate individualistic tendencies because they are associated with Anglo-Saxon cultures (Oyserman & Lee, 2008). A recent review of studies that primed cultures showed that the use of language to prime individualism or collectivism had a moderate effect size (Oyserman & Lee, 2008). Language was found to prime culture and identity differences in Russian bilingual participants socialized in different cultures (Marian & Kaushanskaya, 2004). Speaking English was associated with a more individualistic self-construal while speaking Russian related to a more collectivist self, suggesting that language triggers cultural influences which in turn influence self-concepts (Marian & Kaushanskaya, 2004).

Two of the study measures were translated to Russian in previous research: the Posttraumatic Diagnostic Scale (PDS; Foa et al., 1997; E. Gilboa-Shechtman, personal communication, May 4, 2011) and the Hopkins Symptom Checklist (HSCL-25; Derogatis, Lipman, Rickels, & Cori, 1974; Hoffmann et al., 2006). The remaining measures were

translated for the purpose of this study. Beaton, Bombardier, Guillemin, and Ferraz (2000) provided a review and guidelines for cross-cultural translation of self-report measures. The guidelines emphasize both a linguistic translation as well as cultural adaptation, to preserve the content validity of the original measure. In line with these guidelines, the present translation was a two-step process. Initially, the measures were translated from English to Russian by a first translator whose mother tongue was Russian. Next, a second translator who was blind to the original version translated the measures back from Russian to English. The latter translation was examined by the researcher to ensure that the translated version maintained the original item contents. Differences between the original and translated versions were discussed with the second translator and adaptations were incorporated into the translation.

Returned Russian questionnaires were translated to English. A first translator whose mother tongue was Russian translated 100% of the completed measures. A second translator whose mother tongue was Russian translated 20% of the completed measures to ensure the reliability of the translations. The translations were provided in Word files which were similar in appearance to the files that contained the responses of participants in the British group. Thus, raters were able to remain blind to participants' culture when rating the questionnaires.

2.3.2 Self-Consistency.

Self-consistency is a state of internal and cross-situational coherence, a consistent view of the self as well as consistency across roles and contexts (Boucher, 2011; Cross et al., 2003). The Self-Consistency Index (SCI; see Appendix A) has been used in research to estimate self-consistency (e.g., Webb & Jobson, 2011) in community samples (e.g., Donahue et al., 1993). The SCI consists of two parts. Initially, participants rated the extent to which certain personality traits describe their "general self" on a 7-point Likert scale (*not at all like myself* to

very much like myself). Following Suh's (2002) procedure, participants were then required to complete a number of scales that were unrelated to self-consistency (the remaining study measures). Following this, participants rated how accurately the former personality traits describe them in the context of different interpersonal relationships. Baird, Le, and Lucas (2006) reported that individuals who were inconsistent across one set of contexts were also inconsistent across a different set of contexts. Therefore, the specific types of contexts chosen for the SCI should not affect the scores. Three interpersonal contexts were used in this study: self with romantic partner, parent, and friend. They were chosen given Suh's (2002) findings, in which student/community participants indicated that the three most significant people with whom they interact frequently are parents, romantic partners and same-gender friends.

The number of personality traits that are used in the SCI varies among studies. The present study used 16 traits, as Donahue et al. (1993) reported similar findings when employing 16 and 60 personality traits. A smaller number of traits was also deemed as less fatiguing for participants. The 16 traits are found within the SCI in Appendix A. Of those, 12 adjectives are broad personality traits suitable to most social contexts (e.g., tolerant, serious) composed in reference to the Big Five traits (Goldberg, 1993) and used in previous research (e.g., Suh, 2002; Webb & Jobson, 2011). To supplement the former traits with ones that relate to trauma, four additional adjectives (defeated, influential, secure and victim) were chosen for the present study from the four cognitive appraisal domains (mental defeat, control, alienation and permanent change) in Ehlers and Clark's (2000) cognitive model of PTSD.

The order of appearance of each trait*context was randomised using the Excel programme. For the randomisation process, a set of random numbers was produced and assigned to each of the 48 trait*interpersonal context pairs. Next, the assigned random

numbers were put in number order, so that the trait*context items became randomly ordered. The final order of the 48 items was identical for each participant.

The index score on the SCI is the percentage of variance explained by the first factor. It can range between 0% and 100%. Higher values denote increased levels of self-consistency, therefore participants with higher SCI scores had more consistent self perceptions across the interpersonal contexts (e.g., relaxed across all situations). Participants with lower SCI scores had less consistent self perceptions across contexts (e.g., relaxed with a friend but not with a parent).

The SCI correlates with theoretically and logically expected variables. Suh (2002) reported that high SCIs were positively correlated with self-clarity (r = .37; the Self-Concept Clarity Scale; Campbell et al., 1996), and with assertiveness (r = .23; the Assertiveness subscale of the NEO–PI–R Extraversion; Costa & McCrae, 1992). Suh (2002) also reported that SCI scores negatively correlated with the level of interest in how one is viewed by others (r = -.21; the Self-Monitoring Scale; Snyder, 1974) and with a measure that captures self-definition through the perspectives of others (r = -.42; the Social Awareness Inventory; Sheldon, 1996). Concerning the relationship between SCI and PTSD, Webb and Jobson (2011) reported that when the effects of depression were partialled out, SCI scores correlated positively with the intrusion symptoms of PTSD (*rho* = .17). While reliability statistics are not available for the SCI, the Big Five traits (Goldberg, 1993) on which the index is based was found to have a .73 test-retest reliability over 4 years (Robins, Fraley, Roberts, & Trzesniewski, 2002).

2.3.3 Cultural independence/interdependence.

The Twenty Statement Test (TST; Kuhn & MacPartland, 1954; see Appendix A) is a self-report assessment of self-conceptualization across interpersonal relationships, roles and internal qualities. Researchers often employ the TST to measure cultural variation in sense of self (e.g., Bochner, 1994). The TST asks "Who Am I?", subsequently providing participants with 20 empty response statements that begin with “I am”. Although most studies employ the 20-item version of the TST, Bochner (Bochner, 1976; Bochner & Perks, 1971) reported that participants tended to give up, repeat themselves or provide trivial answers after seven statements. McPartland (1959) described partly completed protocols of the 20-item version of the TST, where respondents discontinued after six responses. Therefore, following Bochner’s (1994) methodology, this study asked for 10 responses.

The TST has acceptable psychometric properties. Madson and Trafimow (2001) reported high (K = .98) interrater reliability, and Kuhn and McPartland (1954) described high test–retest reliability (r = .85). Criterion validity was reported in Jackson and Smith’s (1999) study, as TST responses pertaining to *groups* correlated significantly with a host of social identity measures (e.g., r = .19 on the Collective Self-Esteem Scale; Luhtanen & Crocker, 1992). As for face validity, participants in Spitzer and Parker’s (1976) study felt that the TST enabled them to provide the most accurate descriptions of themselves, compared with a range of self-construct measures. It was described as allowing “to communicate a degree of uniqueness not permitted by fixed response instruments” (Spitzer & Parker, 1976, p. 241).This favourable attitude towards the TST was suggested to promote participants’ degree of cooperation, effort and truthfulness (Spitzer & Parker, 1976).

Members of individualistic cultures have continuously been shown to use self-definitions that concern private, inner aspects (e.g.," I am nice"), whereas members of collectivistic cultures are characterised by a greater proportion of self-definitions related to public aspects of the self and social roles (e.g., "I am a wife"). Participants' responses on the TST were used to derive individualistic and collectivistic indices. In line with Jobson and O'Kearney's (2008) methodology, participants' statements were coded into independent/ interdependent categories. Private, self-related attributions, beliefs, thoughts and actions that did not involve others (e.g., "I am nice", "I am strong") were coded as independent responses. Replies that regarded groups or categories (e.g., "I am Russian", "I am a father") and those that referred to interdependence, companionship and other persons' attributes (e.g., "I am a mate") were coded as interdependent responses. Participant indices were computed by dividing the number of independent/ interdependent responses by the total number of statements provided. Index individualistic/ collectivistic scores can range 0-1. Following the translation of the responses of participants in the Soviet group from Russian to English, the investigator rated all responses and a second rater who is bilingual and from a Soviet cultural group rated 20% of the responses. Raters were blind to participants' culture. Interrater reliability was $\kappa = .90$ for the two raters.

2.3.4 Trauma-centred identity.

Three measures of trauma-centred identity were used; the Centrality of Event Scale, self-defining memories and the TST.

The Centrality of Events Scale (CES; Berntsen & Rubin, 2006a; see Appendix A) is a self-report questionnaire that assesses the predominance of a stressful life event in respondents' identity. The CES has 20 items that are rated on a 5-point Likert scale (*totally*

disagree to *totally agree*). Respondents are instructed to complete the CES with regards to the most traumatic/stressful event they endured. The final scale score is the sum of responses, ranging from 20 to 100.

The CES has good internal reliability ($\alpha = .94$) and a factor analysis indicated that a single concept underlies the scale (Berntsen & Rubin, 2006a). The scale correlates .38 with the severity of PTSD symptoms as measured with the PTSD checklist (Blanchard, Jones-Alexander, Buckley, & Foneris, 1996; Weathers et al., 1993). The CES also correlates .23 with depression symptoms measured with the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961; Berntsen & Rubin, 2006a). Psychometric properties for the CES were gathered from participants from individualistic cultures (Berntsen & Rubin, 2006a). This is the first study to use the CES with a collectivistic culture.

Second, the self-defining memories task (SDM; see Appendix A) asks participants to briefly write five self-defining memories. Following Singer and Salovey's (1993) methodology, participants are instructed that a self-defining memory is an important, well-remembered memory that "helps you to understand who you are and conveys powerfully how you have come to be the person you currently are". The SDM task was used in research with community samples from individualistic and collectivistic cultures, to estimate trauma-themed identity (Jobson & O'Kearney's, 2008).

Each autobiographical memory was coded as trauma-themed (directly referring to a traumatic event listed in the PDS; Foa et al., 1997) or not. Examples of participants' memories are provided (see Appendix B). Following Jobson and O'Kearney (2006; 2008) and Sutherland and Bryant (2006), the number of trauma-themed memories was divided by the total number of self-defining memories to obtain individual trauma-themed SDM ratios.

Hence, the possible SDM ratio range was 0-1. To establish interrater reliability, following the translation of the responses of participants in the Soviet group from Russian to English, the investigator rated all responses and a second rater who is bilingual and from a Soviet cultural group rated 20% of the responses. Raters were blind to participants' culture. Interrater reliability was κ =.86 for the two raters. Singer and Blagov (2000) reported an interrater reliability range for the SDM, κ= .64 to .83, for two raters.

Third, given the TST (Kuhn & MacPartland, 1954) has previously been used to examine self-definition (e.g., Bigner, 1971; Jobson & O'Kearney, 2006), it was also used in this study to examine trauma-themed self-definition in addition to independence/ interdependence. To be coded as trauma-themed, a response had to clearly relate to trauma/ survival (e.g., "victim"). Following Jobson and O'Kearney's (2008) procedure, an individual trauma-themed ratio was obtained by dividing each participant's total number of trauma-themed statements by their overall number of TST responses. The possible trauma-themed TST ratios range is therefore 0-1. Once more, following the translation of the responses of participants in the Soviet group from Russian to English, the investigator rated all responses and a second rater who is bilingual and from a Soviet cultural group rated 20% of the responses. Raters were blind to participants' culture. Interrater reliability was κ = .91.

2.3.5 Posttraumatic symptoms.

The PDS (Foa et al., 1997; see Appendix A) is a 49-item self-report measure of PTSD, widely used in research and clinical settings. The PDS measures every one of the PTSD diagnostic criteria (A-F) outlined in the DSM-IV (American Psychiatric Association, 1994). The scale is unique to many other PTSD measures in asking about participants' trauma

histories and about the nature of the most distressing event experienced, which can enhance the interpretation of findings. The PDS has been used with collectivistic cultures (Garcia, 2005).

The PDS contains four parts. The first two ask about trauma history and screen for the DSM-IV (American Psychiatric Association, 1994) PTSD stressor criteria (A). In part three, respondents rate the severity and duration of 17 symptoms that correspond with the core PTSD diagnostic symptoms (criteria B through E) from 0 ("*not at all or only one time*") to 3 ("*5 or more times a week / almost always*"). Part Four concerns the extent to which respondents' symptoms affected their level of functioning over the past month (criteria F). The PDS provides an overall severity score (ranging 0-51) of the frequency of the 17 PTSD symptoms. Scores on the PDS can be used to obtain a preliminary DSM-IV PTSD diagnosis, a symptom count, a symptom severity rating, and an indication of functional impairment (Norris & Hamblen, 2004).

Norms for the PDS were derived from respondents with PTSD and from at-risk populations, who had experienced an array of distressing events (Foa et al., 1997). The scale has excellent psychometric properties. Foa et al. (1997) reported overall internal consistency alpha coefficient of .92 and internal consistency for symptom subscales ranging from .78 to .84. Test- retest reliability of PTSD diagnosis had 87% agreement ($\kappa = .74$). As for convergent validity, diagnoses based on the PDS were in 82% agreement ($\kappa = .65$) with those based on the PTSD module of the Structured Clinical Interview for DSM-III-R (Spitzer, Williams, Gibbon, & First, 1990). The PDS also correlated .78 with posttraumatic symptoms as measured with the Revised Impact of Events Scale (Weiss & Marmar, 1997) and .79 with depression symptoms measured with the BDI (Beck et al., 1961).

2.3.6 Depressive symptoms.

Depression was measured as it was found to mediate the relationships between intrusive PTSD symptoms, self-consistency and trauma-centred identity (Webb & Jobson, 2011). The Hopkins Symptom Checklist (HSCL-25; Derogatis et al., 1974) is a 25-item symptom inventory that measures symptoms of anxiety and depression. Part II of the scale has 15 items that measure depressive symptoms (see appendix A). Respondents rate symptom severity over the last week on a 4-point Likert scale (1= *not at all* to 4= *extremely*). The total depression score is the average of all 15 items (range 1-4). The HSCL-25 has often been used in cross-cultural studies (e.g., Jobson & O'Kearney, 2008).

Derogatis et al. (1974) reported good internal, test-retest and interrater reliabilities (alpha coefficients .86, .81 and .64, respectively) for Part II of the HSCL-25. As for validity, Part II was highly correlated (r= .77) with depressive symptoms as measured with the Montgomery-Asberg-Depression Rating Scale (Montgomery & Asberg, 1979). Part-II was reported to have high (94%) sensitivity for identifying depression as defined by the DSM-IV (American Psychiatric Association, 1994) criteria, as well as high (94%) specifity for differentiating between different types of depression (Frojdh, Hakansson, & Karlsson, 2004).

2.3.7 Demographics.

Participants were asked to provide their age, gender, nationality and length of time in the UK, and to rate how hard they found the study on a 10-point Likert scale (*not at all* to *extremely*). These questions are enclosed in Appendix A.

2.4 Ethical Considerations

The study received ethical approval by the National Research Ethics Services (NRES)–

Norfolk Research Ethics Committee (see appendix C). People who responded to the study advertisements received information about the study from the researcher and a study information sheet in English/ Russian (see appendix D). The information sheet provided details about the study, requirements from participants, consent/voluntary nature of participation, matters of confidentiality and anonymity, data storage throughout the study, data disposal at the end of the study, support for distress, participants' right to withdraw, the complaints procedure, the offer to receive information about the study findings and the option to participate in the prize draw. The information sheet also informed participants that by returning the completed questionnaires they were giving their consent to participate.

2.4.1 Confidentiality.

Potential participants were informed that participation was voluntary and that they could change their mind about participating at any time prior to returning their completed questionnaires. If individuals chose to withdraw from the study they did not need to provide a reason and there were no consequences. The study questionnaires did not require identifiable information. However, participants had to provide their postal/electronic address to send the questionnaires. Participants that wished to enter the prize draw or to receive feedback about the study were asked to provide their contact details, either in a separate part of the online questionnaires or in a separate sealed envelope included with the paper questionnaires (see Appendix A). Contact details were separated from the questionnaires and kept apart so they could not be linked with participants' responses. The contact information was destroyed following the prize draw and provision of feedback about the study.

2.4.2 Data storage.

During the time of the study, electronic data was encrypted and password-protected on two computer files. Paper data was kept in a locked cabinet. The electronic and paper data were only accessible to the researcher and supervisors. At the end of the study, a password-protected file with the study data was saved on a portable memory device to be stored securely at the University of East Anglia for 15 years. The remaining data was deleted or shredded.

2.4.3 Distress.

Participants were asked to answer questions about distressing events they have experienced, about how they perceive themselves in general, and complete the PDS and HSCL-25-Part II. These measures have all been used previously with community samples (e.g., Bochner, 1994). Although it was unlikely for any harm to come to participants as a result of their participation, the researchers endeavoured to reduce and respond to distress in the following way. One, participants were informed at each stage of the study (i.e., study advertisements, information sheet and start of study questionnaires) that the study asked about distressing events. Second, the information sheet clearly stated that there was no requirement to complete the measures and that participants could discontinue prior to returning the questionnaires. Third, if participants became distressed they could withdraw from the study without consequences. Lastly, the information sheets, both in English and in Russian, contained the researchers' contact details together with sources of help and support (GP and the Samaritans helpline), for participants to contact if they feel distress.

2.5 Procedure

The study was advertised in Russian and in English via posters in public places,

advertisements in local newspapers, existing contacts with key Soviet community members, police services, hospitals and health services. These advertisements were identical (see appendix E). They invited British and Soviet people to participate in a study about distressing events, identity and culture, for which they could enter a prize draw. Interested individuals contacted the researcher by phone or email. The researcher provided additional information about the study from the information sheet. Those who were interested could choose to receive the study questionnaires in one of the following three methods: 1. in person, meet the researcher and complete the questionnaires in her presence; 2. electronically, a website link to complete the questionnaires online sent to their email address; 3. in paper, sent to their postal address. The questionnaires were accompanied with a study information sheet and an instructions letter. The information sheet informed participants that by returning their completed questionnaires, either in person, by post or online, they were giving their consent to participate in the study. The instructions letter directed participants to complete the study measures in one sitting and in the following order: SCI-part I, SDM, CES, PDS, HSCL-25, TST, SCI-part II, and demographics. It also provided an estimation of 30-45 minutes as to the length of time necessary for the completion of the questionnaires.

None of the individuals who contacted the researcher chose to complete the study in person. Participants who chose the online version of the study received an email with the study instructions in English/ Russian (see Appendix F), an information sheet as an attached file, as well as two webpage links. The first link was for the online version of the study questionnaires, which were presented in the same order as described above. The second link was for a separate webpage in which participants could enter their contact details for the prize draw and/or study feedback. In this way, participants' contact details were deposited in a

location separate to their responses. The online version was available either in English or in Russian, depending on participants' stated nationality when initially contacting the researcher.

Those who chose to participate by post were sent an instructions letter (see Appendix A) detailing the procedure outlined above, along with the information sheet, questionnaires, a small envelope with a contact details sheet to enter the prize draw and/or study feedback and a stamped return envelope. As in the online condition, the information sheet informed that by returning the completed questionnaires, they were consenting to participate in the study. Either English or Russian questionnaires were sent, depending on participants' stated nationality when initially contacting the researcher.

Of the 376 people who contacted the researcher, 103 completed the study (a response rate of 27%). Retuned questionnaires were allocated to a study group according to participants' stated nationality in the demographics questionnaire. Following Hofstede and Hofstede's (2004) individualism/collectivism categorization of cultures, participants identifying themselves as British were included in the individualistic group, and participants who identified themselves as members of a former Soviet Union state were included in the collectivistic group. None of those who participated belonged to another culture. In line with the study inclusion criteria, participants that had not reported a traumatic event on the PDS (Foa et al., 1997) were not included. The data were analysed using the Statistical Package for Social Sciences (SPSS Inc., Chicago, Illinois, USA) for Windows (Version 17), and analysed as described in the 'plan of analysis' below.

2.6 Plan of Analysis

To examine the first research question concerning cultural differences in trauma-centred identity, pairwise comparisons were used to compare the groups on the CES, SDM and TST. To examine the second research question concerning cultural differences in self-consistency, one-tailed t-tests were employed to examine whether SCI scores were higher in British compared with Soviets. To investigate the third research question, correlation analyses were conducted to examine correlations between PTSD symptoms and each of the three identity measures (CES, SDM and trauma-themed TST) in each group. For the fourth question, correlation analyses were used to estimate correlations between PTSD symptoms and self-consistency in each group. For the fifth question, correlation analyses were conducted to measure correlations between self-consistency and each of the three identity measures in each group. Fisher's transformation was used to examine group differences in the correlation coefficients described above.

3 Results

This chapter begins with the descriptive statistics of the sample characteristics. These are followed by analyses, to ensure that the results were not influenced by data collection method. Next, the descriptive statistics of the data are provided. Parametric statistics and non-parametric statistics are used based on the normality of distributions, to examine group differences and to compute relationships between the main study variables. These analyses and their findings are described in relation to the first five research questions. Due to missing data, sample size and degrees of freedom vary by analysis. The majority of analyses are two-tailed. One-tailed statistics are used in analyses pertaining to the second research question, in which the direction of the relationships between variables was predicted. Two exploratory analyses are carried. Bootstrapping analyses are used to examine mediating variables, and consistency levels are compared between trauma-related and non-trauma traits. Finally, a summary of the main findings is presented.

3.1 Overview of Data Analysis

3.1.1 Examining the Normality of the Data.

First, data were examined for outliers and none were detected. Second, as participants' form of participation in the study (on-line or post) may have influenced findings, pairwise comparisons (*t* tests or Mann-Whitney U tests) were conducted to establish whether there had been significant differences between the two methods of data collection. No significant differences existed between those who completed the study on-line (n = 87) or by post (n =10) concerning levels of self-consistency, $t(94) = .30$, $p = .77$, posttraumatic symptoms, $t(95) = .92$,

p =.36, or levels of trauma-centred identity as measured with the CES, U = 313.5, *Z*= -1.40, *p*=.16. In light of these results, the method of data collection did not appear to have influenced participants' responses.

Group summary data for the Posttraumatic Diagnostic Scale (PDS; Foa et al., 1997), the Centrality of Events Scale (CES; Berntsen & Rubin, 2006a), trauma-themed self-defining memories (SDM), trauma-themed Twenty Statement Test ratios (Trauma-themed TST; Kuhn & MacPartland, 1954), levels of self-consistency (SCI), TST cultural independence ratios and depression scores on the Hopkins Symptom Checklist (HSCL-25; Derogatis et al., 1974) are presented in Table 2.

Table 2

Normality Data for Study Measures by Group

	M		*SD*		Skewness		*SE* of Skewness		Range	
	British	Soviet	British	Soviet	British	Soviet	British	Soviet	British	Soviet
PDS	13.03	14.30	10.03	10.43	.80**	.82**	.31	.39	0-38	0-41
CES	73.80	58.68	16.00	21.23	-1.02**	-.06	.31	.39	28-96	23-91
SDM	.31	.20	.23	.23	.36	1.36***	.31	.39	0- .8	0-1
Trauma-themed TST	.03	.02	.05	.04	2.12***	.66***	.31	.39	0-.20	0-.10
SCI	67.46	64.30	13.50	11.58	.09	-.37	.31	.39	40.60-92.69	36.62-83.62
Independence ratio	.86	.86	.13	.17	-.68**	-1.17**	.31	.39	.50-1	.40-1
HSCL-25	1.94	1.93	.66	.66	.44	.65	.31	.39	1.00-3.53	1.07-3.47

Note. PDS stands for the Posttraumatic Diagnostic Scale; CES stands for the Centrality of Events Scale; SDM stands for the self defining memories; TST stands for the Twenty Statements Test; SCI stands for the Self-Consistency Index; HSCL-25 stands for the Hopkins Symptom Checklist. Significantly skewed variables tested by using the Wald statistic (skewness/SE of skewness)
** significant at p < .01
*** significant at p < .001

3.1.2 A description of posttraumatic symptoms.

Posttraumatic symptoms were measured using the PDS (Foa et al., 1997). As indicated in Table 2, PDS scores were significantly negatively skewed. Square-root transformations yielded normally skewed distributions in the Soviet (skew = -.27; SE = .39, n.s.) and British (skew = -.31; SE = .31, n.s.) groups.

3.1.3 A description of trauma-centred identity.

Trauma-centred identity was measured using the CES (Berntsen & Rubin, 2006a), SDM, and the TST (Kuhn & MacPartland, 1954). Table 2 shows that the CES was significantly positively skewed in the British group and maintained a significant positive skew despite statistical transformations ($p < .01$). Following square-root transformations, the Kolmogorov-Smirnov test for normality showed that the distribution of the transformed CES scores did not differ significantly from normality in the Soviet group only, $D(37) = 0.11$, $p = .20$. Therefore, subsequent analyses used non-parametric tests with the non-transformed scores.

SDM ratios were normally skewed in the British group but significantly negatively skewed in the Soviet group, and remained so despite statistical transformations ($p < .001$). As indicated by the Kolmogorov-Smirnov test for normality carried with and without statistical transformations, the distributions of SDM ratio scores remained non-normal in the Soviet, $D(36) = 0.25$, $p < .001$, and British, $D(60) = 0.18$, $p < .001$, groups. Thus, subsequent analyses employed non-parametric tests with the non-transformed scores.

Table 2 shows that in both groups, trauma-themed TST ratios were significantly negatively skewed. A significant negative skew remained in both groups despite statistical

transformations ($p < .001$). The Kolmogorov-Smirnov test for normality was carried out with and without statistical transformations and the trauma-themed TST ratio distributions remained non-normal in the Soviet, $D(37) = .49$, $p < .001$, and British, $D(60) = .48$, $p < .001$, groups. Therefore, subsequent analyses involving the trauma-themed TST employed non-parametric tests with the non-transformed scores.

Correlation coefficients were calculated between each pair of the three trauma-identity measures for each group. SDM and trauma-themed TST were significantly correlated in the Soviet group (*rho* = .33, $p = .047$) and approached significance in the British group (*rho* = .24, $p = .06$). SDM and CES were not significantly correlated in the Soviet (*rho* = -.10, $p = .58$) and British (*rho* = -.03, $p = .81$) groups. CES and trauma-themed TST were not significantly correlated in the Soviet (*rho* = -.02, $p = .89$) and British (*rho* = -.19, $p = .15$) groups.

3.1.4 A description of self-consistency.

Levels of self-consistency were estimated by computing a self-consistency index (SCI). Each participant's 64 ratings were transformed into a 16 x 4 matrix (16 traits in four contexts - parent, romantic partner, friend and the general self). Next, every personal matrix was factor analysed, that is, a within-subjects factor analysis was carried to obtain the principle components factors. An adjustment was made in two cases in which participants made identical ratings across one interpersonal context, which resulted with zero variance and thus, it was impossible to compute a component analysis in SPSS. Using the Jackknife estimate (Efron, 1979) in each of the two cases, 16 values of the index were systematically calculated whereby each of the identical ratings was in turn replaced by the next lower value (i.e., a rating of 4 replaced with 3). The resulting set of 16 scores was then averaged to obtain a final index value, as there was variability depending on which value was replaced.

Table 2 shows that SCI results were not significantly skewed in the Soviet (skew = -.37, SE = .39, n.s.) and British (skew = .09, SE = .31, n.s) groups. Kolmogorov-Smirnov tests showed that SCI scores did not differ significantly from normality in the Soviet, $D(36) = .08$, $p = .20$., and British, $D(60) = .07$, $p = .20$, groups.

3.1.5 A description of cultural independence.

Table 2 shows that in both groups, the independence ratios were positively skewed. Using square-root transformation, the skew of the independence ratio in the British sample became normal ($p > .05$), but it remained non-normally skewed in the Soviet group. Kolmogorov-Smirnov tests carried with and without statistical transformations showed that in both groups, individualistic and collectivistic index scores were significantly non-normal.

3.1.6 A description of depressive symptoms.

Table 2 shows that the depression scores in both groups were negatively skewed. Kolmogorov-Smirnov tests showed that depression scores were significantly non-normal in Soviets, $D(37), .17, p < .05$, whereas they did not differ significantly from normality in British, $D(60), .10, p = .20$.

3.1.7 Internal reliability.

Internal reliabilities of the PDS and CES were explored using Cronbach's alpha. The Cronbach's alpha for internal consistency of the PDS was .91 in the British group and .89 in the Soviet group. Internal consistency for the CES was also high, Cronbach's alpha = .95 in the Soviet group and = .93 in the British group. Therefore, non-normal distributions of the

PDS and CES are unlikely to have been caused by the consistency of the scales in the two samples.

3.1.8 Summary of descriptive data.

As seen in the descriptive statistics, SCI scores were normally distributed in both groups. The three trauma-centred identity measures (CES, SDM and trauma-themed TST), cultural independence and HSCL-25 were not normally distributed in both groups. PDS scores were initially non-normally distributed but square-root transformations achieved normally skewed distributions. In line with these findings, non-parametric tests were employed in analyses that included trauma-centred identity measures.

3.2 Group Characteristics

Group scores for age, gender, self-rated study difficulty, depression symptoms (HSCL-25 scores), cultural independence (TST independence ratio), and trauma exposure and PTSD symptom severity scores derived from the PDS, are shown in Table 3.

Table 3

Group Characteristics

	Age	Gender	Study Difficulty	Depression Symptoms	Cultural Independence	Trauma Exposure	PTSD Severity
	M (SD)	Male (%)	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*
Soviet	37.64 (9.8)	7 (19)	4.58 (.39)	1.93 (.11)	.86 (.03)	2.73 (.29)	14.30 (1.72)
British	39.76 (16.8)	11 (18)	4.05 (.36)	1.94 (.09)	.86 (.02)	2.25 (.19)	13.03 (1.41)

There were no significant differences between the two cultural groups in terms of age, $t(95) = -.78$, $p = .44$; gender, $\chi^2(1, N = 97) = 1.66$, $p = .44$; self-rated study difficulty, $t(94)=.96$, $p =.34$; depression symptoms, U = 1103.5, $z=-.05$, $p =.96$; and cultural independence , U = 1043.5, $z=-.52$, $p =.61$. Additional correlation analyses indicated that the length of time participants had been living in the UK was not significantly associated with cultural independence, $r = .07$, $p = .41$. Despite the absence of group differences in the cultural dimension of cultural independence, the groups remained separate in subsequent analyses due to differences in participants' country of origin (UK or former USSR).

The groups did not differ with respect to PTSD symptom severity, $t(95) = .96$, $p = .34$, and number of past traumatic experiences, $t(95) = 1.45$, $p = .15$. In the British group, 37 participants (61.7%) reported living through or witnessing 1-2 traumatic events and 23 participants (38.3%) reported 3-7 traumatic events. Twenty six participants (43.3%) met the DSM-IV screening criteria for PTSD (Foa et al., 1997), 41 participants' (75.9%) symptoms were in the mild-moderate range and 13 participants (21.7%) were in the moderate-severe to severe range. The PDS scoring guidelines (Foa et al., 1997) were also used to report on the Soviet group scores, however, they have not yet been empirically validated in Soviet respondents (E. Gilboa-Shechtman, personal communication, May 4, 2011). In the Soviet group, 19 participants (54%) reported living through or witnessing 1-2 traumatic events and 17 participants (46%) reported 3-7 traumatic events. Fourteen participants (37.8%) met the DSM-IV screening criteria for PTSD. As for overall severity scores, 27 participants' (77.1%) scores were within the mild-moderate symptom range and eight participants' (21.6%) scores were within the moderately-severe to severe PTSD symptom range.

Participants' most bothersome traumas were grouped in four categories: 'Calamity' included five event types (accident, disaster, combat, imprisonment and torture); 'Assault' included five event types (sexual/ non-sexual assault by family member or someone you know, sexual/non-sexual assault by a stranger, and sexual contact when you were younger than 18 with someone who was 5 or more years older); 'Illness' included the life threatening illness event; and 'other' included all other events. Chi-square tests showed that there was a significant association between group and the most bothersome traumatic event, χ^2 (3, N = 96) = 11.68, p < .01. The most bothersome traumatic event category in the Soviet group was 'calamity', versus 'illness' in the British group.

3.3 Research Questions

3.3.1 Research question 1: Cultural differences in self-consistency.

The first research question examined whether British participants have higher self-consistency levels compared with Soviets. Unlike previous descriptions of cultural differences in self-consistency (Suh, 2002), there were no significant cultural differences in self-consistency levels, t(94)= -1.17, p = .12, d = -.25 (one-tailed).

3.3.2 Research question 2: Cultural differences in trauma-centred identity.

Table 4

Cultural Differences (Mann-Whitney tests) and Effect Size Estimates in Trauma-Centred Identity

	British Median Score	Soviet Median Score	Mann-Whitney U	*p* (two-tailed)	Effect Size Estimate
CES	78	61	631.5*	.001	-.35
SDM	.40	.20	775.00*	.02	-.25
Trauma-themed TST	0	0	1790.70	.81	-.02

Note. CES stands for the Centrality of Events Scale; SDM stands for self-defining memories; TST stands for the Twenty Statements Test.
*significant at $p < 0.017$ (bonferroni correction)

The second research question concerned differences among the two cultural groups in the extent to which identity is trauma-centred. As seen in Table 4, there were significant cultural differences in trauma centrality to identity as measured by the CES and SDM. Identity was more trauma-centred in the British group than in the Soviet group.

3.3.3 Research question 3: Posttraumatic symptoms and trauma-centred identity.

Table 5

Bivariate Correlations (Spearman's rho) between Posttraumatic Symptoms and Trauma-Centred Identity

PDS	CES	SDM	Trauma-themed TST
British	0.22*	0.10	0.34**
Soviet	0.59***	0.09	0.21

Note. PDS stands for the Posttraumatic Diagnostic Scale; CES stands for the Centrality of Events Scale; SDM stands for self-defining memories; TST stands for the Twenty Statements Test.
* significant at $p < .05$ level (two-tailed)
** significant at $p < .01$ level (two-tailed)
*** significant at $p < .001$ level (two-tailed)

The third research question sought to examine cultural differences in the relationships between posttraumatic symptoms as measured with the total PDS symptom score and each of the trauma-identity measures. As seen in Table 5, a higher degree of trauma-centred identity as indicated by CES scores in both cultures and by trauma-themed TST scores in the British group was found to be significantly correlated with higher levels of posttraumatic symptoms. Additionally, these correlations were converted to z-scores (*Fisher transformation*) to enable comparison of the two groups. The correlation between posttraumatic symptoms and trauma-centred identity as measured with the CES was significantly higher in Soviets than British, $Z = 2.09$, $p < .05$. There were no significant differences between the two groups with regards to the SDM and TST correlations ($p > .05$).

3.3.4 Research question 4: Posttraumatic symptoms and self-consistency.

A correlation (Pearson's *r*) was computed to examine the relationship between posttraumatic symptoms and self-consistency in each culture. In Soviets, posttraumatic symptoms were significantly correlated with self-consistency, $r(34) = -.41$, $p < .05$. In British, the relationship between posttraumatic symptoms and self-consistency was approaching significance, $r(58) = -.25$, $p = .06$. Higher levels of self-consistency are therefore associated with fewer posttraumatic symptoms in Soviets, but not so in British. Z-scores (*Fisher transformation*) showed that these correlation coefficients were not significantly different ($p > .05$).

3.3.5 Research question 5: Trauma-centred identity and self-consistency.

Table 6

Bivariate Correlations (Spearman's rho) between Trauma-Centred Identity and Self-Consistency

SCI	CES	SDM	Trauma-Themed TST
British	-.35**	-.03	-.19
Soviet	-.40*	-.10	-.02

Note. SCI stands for the Self-consistency Index; CES stands for the Centrality of Events Scale; SDM stands for self-defining memories; TST stands for the Twenty Statements Test.
* significant at $p < .05$ level
** significant at $p < .01$ level

Correlation analyses (Spearman's *rho)* were conducted to examine the relationships between self-consistency and the three trauma-identity measures in each group. Trauma-centred identity as measured with the CES significantly correlated with self-consistency in

British and Soviets; higher self-consistency levels are associated with lower levels of trauma-centeredness in both cultures. This relationship was not significant with the SDM and trauma-themed TST scores. Z-scores (*Fisher transformation*) showed that there were no significant differences in the correlation coefficients ($p > .05$).

3.3.6 Exploratory analyses.

As gathered from the literature review in section 1.4.1 of the introduction, there is evidence that trauma-centred identity predicts PTSD (e.g., Schuettler & Boals, 2011). Theoretical PTSD models, however, propose a more complex and indirect pathway from trauma-identity to PTSD. In this pathway, self-consistency levels are regarded as influential on whether trauma-themed changes to the self eventually result with posttraumatic symptoms (Berntsen & Rubin, 2006a; Conway, 2005; Jobson, 2009). That is, self-consistency is hypothesised to have a mediating role amidst the progression from trauma-identity to PTSD.

Given the correlations between trauma-centred identity and posttraumatic symptoms, and between trauma-centred identity and self-consistency, exploratory analyses sought to examine whether self-consistency mediated the relationship between trauma-centred identity and posttraumatic symptoms. Nonparametric bootstrapping analyses (Preacher & Hayes, 2008) were used to explore a meditational model of self-consistency as a mediator of the relationship between posttraumatic symptoms and trauma-centred identity. The model was initially examined with the entire sample. Based on 5000 bootstrapped samples, the findings showed that the total effect of trauma-centred identity on posttraumatic symptoms was significant (TE=.46, SE=.12, p <.001). The direct effect of trauma-centred identity on posttraumatic symptoms was also significant (DE=.38, SE=.12, p<.01). The relationship between trauma-centred identity and posttraumatic symptoms was mediated by levels of self-consistency

(lower 95% CI=.01, upper 95% CI=.20). As zero is not within the 95% confidence interval, the indirect effect is significantly different from zero at $p < .05$ (Preacher & Hayes, 2004; Preacher et al., 2007). These findings suggest that self-consistency mediates the relationship between trauma-centred identity and PTSD symptoms. When the analyses were repeated separately for each cultural group, self-consistency did not significantly mediate the relationship between trauma-centred identity and posttraumatic symptoms in the Soviet (lower 95% CI=-.05, upper 95% CI=.53) and British (lower 95% CI=-.03, upper 95% CI=.30) groups.

A second exploratory analysis was undertaken to compare levels of self-consistency pertaining to trauma-related and non-trauma related traits. The analysis repeated the methodology described in section 3.1.4 for computing individual SCIs, but each participant's 16 x 4 matrix was converted into two separate indices: trauma-related and non-trauma-related characteristics. The trauma-related index had the four adjectives from Ehlers and Clark's (2000) cognitive model of PTSD (defeated, influential, secure and victim) across the four interpersonal contexts, and the non-trauma index had the remaining 12 adjectives across the four interpersonal contexts. Paired *t*-tests were then carried separately for each group. Both Soviet and British participants exhibited significantly higher levels of self-consistency with regards to the trauma-related personal characteristics. The Soviet sample had significantly greater levels of self-consistency for trauma-related traits ($M = 81.22$, $SE = 2.27$) compared with non-trauma-related traits ($M = 60.09$, $SE = 2.13$), $t(36) = -7.25$, $p < .001$, $d = .77$, and the British sample similarly exhibited significantly greater levels of self-consistency for trauma-related traits ($M = 78.62$, $SE = 1.97$) compared with non-trauma-related traits ($M = 65.82$, $SE = 1.90$), $t(59) = -5.55$, $p < .001$, $d = .59$. Levels of self-consistency for trauma-related traits were not significantly correlated with posttraumatic symptoms in the Soviet, $r(34) = -.08$,

p = .65, and in the British, $r(58)$ = -.04, p = .78, samples. These exploratory analyses suggest a difference in the perception of personal traits which have been theoretically and empirically related to the experience of trauma. Specifically, individuals appear to have a significantly more consistent perception of themselves across different interpersonal situations when they consider trauma-related aspects of their selves, compared with non-trauma self aspects which are perceived significantly less consistently. The analyses also show that the tendency for perceiving trauma-related traits more consistently is a characteristic of both British and Soviets.

3.4 Summary of the Results

The analyses tested the five research questions and found the following results. The two cultural groups did not differ significantly regarding levels of self-consistency. The British group had significantly higher levels of trauma-centred identity than the Soviet group. Trauma-centred identity was significantly positively correlated with posttraumatic symptoms in both groups, and this correlation was significantly stronger in the Soviets. In Soviets, those with higher self-consistency levels had significantly fewer posttraumatic symptoms. In both groups, higher levels of self-consistency were significantly associated with lower levels of trauma-centred identity. Additional exploratory analyses found that self-consistency mediated the relationship between trauma-centred identity and posttraumatic symptoms when the sample was examined as whole. Self-consistency levels of trauma-related traits were significantly higher than those of non-trauma-related traits in both groups.

4 Discussion

4.1 Overview

PTSD is an anxiety disorder that can develop following traumatic experiences. Lifetime exposure to trauma is high (e.g., 80.7%; de Vries & Olff, 2009) and a significant proportion of survivors across ethnicities and cultures are affected by PTSD (Foa et al., 2009). Empirically-supported theoretical models describe the personal and situational variables involved in the development and maintenance of PTSD. Many of these models emphasize the role of the self and the potential impact of trauma on survivors' identity (i.e., fragmented, altered; Brewin, 2011). Research has found that increased levels of trauma- centred identity (i.e., the perception of the trauma as a predominant and self-defining event in one's life story) predict the development of PTSD symptoms (e.g., Berntsen & Rubin, 2007). An important caveat of these findings, however, is that they are based almost exclusively on participants from individualistic cultures. Consequently, a recurrent criticism had been querying the suitability of the current explanatory PTSD models to people from collectivistic, non-Western cultures (e.g., Foa et al., 2009).

The concept of identity consistency, or self-consistency, has received increased attention in the field of social psychology. Psychological theories and research largely associate self-consistency with well-being (e.g., Donahue et al., 1993). Cross-cultural research has provided evidence for cultural differences in levels of self-consistency; high levels of self-consistency are perceived as desirable in individualistic cultures but as immature and rigid in collectivistic ones (Suh, 2002). Based on these findings, the Threat to the Conceptual Self model (TCS; Jobson, 2009) has proposed a broadening of current PTSD models to include

collectivistic cultures. TCS predicts that the culturally-appropriate perception of self-consistency will influence the relationship between survivors' memory of the trauma, the memory's impact on the self, and the development of PTSD. The relationships between PTSD, trauma-centred identity and self-consistency have only been empirically examined in a Western, student sample (Webb & Jobson, 2011). Thus, this thesis sought to explore the relationships between posttraumatic symptoms, trauma-centred identity and self-consistency in individualistic and collectivistic cultures. For the purpose of this investigation, community participants from British and Soviet cultures (Hofstede & Hofstede, 2004) were recruited and compared.

The present chapter begins with an account of the study findings in relation to the research questions asked in section 1.8 of the introduction. Second, the strengths and limitations of this work are considered with regards to the study design, participants, measures, procedure and data analysis. Third, the theoretical and clinical implications of the results are discussed. Fourth, directions for future research are proposed. The chapter ends with a conclusion of the main findings.

4.2 Summary of the Findings with relation to the Study Questions

4.2.1 Research question 1

Research in social psychology has identified lower levels of self-consistency in collectivistic cultures compared with individualistic ones. The former group has typically been represented by members of Asian cultures (e.g., Koreans; Suh, 2002). Therefore, the first research question aimed to explore whether Soviets would also demonstrate lower levels of self-consistency when compared with British.

British and Soviets were not significantly different in their levels of self-consistency. This finding is distinctive when compared with the existing cross-cultural literature on self-consistency. In addition, the former Soviet Union was previously described as collectivistic (e.g., Tower et al., 1997), and yet participants in the Soviet group were not significantly different to British participants in levels of cultural independence/ interdependence. Therefore, the Soviet participants in the present sample appear to be as individualistic, and as self-consistent, as the British sample. How may the lack of group differences in the cultural dimension be explained? For the Soviet participants, having similar levels of individualism, and self-consistency, as the British participants, is perhaps indicative of cultural changes in former USSR states. Possibly, a greater exposure to the Western culture following the 1991 breakdown of the Soviet Union had initiated a shift towards individualism, although it may have been too premature for studies from the 1990s (e.g. Tower et al., 1997) to capture such cultural changes. Alternatively, the Soviet participants' levels of individualism and self-consistency may be unique to those who had immigrated away from the home countries, reflecting the new and different cultural experiences as a result of participants' move to England. It is also potential that participants' individualism and self-consistency scores were influenced by the mode of assessment of self-consistency and cultural independence/interdependence. Future research should examine whether these findings are unique to Soviets who live in England.

4.2.2 Research question 2

Previous research has explored the centrality of trauma to identity in British (e.g., Webb & Jobson, 2011) and other individualistic and collectivistic cultures (e.g., Australian, Asian; Jobson & O'Kearney, 2006; 2008). The former Soviet Union has been recognized as a

collectivistic culture (e.g., Tower et al., 1997), but to date, trauma-centred identity has never been examined in this group. Thus the second research question sought to examine differences between British and Soviet participants in levels of trauma-centred identity.

British participants had significantly higher levels of trauma-centred identity than Soviet participants. This difference manifested in two of the three identity measures, namely the Centrality of Events Scale (CES) and self-defining memories (SDM). The present analyses also showed that the two cultural groups were not significantly different in levels of cultural independence/ interdependence. Therefore, despite a similar tendency towards autonomy and self-definition that is derived from internal traits in the two groups, the British participants were significantly more prone to regard previous traumatic experiences as turning points central to their identity. These results are unlike Jobson and O'Kearney's (2006), whose Australian and Asian participants were not significantly different in their levels of trauma-centred SDM ratios. However, these results may not be comparable given that Jobson and O'Kearney's (2006) findings relied on SDM only, whereas the present results indicated group differences in trauma-centred identity in both the CES and SDM.

The findings from the second research question showed that the British sample displayed a meaningfully higher degree of trauma-centeredness, and there may be several reasons for why that is. Two possible explanations involve the CES. The CES was constructed and trialled in independent cultures (e.g., North Americans, Danish) and therefore it may be better suited to assess trauma-identity in independent populations. There is also evidence for cultural differences in responses to Likert scales (Lee , Jones Mineyama, & Zhang, 2002), although this alone is unlikely to explain the present finding as there were no group differences in the other Likert scales: the Posttraumatic Diagnostic Scale (PDS; Foa et al., 1997) and the

Hopkins Symptom Checklist (HSCL-25; Derogatis et al., 1974). Additional research is required to investigate whether higher levels of trauma-centred identity are associated, at least in part, with the mode of identity assessment, or whether high trauma-identity levels are a unique characteristic of the British culture.

The process of anchoring one's identity round the trauma may also be influenced by the type of trauma experienced. In the present study, the two cultural groups experienced similar rates of trauma exposure but they differed in terms of the most bothersome trauma. British participants were most distressed by experiences of life threatening illness. Soviet participants were most affected by events in the "calamity" category, which grouped together accidents, disasters, combat, imprisonment and torture. None of the participants reportedly experienced the three latter traumas. Therefore, Soviets were most distressed by experiences of accidents or disasters, and British were most bothered by illness. This difference may partially explain the greater levels of trauma-centred identity evidenced in the British group. While accidents and disasters are often isolated, short-lasting incidents, life threatening illnesses may be prolonged and chronic. As such, it is possible that traumas which are more continuous in nature, such as prolonged illnesses, are more likely to become a core component of one's identity, compared with a briefer trauma such as a car accident. With some similarity, there is evidence that the duration of the trauma is positively associated with mental defeat in victims of rape (Ehlers, Clark, Dunmore, Jaycox, Meadows, & Foa, 1998). Further research is needed to examine whether the type and duration of the traumatic event is associated with its eventual centrality to identity.

4.2.3 Research question 3

Trauma-centred identity has been found to correlate with, and predict, posttraumatic symptoms, in clinical and non-clinical samples from Western cultures, as reviewed in section 1.4.1 of the introduction. Jobson and O'Kearney (2006) reported that posttraumatic symptoms were associated with trauma-centred identity in members of individualistic, but not collectivistic, cultures. The relationships between trauma-centred identity and posttraumatic symptoms in British and Soviets were therefore the subject of the third research question.

Trauma-centeredness as indicated by scores on the CES was significantly associated with PTSD symptoms in both cultures. This relationship was also indicated in the British group when trauma-centred identity was measured using the trauma-themed Twenty-Statements Test (TST; Kuhn & MacPartland, 1954). The association between posttraumatic symptoms and trauma-centred identity was significantly stronger in the Soviet group. Compared with previous research, these findings are unique. While the correlation in the British sample is in line with earlier studies, the positive association between posttraumatic symptoms and trauma-centred identity in the Soviet sample is dissimilar to the existing data about collectivistic cultures. This finding suggests that the present Soviet sample is different to other collectivistic groups, in its levels of cultural independence and self-consistency as discussed before, and also in the relationship between trauma-centred identity and PTSD symptoms.

4.2.4 Research question 4

Theoretical models of PTSD (Conway & Pleydell-Pearce, 2000; Ehlers & Clark, 2000; Jobson, 2009; Rubin et al., 2008) attribute a causal role to self-consistency in the development

of PTSD. Evidence for cultural differences in self-consistency (Suh, 2002) was incorporated into the TCS model (Jobson, 2009), to postulate cultural differences in the relationship between self-consistency and posttraumatic symptoms. This relationship had been explored in British participants. When the effects of depression were statistically removed, self-consistency was found to be directly related to intrusive posttraumatic symptoms (Webb & Jobson, 2011). In the present study, the fourth research question explored the relationship between self-consistency and posttraumatic symptoms cross-culturally.

Self-consistency levels were negatively correlated with posttraumatic symptoms in the Soviet group. A negative relationship was approaching significance in the British group (p = .06). Concerning individualistic cultures, the results are unlike Webb and Jobson's (2011), although the present analyses pertain to posttraumatic symptoms as a whole, and the effects of depression had not been removed as Miller and Chapman (2001) suggest not controlling for depression. As for the Soviet sample, the relationship between self-consistency and PTSD symptoms has never before been explored in this culture, and therefore the findings cannot be compared with previous ones. The results of the fourth research question suggest that, as with the relationship between trauma-centred identity and PTSD, Soviet and British participants were also similar in terms of the direction of the relationship between self-consistency and PTSD symptoms.

4.2.5 Research question 5

PTSD models propose a link between levels of self-consistency and trauma-centred identity (Conway & Pleydell-Pearce, 2000; Ehlers & Clark, 2000; Jobson, 2009; Rubin et al., 2008). The TCS model (Jobson, 2009) predicts that in trauma survivors from individualistic cultures, who typically value high levels of self-consistency, trauma memories may lead to

trauma-centred identity; in trauma survivors from collectivistic cultures, who typically prefer a more flexible self, trauma memories are hypothesised to have a lesser influence on survivors' identity (Jobson, 2009). In the single investigation of these predictions prior to this study, levels of self-consistency were not significantly associated with trauma-centred identity in British students (Webb & Jobson, 2011). Therefore, the fifth research question aimed to evaluate whether self-consistency is associated with trauma-centred identity in British and Soviet participants.

In both cultural groups, levels of self-consistency were significantly negatively correlated with trauma-centred identity: the higher the self-consistency the lower the levels of trauma-centred identity. The meaningful association between higher levels of self-consistency and lower levels of trauma-centred identity in British differs from Webb and Jobson's (2011) findings in this culture. The results of the fifth research question show that, as with the relationships explored in the third and fourth questions, British and Soviet participants were also similar in the negative association between self-consistency and trauma-centred identity.

4.2.6 Exploratory analyses

Following from the positive correlation between trauma-centred identity and posttraumatic symptoms identified by the third research question, and the negative correlation between trauma-centred identity and self-consistency shown in the fifth research question, exploratory analyses were carried out to identify whether self-consistency mediates the relationship between trauma-centred identity and posttraumatic symptoms. As there were no significant group differences in the levels of self-consistency, and given the significant and positive relationships between trauma-centred identity and posttraumatic symptoms in both groups, British and Soviet participants were examined together.

The results of the mediation analyses showed that self-consistency mediated the relationship between trauma-centred identity and posttraumatic symptoms when the sample was examined as a whole. The mediation model suggests that those with lower levels of trauma-centred identity are likely to be more self-consistent, and through higher self-consistency levels, they are less likely to experience posttraumatic symptoms. While previous studies showed that trauma-centred identity is a strong predictor of PTSD symptoms (e.g., Berntsen & Rubin, 2006b), the present results suggest that the relationship between these two variables might be more complex. That is, it appears that trauma-centred identity leads to posttraumatic symptoms via levels of self-consistency. The mediating role of self-consistency must be explored further, to understand whether it leads to posttraumatic symptoms or perhaps maintains them as well.

The findings from the second exploratory analysis suggest increased consistency with regards to trauma-related aspects of the self. This consistency bias of trauma-related traits existed in both the Soviet and British participants.

4.3 Strengths and Limitations of the Study

The strengths and limitations of the present study, and their meaning for the interpretation of the findings, will now be discussed.

4.3.1 Design.

The cross-sectional between-group design using an individualistic cultural group and a collectivistic cultural group was deemed appropriate for exploring the research questions. The recruitment method aimed to reach various sectors of the local British and Soviet communities living in the UK, so that the sample adequately represented these two groups. However, the

lack of random sampling is a weakness because those who chose to participate were perhaps different to those who did not, which may limit the external validity of the findings.

Group comparisons revealed that British and Soviet participants were successfully matched on age, gender, self-rated study difficulty, depression symptoms, posttraumatic symptoms and number of traumas. The groups were dissimilar in the most bothersome traumatic event category, which had been 'calamity' in the Soviet group and 'illness' in the British group. As discussed in section 4.2.1, this difference in the most bothersome trauma may have contributed in part to the observed cultural differences in trauma-centred identity. In addition, the study groups were perhaps different on factors not accounted for (e.g., socioeconomic level). Collating additional demographic information may have resolved this.

4.3.2 Participants.

Non-clinical community samples were chosen for several reasons. First, the resources required for recruiting two clinical samples matched on variables such as age and gender were beyond the resources available for this study. Second, and as demonstrated in the literature review, there is good evidence for the association between posttraumatic symptoms and trauma-centred identity in non-clinical samples (e.g., Berntsen & Rubin, 2006b). A relationship between posttraumatic symptoms and self-consistency has also been found in individuals without PTSD (i.e., in a non-clinical sample of university students; Webb & Jobson, 2011). As described above, participants in the two study samples were similar in age, gender, self-rated study difficulty, depression and posttraumatic symptoms, and number of traumas. This increased the likelihood of identifying significant differences between the groups.

Participants in the Soviet sample were individuals from former Soviet Union countries currently residing in the UK. They may have been different in terms of the study variables from their counterparts who live in the home countries. With that in mind, the present data were analysed with the length of time participants had been living in the UK as covariate, and results were equivalent, suggesting that time in the UK alone did not account for the findings. Yet, the fact that these participants had made the decision to immigrate to the UK suggests that they possess a considerable sense of autonomy, and perhaps an attraction to the British culture which is more Western and individualistic compared with former Soviet Union cultures. Marian and Kaushanskaya (2004) discuss differences in self-construal in members of cultural groups that have been socialized in different cultures. In the present study, the Soviet participants' experiences of immigration and immersion in a Western culture had possibly influenced their levels of cultural individualism/ collectivism and self-consistency, compared with Soviets who had not immigrated. While the variables associated with the decision to immigrate and its consequences had not been the subject of this study, it is important to consider their potential role in the observed similarities in group levels of cultural individualism/ collectivism and self-consistency.

The Soviet participants' similarity to the British in cultural individualism/ collectivism is notable, as it possibly provides new and updated knowledge about the Soviet population living in the UK, and perhaps elsewhere too, following the collapse of the Soviet Union. As mentioned before, no published studies so far have tested the present variables in a Soviet sample, and this is therefore a strength of this study. Further strengths were the fairly homogeneous sample in which 33 of the 37 Soviet participants were from Russia, and corresponding with this, the provision of the study measures in Russian.

An initial power calculation to estimate sample size with α-level of .05, power of .80 and a medium effect size (.3) yielded a desired sample size of 64 participants per group. A total of 103 individuals completed the study and after the exclusion of six non-trauma survivors, there were 60 British participants and 37 Soviet participants. The smaller than planned sample size, particularly in the Soviet group, resulted from difficulties to recruit. Despite the rise in Soviet migration to Norfolk (Bishop, 2010), it remains a relatively small group compared with the local British population. The study recruitment benefitted from the aid of key Soviet community members, and still, fewer individuals than expected had decided to participate.

4.3.3 Measures.

The study employed a range of valid and reliable measures in line with previous research on trauma-centred identity and self-consistency. The SCI, TST (Kuhn & MacPartland, 1954), PDS (Foa et al., 1997) and HSCL-25 (Derogatis et al., 1974) have been used cross-culturally, which therefore supports their inclusion in the present study.

An important strength of this study was the use of three identity measures. These were the CES, a self-rated Likert scale, and the SDM and TST, both open-response measures. The CES had been used extensively to estimate trauma centrality, and the open-response format of the SDM and TST enabled participants to provide information more freely. The inclusion of three trauma-identity measures aimed to enable a thorough understanding of this concept and its relationships with the remaining study variables. It also extended previous work which had only used the CES (Webb & Jobson, 2011), or that which relied on open-response measures (Jobson & O'Kearney, 2006; 2008). A variety of identity measures was also desirable given

that the relationship between trauma-centred identity and self-consistency had never before been explored cross-culturally.

The analyses of the three identity measures indicated that they were not significantly related to one another, other than SDM and TST in the Soviet sample. This finding is of interest as it suggests variations in the way each measure captures trauma-centeredness. In the only other study which employed both the TST and SDM, by Jobson and O'Kearney (2008), correlations among these measures were not reported on; hence, the correlations, or lack of them, between the identity measures in this study, are novel. As the aim of the three identity measures was to assess the same construct, they were expected to relate with one another, and this was only the case with the SDM and TST in the Soviet group. These surprising findings may be explained by the following. First, the mean scores for both groups on the TST and SDM neared the second and third deciles - seemingly low scores given the possible response range. This appears to differ from the mean scores on the CES which were within the fifth and eighth deciles. Therefore the low scores on the SDM and TST may represent floor effects. This may indicate the inferiority of the SDM and TST in research with community samples. A second possible explanation for the observed differences involves the autobiographical memory and its functioning post trauma. Autobiographical memory, defined as memory for one's life events (Conway & Rubin, 1993), functions to sustain a coherent sense of self over time (Barclay, 1996). Empirical evidence shows that autobiographical memory may be distorted to support the self and its goals (Barclay & Wellman, 1986; Conway, 2005; Neisser, 1981). Possibly, the goal of maintaining psychological health served to avert the present participants' memories away from their past traumas, and promoted a free recall of non-trauma memories and self definitions in the SDM and TST. Differently, the CES asks about trauma

directly, and is therefore more likely to compel respondents to attend to their traumatic experiences and their impact on identity at present. Third, and as discussed in Jobson and O'Kearney (2008), all three identity measures are perhaps limited in assessing exact levels of trauma-centeredness, as oppose to the extent to which participants wish to disclose, and their possible bias towards socially or culturally- desired responses.

Given that the identity measures were mostly not correlated, the nature of the relationships between trauma-centred identity and the other study variables depended on the identity measure used for analyses. It would have been a limitation had the study relied on a single assessment of trauma-identity. Rather, the different results obtained by the three identity scales may be used to infer on the measurement of trauma-centred identity. Specifically, seeing that the CES was more often meaningfully associated with PTSD and with self-consistency, it is possible that self-rated scales of trauma-centred identity are more appropriate for empirical research than open-response measures. Further, given the wealth of empirical evidence for the relationship between PTSD and trauma-centred identity, the non-significant associations between PTSD and SDM in both groups, and PTSD and TST in the Soviet sample, were unexpected; again, these findings may indicate the inferiority of open-response measures, compared to Likert scales, for research in this area.

The TST had been used in a 10-statement rather than 20-statement version. This was done primarily to reduce participation fatigue, as previous studies found that participants discontinued after seven statements (Bochner, 1976; Bochner & Perks, 1971). The vast majority of participants provided no less than 10 statements. Yet a possible limitation is that the shortened version may have been less sensitive for identifying differences in trauma-centred identity. As the TST was also used to assess levels of cultural individualism/

collectivism, the use of 10 rather than 20 responses may have hindered the detection of group differences, hence the similarity between the two cultures on this variable. The inclusion of a second measure of individualism/ collectivism alongside the TST may have resolved this uncertainty. For instance, Hui's 63-item Likert scale, the INDCOL, which captured differences between British and Russian participants in Tower et al's (1997) study.

The choice of 16 traits for the SCI, compared with a higher number of traits used in previous research, also aimed to reduce fatigue in participants. As in previous studies that used more traits, the results of the SCI were normally distributed, supporting its use in this version. Another strength was the incorporation of trauma-related traits from Ehlers and Clark's (2000) cognitive model of PTSD in the current version of the SCI. This addition enabled the exploratory examination of self-consistency levels in trauma-related versus non-trauma-related traits, which indicated increased self-consistency regarding the former. Yet the process of choosing the four trauma-related traits was solely guided by theory (i.e., Ehlers and Clark's four cognitive appraisal domains: mental defeat, control, alienation and permanent change), and therefore, the validity of the selected 16 adjectives as pertaining to trauma or not, could have been tested prior to their use in this study, for instance by obtaining valence ratings from British and Soviet individuals.

Several strengths and limitations are associated with the use of the study measures in the Soviet group. The CES had been used extensively in studies within this field, as discussed in section 1.4.1.2 of the introduction, but only with Western cultures. This was the first study to expand the use of the CES beyond non-Western populations, and this is therefore a strength. An additional strength pertaining to the Soviet group had been the use of Russian-translated study measures. The study measures required good reading comprehension as well as the

provision of written memories and self-statements. Therefore, completing the study in Russian aimed to reduce the extraneous impact of language. Russian was chosen because it was the official language of the former Soviet Union countries during the Communist rule, and thus it was expected that Russian participants as well as participants from other former Soviet Union countries would have a good command of it. Indeed, all the participants in the Soviet group completed the study in Russian. While it is possible that some of those who initially expressed an interest in participating chose not to do so because they had difficulties with the Russian measures, the researcher had not been contacted concerning this matter and so it is unlikely to have been a common problem. In addition, translating the study measures to other Soviet languages would have been beyond the resources available for this work.

The six study measures and the demographic information section were provided in Russian. The HSCL-25 and PDS had been translated to Russian and used in previous research (E. Gilboa-Shechtman, personal communication, May 4, 2011; Hoffmann et al., 2006). The process of translating the SCI, SDM, TST and CES was described at length in section 2.3.1. The translation process followed current guidance (Beaton et al., 2000). There was also good internal consistency in the Soviet participants' PDS and CES scores. At the same time, it would have been preferable to test the content validity of the translations prior to their present use. Ultimately, given that the use of the SCI, SDM, TST and CES with a Soviet sample has never before been reported, this study offers a unique contribution to the current literature. Further studies are required to confirm the validity of these measures in individuals from culturally-collectivistic cultures. Additionally, while inter-rater reliability was high, the study could have benefitted from the inclusion of independent raters to assess whether participants' transcripts were identifiable as British or Soviet.

4.3.4 Procedure.

It was a strength of the study to replicate Suh's (2002) procedure for the assessment of self-consistency given its previous use in non-clinical, individualistic and collectivistic cultures. Repeating this procedure increased confidence in the validity and reliability of the current findings. Further, participants in both groups chose either the paper or the online versions of the study. Both these forms of participation were free of the presence of a researcher, which reduced demand characteristics.

4.3.5 Data analysis.

Statistical transformations were unable to overcome the non-normal distributions of the CES, SDM and TST. Consequently, analyses that involved trauma-centred identity or cultural individualism/collectivism used non-parametric statistics. This is a limitation because non-parametric analyses reduce the power to accurately detect significant effects by increasing the likelihood of Type II errors. Concerning the exploratory mediation analyses, the use of bootstrapping has several advantages. Bootstrapping is considered preferable to other mediation methods as it does not make assumptions about the normality of the data. Bootstrapping has also been recommended to use with smaller samples than those needed to meet the distributional assumptions of other methods (Preacher & Hayes, 2004).

4.4 Theoretical Implications

The main finding of this study is that high levels of identity consistency may be protective against trauma-centred identity and PTSD in survivors of trauma from British and Soviet cultures, although the relationship between self-consistency and PTSD in the British sample had only approached significance. These findings support and extend the existing evidence on the advantageous role of identity consistency in maintaining well-being (e.g.,

depression and anxiety; Donahue et al., 1993) to include PTSD. They also demonstrate that higher levels of self-consistency are valuable in Western cultures as well as for individuals from the former USSR.

The benefits of self-consistency, as seen in the present study, are meaningful for the Self-Memory System model (SMS; Conway, 2005; Conway & Pleydell-Pearce, 2000) and for the mnemonic model (Berntsen & Rubin, 2006a). According to the SMS, the working self aims to avoid challenges or threats to its ongoing sense of self coherence. In the face of trauma, one strives to maintain or regain coherence between the trauma memory and current self-perceptions. The mnemonic model emphasizes the merging of the trauma in a consistent life story. Both models privilege identity consistency in the psychological adjustment following trauma. Yet neither model offers an explicit account of the relationship between coherence needs and trauma-centred identity. Additionally, the SMS does not detail under which conditions do changes to the trauma memory, initially in the service of coherence needs, result with a trauma-themed identity and PTSD. The current findings show that individuals with high levels of self-consistency are less likely to anchor their identity around the traumatic event, or to suffer posttraumatic symptoms. Possibly, a highly consistent identity may act as a resilience factor that preserves one's former sense of self despite the experience of trauma. A self perception that is stable and consistent across roles and contexts may therefore be advantageous in framing the trauma (and its effects) as a discrete, unusual entity, too dissimilar to become immersed with one's identity. The protective effect of self-consistency against PTSD lends support to the SMS and mnemonic models. For the SMS, it is meaningful in understanding the interplay between correspondence and coherence needs. It appears that, despite the evolutionary need to accurately capture events (correspondence), it is perhaps more

beneficiary in the aftermath of trauma to maintain current goals and self definitions (coherence). SMS postulates that an ongoing experience of incoherence may cause identity changes to emphasize how the self has changed following trauma. The current results highlight the vulnerability associated with low levels of self-consistency, but they also suggest that increased identity consistency is associated with fewer posttraumatic symptoms and with a reduced tendency to perceive the self as changed post trauma. The SMS proposes that increasing one's sense of coherence is desirable, and this has been supported in this study. As for the mnemonic model, the present outcomes suggest that self-consistency needs are related to the role of the trauma in survivors' identity. This relationship is perhaps more meaningful than the accessibility of the trauma memory; self-consistency may be protective even when the trauma is seen as a life turning point.

Among the existing theoretical models of PTSD, the TCS (Jobson, 2009) provides the most detailed account of the role of self-consistency. The TCS hypothesises that individuals possess both independent/interdependent orientations in their self/ identity, and cultural norms determine and maintain the dominance of one orientation. For those who value independence, such as the British and Soviet participants in this study, the independent orientation dominates the self. Therefore, individualistic characteristics of everyday goals and memories are preferred and pronounced. However, unusual events, such as traumas, can override the culturally-dominant orientation. Knowledge that differs from the dominant expectation is likely to become well remembered and a "turning point" (Berntsen & Rubin, 2007). The TCS hypothesises that trauma survivors from individualistic cultures are at a higher risk for developing trauma-centred identities: their perception of the trauma as a life turning point, together with their culturally-dictated higher levels of self-consistency, may cause trauma-

related attributions to be viewed as central identity components (Jobson, 2009). However, the present findings contradict this hypothesis, as high levels of self-consistency were associated with lower levels of trauma-centred identity, as well as with fewer posttraumatic symptoms. Further, the current results suggest that self-consistency mediates the relationship between trauma-centred identity and the onset of PTSD. Thus, self-consistency appears to be a protective rather than a risk factor for survivors of trauma.

Ehlers and Clark's (2000) model emphasises the role of negative self appraisals in PTSD. It is supported by evidence that PTSD severity relates to perceived permanent and negative changes to one's character (e.g., Ehlers et al., 2000). There is also evidence for posttraumatic changes to identity that are unique to PTSD and differ from negative/ depressive self perceptions (Karl et al., 2009). The latter finding concerning self-appraisals specific to PTSD received support in the present exploratory analyses. These suggested that trauma-related self appraisals (defeated, influential, secure and victim) are perceived in a unique way. Trauma survivors appear to appraise themselves more consistently when trauma-related traits are concerned; they seem to have a more consistent view on the extent to which trauma-related traits describe them, compared with non-trauma traits. It seems that self-appraisals and traits which are theoretically related to trauma, such as those outlined by Ehlers and Clark (2000) and used in this study, are regarded more congruently, and are less likely to depend on the social situation or one's current role.

Self-consistency levels may determine whether the impact of the trauma on survivors' identity will result in PTSD. Traumatic experiences are often inconsistent with previously-held assumptions about oneself and the world, and in the process of attempting to resolve this difference the trauma can become salient in one's mental life and identity (Berntsen & Rubin,

2006a; Horowitz 1976; Janoff-Bulman, 1992). The present findings suggest that those with increased levels of self-consistency, who naturally strive to maintain a consistent perception of themselves across social roles and situations, are more prone to hold onto their pre-trauma identity, and maintain it relatively unaffected by the traumatic event. They are also less likely to experience posttraumatic symptoms. Individuals with reduced levels of self-consistency, who more easily adapt their sense of self to specific contexts and to others' expectations, seem to be more at risk to develop identities that are conceptualised by trauma, and PTSD. Hence, high self-consistency levels may operate to obstruct the trauma memory from becoming the defining feature of identity, and buffer against PTSD.

Why is self-consistency protective? The personality literature on self-consistency suggests that increased self-consistency is related to self-esteem and confidence (Donahue et al., 1993). Suh (2002) showed that self-consistency is predicted by a predisposition of not being overly concerned with how one is viewed by other people. Highly consistent persons therefore tend to be less influenced, or inhibited, by others' attitudes and judgements. This idea that being less reliant on others' feedback is psychologically advantageous is further supported in the self-esteem literature. For instance, people with high self-esteem are less dependent on others for self-verification (Crocker & Wolfe, 2001). As the present findings suggest, highly consistent individuals may also be less influenced by external events, even traumatic ones.

Early theoreticians and more recent research have attempted to understand individual differences in levels of self-consistency. There is evidence that the forming of a highly consistent, unitary self is not affected by the *quantity* of roles but rather, how well they are integrated with one another (Donahue et al., 1993). A poorly-integrated "divided self" is associated with internal experiences of emotional distress (e.g., depression, anxiety,

neuroticism), but also, with interpersonal difficulties and negative role-related experiences (e.g., lack of self control, non-acceptance of social norms; Donahue et al., 1993, p. 844). The development of a divided, non-united self is attributed, at least in part, to social-contextual factors. Sullivan (1953) conceptualised the self as composed by perceived reflections of others' views. He described people's tendency to emphasise those aspects of themselves which are approved by meaningful others, and in turn, to suppress the disfavoured ones. Therefore, social and environmental demands are hypothesised to influence the types of roles acquired and kept. An environment which demands the individual to own and successfully occupy conflicting roles (e.g., caring father and fierce soldier) is likely to challenge one's ability to maintain a core, consistent self. James (1892, p.185), in his discussion of developmental precursors to the "conflict of the different Me's", described a high degree of incompatible reflected appraisals by one's early environment, coupled with a child's oversensitivity to notice and adopt others' perspectives. That is, a conflicting and demanding early environment might lead, at least in part, to a malleable sense of identity, whereby the need to hold inconsistent roles comes at the expense of forming a coherent 'core' self. This might result with an absence of a unitary self to rely on. Following trauma, the self roles stemming from the traumatic experience (e.g., victim) can exert a more profound impact on one's identity.

The present findings offer preliminary evidence that reduced self-consistency is not only a marker of psychopathology in general, but of PTSD in particular. The findings provide initial evidence for the relationship between lower levels of self-consistency and a trauma-centred identity and PTSD. Although based on non-clinical samples, it is suggested that the observed relationships whereby those with reduced self-consistency experience greater levels of trauma-centred identity and PTSD, occur in the general population, and in at least one other

cultural group (Soviets). Consistent with the empirical evidence that lower levels of self-consistency are related to poor self-esteem and higher depression, anxiety and somatisation (Block, 1961; Donahue et al., 1993; Sheldon et al., 1997), it is possible that reduced self-consistency may act as a risk factor that precipitates or maintains PTSD.

4.5 Clinical Implications

PTSD models discuss the identification and removal of inconsistencies associated with the trauma memory or the interpretation of the trauma, in the promotion of psychological recovery. Conway (2005) and Ehlers and Clark (2000) emphasize the elaboration of the different aspects of the trauma memories, to enable coherence with one another and with pre-trauma knowledge. Brewin and Holmes (2003) propose to encourage consistency between the trauma narrative and one's pre-trauma identity as a mode for challenging trauma-related, negative cognitions. Based on these models and on the present findings, the following section outlines possible expansions of evidenced-based cognitive behavioural treatments for PTSD. Its key aim is to offer interventions that target trauma-centeredness and promote identity consistency, to ultimately reduce symptoms of PTSD.

The current results suggest that a high degree of self-consistency is protective against PTSD. Therefore, clinical interventions that enhance identity consistency could be helpful in preventing or reducing posttraumatic symptoms. In line with the theoretical models above, it is suggested that PTSD treatments promote consistency among clients' adaptive roles and attributions. Given that the benefits of self-consistency were evident in both British and Soviets, the following clinical applications would be relevant to clients from these cultures, and possibly, to those from additional cultures too.

Imaginal exposure to the trauma memory, real-life exposure to trauma reminders, and cognitive restructuring to challenge dysfunctional cognitions, have been recommended in the treatment of PTSD (e.g., Resick et al., 2002). Imaginal exposure in the service of increased self-consistency could begin by identifying survivors' trauma-related self components that match pre-trauma ones (e.g., components of the trauma memory that are consistent with one's pre-trauma identity: "I have always been a caring and protective parent" and "I *did* protect my son during the attack"). Next, imaginal exposure to the trauma memory may introduce and incorporate this new and incompatible information, to form an updated trauma memory which includes those pre-trauma perceptions of the self. With repeated exposure, the updated trauma memory should gain a retrieval advantage (Brewin et al., 1996), and be easier to integrate alongside other autobiographical information. Cognitive restructuring may promote self-consistency by downplaying or challenging trauma memories that are highly inconsistent with the client's identity. For instance, clients could trace dysfunctional self-attributions (e.g., "I will always be vulnerable") to the trauma that initiated them (e.g., using a time-line), to challenge the notion that these beliefs have always been, or will always be, components of their identity.

Alongside the mediating role of self-consistency, this study replicated the previously reported relationship between trauma-centred identity and posttraumatic symptoms in British, and extended it to trauma survivors from Soviet cultures. Efficacious treatments that target trauma-identity in Western cultures, therefore, could also be successful with Soviet clients. However, future research must examine whether the trauma-identity and PTSD association, and its clinical implications, are relevant to other cultural groups. As for western and Soviet trauma survivors, given that trauma-centred identity is associated with posttraumatic

symptoms, the role of the trauma in clients' identity should be attended to from the initial stages of case assessment and formulation. Second, appraisals of the self with relation to the trauma may have individual components (e.g., "I am a victim") alongside communal ones (e.g., "I am unable to protect my child"). When gathering information on the impact of the trauma on identity, clinicians must consider clients' self construal levels of independence/ interdependence. As seen in the present study, while British and Soviet participants were predominantly individualistic in their responses, they also provided a number of public and communal self-descriptions. Attending to clients' valued roles and self aspects, both private and public ones, can enhance the case formulation (Tarrier, 2006), and may seem more relevant and engaging for the client. The resulting person-centred formulation could acknowledge interpersonal factors, for instance, others' beliefs and roles, in the stages leading to, and maintaining, the PTSD (Tarrier & Humphries, 2003). Third, in the intervention stage, self-schema work and cognitive restructuring could be employed to challenge and modify individual or public self views associated with the trauma. The resulting cognitive updates may initiate changes in the meaning of the trauma or its sequelae (Lee, 2009). In the context of a trauma-centred identity, new meanings may be associated with the nature and content of the trauma memory, and with its appraised influence on one's life story. Furthermore, the centrality of trauma events that are associated with feelings of shame and guilt has been found to be related to elevated levels of PTSD symptoms (Robinaugh & McNally, 2010). To enable the therapeutic identity-challenging where shame or guilt is present, it is recommended that clinicians provide a sense of psychological safety, for example, via the use of compassionate imagery and the development of self-soothing skills (Lee, 2009).

In summary, the relevance of current theoretical models of PTSD to non-Western populations had often been questioned (e.g., Bracken, 2002). The present study found similar relationships between posttraumatic symptoms, self-consistency and trauma-centred identity in British and Soviet participants. High levels of self-consistency are associated with lower levels of posttraumatic symptoms and trauma centrality; they also mediate the relationship between a trauma-centred self and PTSD. Therefore, the main clinical implication to draw from this study has to do with the protective role of self-consistency for both British and Soviets. Given this and the additional cross-cultural similarities seen in this research, these findings support the use of Western models of PTSD with members of Soviet cultural groups. However, further research is needed to test this clinically.

4.6 Future Research

The present findings call for several lines of research. Primarily, the associations between self-consistency, PTSD and trauma-centred identity require additional investigation. This was the first study to examine the relationship between self-consistency and PTSD cross-culturally, and in Soviets in particular. Future studies are needed to test the present findings in additional individualistic and collectivistic cultures. Next, given Locke's (2006) findings whereby high self-consistency of negative personality traits was not associated with psychological well-being, it would be clinically relevant to explore whether self-consistency is protective for trauma survivors with negative premorbid self concepts. Research should also examine how the present variables relate with ones not addressed in this study, for example, the orientation of the trauma memory (independent/interdependent) conceptualised in the TCS (Jobson, 2009).

The finding that the Soviet sample exhibited similar levels of cultural independence/ interdependence as the British one suggests that cultural norms and preferences for individualism and collectivism are ever-changing. This emphasizes the need to continue to extend this line of research to different cultures, particularly to collectivistic ones that value interdependence, as they have been relatively less explored compared with individualistic cultures. Studies should aim to recruit members of collectivistic cultural groups living in their home countries, to exclude the extraneous impact of immigration and residing among Westerners. Such work will enable the extension and generalisability of findings to non-Westerners.

The three identity measures used in this study were mostly uncorrelated, and so they possibly target distinct components of the trauma identity construct. Given that trauma-centred identity is associated with PTSD, it is crucial to elucidate the nature of trauma-themed identity and to develop a conceptually clearer construct. To start, future research could examine and compare the construct validity and external validation of the three identity measures used here. Attention should also be given to the 10-item version of the TST, as it may be less accurate than the full scale. Additionally, seeing that this study was the first to employ the CES in a non-Western culture, further evidence is needed to enable the generalisability and the validation of the CES. Cross-cultural research may be enhanced by including independent raters to ascertain that participants' transcripts are not identifiable in terms of cultural group. Lastly, future expansions of this study should measure factors that may impact on the development of a trauma-centred identity, such as socioeconomic status.

Services offering assessment and treatment to trauma survivors from Western and non-Western cultures could aid future cross-cultural trauma research by routinely administering

measures of trauma-identity. The information gathered will be valuable to further extend the results of the present investigation in the following directions. In terms of Western trauma survivors, the current finding regarding higher levels of trauma-centred identity in British survivors could be examined in further depth. As for non-Western survivors, the routine administration of trauma-centred identity measures could gradually provide information about posttraumatic changes to identity in different cultures. The data can also be used by the treating clinicians to identify clients' maladaptive, trauma-related self definitions, which could later be challenged in the intervention stage as detailed above. This service-level practice may enhance professionals' awareness to cultural differences in responses to trauma, and encourage clinicians to question the suitability of the commonly applied models of PTSD to the unique experience of their clients. Habitual data collation of this sort may ultimately shape policy, for instance, by initiating debates on services delivered to non-Western clients, or by enabling clients to voice their views to researchers and service providers.

4.7 Conclusions

A large body of evidence associates the concept of trauma-centred identity with PTSD (e.g., Berntsen et al., 2003). High levels of trauma centrality have been shown to relate to and to predict PTSD symptoms (e.g., Berntsen & Rubin, 2007). These findings had been replicated in clinical and non-clinical samples, in males and females, and across the lifespan. Events that are perceived as central to identity were shown to be influenced by cultural expectations and norms, although this subject received little empirical attention. A limited number of studies examined cultural differences in trauma-centred identity (e.g., Jobson & O'Kearney, 2006). Their findings suggested cultural differences; the impact of the trauma on survivors' identity was significantly more pronounced in those from individualistic cultures compared with

members of collectivistic cultures. Identity consistency, which has also been shown to vary between cultures, is hypothesised by several prominent theories to have a causative role in the development of PTSD (Conway & Pleydell-Pearce, 2000; Ehlers & Clark, 2000; Jobson, 2009; Rubin et al., 2008). Self-consistency, while never empirically tested with relation to trauma-centred identity across cultures, has been proposed to account for the cultural differences in trauma-centred identity (Jobson, 2009).

This study set out to examine self-consistency, trauma-centred identity and posttraumatic symptoms in members of individualistic (British) and collectivistic (Soviets) cultures. Levels of self-consistency were similar across both groups. British participants had significantly higher levels of trauma-centred identity. Posttraumatic symptoms were positively correlated with trauma-centred identity. Increased self-consistency was significantly associated with fewer posttraumatic symptoms in the Soviet sample, and with lower levels of trauma-centred identity in both groups. The relationship between trauma-centred identity and posttraumatic symptoms was mediated by levels of self-consistency. It appears from these findings that self-consistency may be a protective factor for those who experience trauma.

Research into the role of self-consistency in coping with traumatic experiences must continue to expand cross-culturally. Enhancing the current understanding of how culture influences posttraumatic adjustment is of significant clinical importance, as nearly 5 million UK residents are from non-Western cultures. There is therefore a great need for additional research in this field to inform clinical interventions with non-Western survivors of trauma.

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Appendix A
Questionnaire Booklet

Tel: 07582892415

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Post: c/o Tal Moore, Doctorate Programme in Clinical Psychology
Elizabeth Fry building
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Instructions letter – paper pack

This letter is followed by eight questionnaires. Some of the questionnaires ask about distressing events that happened to you. Please complete all the questionnaires in one sitting and in the order in which they appear. It should take about 30-45 minutes.

When you finish the questionnaires, you will be entitled to enter the prize draw. You can enter the prize draw by writing your name and address in the small envelope. Please insert this small envelope, together with the completed questionnaires, in the large return envelope. When we receive the large return envelope, the questionnaires will be separated from the small envelope, and examined anonymously. After the prize draw at the end of the study, the remaining small envelopes will be destroyed unopened.

If you have any questions please do not hesitate to contact Tal Moore at 07582892415.

Part 1: Instructions

Please indicate on the scale from 1 to 7 how accurately the following statements describe your 'general self' (please circle).

1. I am affectionate

   1 2 3 4 5 6 7

   Not at all like myself **Very much like myself**

---

2. I am assertive

   1 2 3 4 5 6 7

   Not at all like myself **Very much like myself**

---

3. I am competitive

   1 2 3 4 5 6 7

   Not at all like myself **Very much like myself**

---

4. I am cynical

   1 2 3 4 5 6 7

   Not at all like myself **Very much like myself**

---

5. I am dominant

   1 2 3 4 5 6 7

   Not at all like myself **Very much like myself**

---

6. I am impulsive

   1 2 3 4 5 6 7

   Not at all like myself **Very much like myself**

---

7. I am protective

   1 2 3 4 5 6 7

   Not at all like myself **Very much like myself**

---

8. I am relaxed

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

9. I am a victim

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

10. I am serious

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

11. I am talkative

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

12. I am tolerant

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

13. I am trusting

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

14. I am defeated

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

15. I am influential

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

16. I am secure

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

Self Defining Memories

Instructions

A self-defining memory is a memory from your life that you remember very clearly, is important to you and leads to strong feelings, that may be either positive or negative, or both. It is the kind of memory that helps you to understand who you are and might be the memory you would tell someone else if you wanted that person to understand you in a more profound way. They are memories that you feel convey powerfully how you have come to be the person you currently are.

Please briefly write down 5 self-defining memories.

1._____
_____
_____
_____

2._____
_____
_____
_____

3._____
_____
_____
_____

4._____
_____
_____
_____

5._____
_____
_____

Instructions

Please think back upon the most stressful or traumatic event in your life and answer the following questions in an honest and sincere way, by circling a number from 1 to 5.

1. This event has become a reference point for the way I understand new experiences.

1 2 3 4 5

Totally disagree **Totally agree**

2. I automatically see connections and similarities between this event and experiences in my present life.

1 2 3 4 5

Totally disagree **Totally agree**

3. I feel that this event has become part of my identity.

1 2 3 4 5

Totally disagree **Totally agree**

4. This event can be seen as a symbol or mark of important themes in my life.

1 2 3 4 5

Totally disagree **Totally agree**

5. This event is making my life different from the life of most other people.

1 2 3 4 5

Totally disagree **Totally agree**

6. This event has become a reference point for the way I understand myself and the world.

1 2 3 4 5

Totally disagree **Totally agree**

7. I believe that people who haven't experienced this type of event think differently than I do.

1 2 3 4 5

Totally disagree **Totally agree**

8. This event tells a lot about who I am.

1 2 3 4 5

Totally disagree **Totally agree**

9. I often see connections and similarities between this event and my current relationship with other people.

1 2 3 4 5

Totally disagree **Totally agree**

10. I feel that this event has become a central part of my life story.

1 2 3 4 5

Totally disagree **Totally agree**

11. I believe that people who haven't experienced this type of event, have a different way of looking upon themselves than I have.

1 2 3 4 5

Totally disagree **Totally agree**

12. This event has coloured the way I think and feel about other experiences.

1 2 3 4 5

Totally disagree **Totally agree**

13. This event has become a reference point for the way I look upon my future.

1 2 3 4 5

Totally disagree **Totally agree**

14. If I were to weave a carpet of my life, this event would be in the middle with threads going out to many other experiences.

1 2 3 4 5

Totally disagree **Totally agree**

15. My life story can be divided into two main chapters: one is before and one is after this event happened.

1 2 3 4 5

Totally disagree **Totally agree**

16. This event permanently changed my life

1 2 3 4 5

Totally disagree **Totally agree**

17. I often think about the effects this event will have on my future.

1 2 3 4 5

Totally disagree **Totally agree**

18. This event was a turning point in my life.

1 2 3 4 5

Totally disagree **Totally agree**

19. If this event had not happened to me, I would be a different person today.

1 2 3 4 5

Totally disagree **Totally agree**

20. When I reflect upon my future, I often think back to this event.

1 2 3 4 5

Totally disagree **Totally agree**

University of East Anglia

Tel: 07582892415
Email: Tal.Moore@uea.ac.uk
Post: c/o Tal Moore, Clinical Psychology Doctorate Programme
Elizabeth Fry building, University of East Anglia
Norwich NR4 7TJ

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.

_____

(*) If you have not marked any of the above items, please think about the most stressful and traumatic event you have ever experienced and write it 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 rated 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**

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				

Instructions

How would you describe yourself? Below are ten lines, each beginning with “I am”. Please complete each of the lines with a short phrase. Do not write your name, we do not want to be able to identify you.

I am _____

I am _____

I am _____

I am _____

I am _____

I am _____

I am _____

I am _____

I am _____

I am _____

Part two: Instructions

Please indicate on the scale from 1 to 7 how accurately the following statements describe how you are when you interact with your parent, friend or romantic partner (please circle).

1. When I interact with my **romantic partner**, I am **affectionate.**

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

2. When I interact with my **friend**, I am **protective**.

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

3. When I interact with my **parent**, I am **defeated**

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

4. When I interact with my **romantic partner**, I am **talkative.**

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

5. When I interact with my **romantic partner**, I am **influential.**

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

6. When I interact with my **parent**, I am a **victim**

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

7. When I interact with my **friend**, I am **defeated**

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

8. When I interact with my **romantic partner**, I am **serious**

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

9. When I interact with my **friend**, I am **dominant**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

10. When I interact with my **friend**, I am **secure**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

11. When I interact with my **friend**, I am a **victim**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

12. When I interact with my **romantic partner**, I am **secure**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

13. When I interact with my **friend,** I am **affectionate**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

14. When I interact with my **romantic partner**, I am **competitive**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

15. When I interact with my **parent**, I am **serious.**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

16. When I interact with my **parent**, I am **trusting.**

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

17. When I interact with my **romantic partner**, I am **protective**

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

18. When I interact with my **romantic partner**, I am **relaxed**

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

19. When I interact with my **friend**, I am **cynical**

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

20. When I interact with my **romantic partner**, I am a **victim**

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

21. When I interact with my **parent**, I am **cynical**

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

22. When I interact with my **friend,** I am **talkative**

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

23. When I interact with my **parent**, I am **competitive**

1	2	3	4	5	6	7
Not at all like myself						**Very much like myself**

24. When I interact with my **friend,** I am **impulsive**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

25. When I interact with my **romantic partner,** I am **cynical**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

26. When I interact with my **parent**, I am **impulsive**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

27. When I interact with my **friend**, I am **serious**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

28. When I interact with my **friend**, I am **assertive**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

29. When I interact with my **romantic partner**, I am **dominant**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

30. When I interact with my **parent**, I am **protective**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

31. When I interact with my **parent**, I am **relaxed**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

32. When I interact with my **romantic partner**, I am **assertive**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

33. When I interact with a **friend**, I am **tolerant**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

34. When I interact with my **parent**, I am **talkative**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

35. When I interact with my **romantic partner**, I am **trusting**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

36. When I interact with my **parent**, I am **influential.**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

37. When I interact with a **friend**, I am **competitive**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

38. When I interact with my **parent**, I am **affectionate**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

39. When I interact with my **parent**, I am **assertive**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

40. When I interact with my **parent**, I am **dominant**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

41. When I interact with my **friend**, I am **influential.**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

42. When I interact with my **parent**, I am **secure**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

43. When I interact with my **romantic partner**, I am **impulsive**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

44. When I interact with my **friend,** I am **trusting**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

45. When I interact with my **parent**, I am **tolerant**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

46. When I interact with my **romantic partner**, I am **tolerant**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

47. When I interact with my **friend**, I am **relaxed**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

---

48. When I interact with my **romantic partner**, I am **defeated**

1 2 3 4 5 6 7

Not at all like myself **Very much like myself**

Demographics Questionnaire

Please provide the following information:

Age_____

How many years have you lived in the UK _____

Nationality _____

Gender: male/ female/ do not wish to disclose.

Please state how hard you found the study:

1	2	3	4	5	6	7	8	9	10
Not hard at all									Extremely hard

Contact details for prize draw and study findings

Please write your name and contact address so we can send you the Ipod nano if you win the prize draw.

Name:

Address:

If you wish to find out about the findings of this study, please write your email/postal address, and we will send you a short description of the study findings.

Email/ postal address:

Please note that your contact address and email address will be stored separately from the questionnaires and thus, will not be able to be linked.

Please seal this sheet inside the small envelops and insert it to the large envelope together with the completed questionnaires

Thank you

Appendix B
Examples of Autobiographical Memories Provided by Participants

Examples of memories coded as trauma-themed:

“Despair at being involved in a car crash on the A47 bypass, two years ago, which led to someone losing their life. This wasn't my fault but the absolute fear I felt when the car trying to overtake me at about 90 mph lost control and somersaulted over the tail end of my car in to the field” (British female participant).

“My daughter died when she was two and I remember very clearly going into the bedroom and finding that she had died. She had been ill for a year and was expected to die but it was still a shock when it happened” (British female participant).

“Being involved in a motorcycle crash in my teens” (Soviet male participant).

“In my childhood my friend and I were attacked by hooligans. I ran away leaving my friend behind. I didn’t think she’d come out of it alive” (Soviet female participant).

Examples of memories coded as non-trauma-themed:

“Finding Christmas presents hidden in a wardrobe, so dispelling the myth of Father Christmas” (British female participant).

“Getting my brown belt in karate” (British male participant).

“At the age of 8 I was sent to live with an English family for one month. It was my first trip abroad. I was alone in a foreign country, in a strange family” (Soviet male participant).

“I am five, at my grandmother’s. Nice rug, warm, cosy, granny is sewing. I want to come back there” (Soviet female participant).

Appendix C
Ethical Approval

NHS
National Research Ethics Service
NRES Committee East of England - Norfolk
Victoria House
Capital Park
Fulbourn
Cambridge
CB21 5XB

Telephone: 01223 597597
Facsimile: 01223 597645

12 August 2011

Mrs Tal Moore
Trainee Clinical Psychologist
Doctorate Programme in Clinical Psychology
Elizabeth Fry Building
University of East Anglia
Norwich
NR4 7TJ

Dear Mrs Moore

Full title of study: **Posttraumatic Cultural Variations in Trauma-Centered Identity and Self-Consistency**
REC reference number: **11/EE/0246**

Thank you for your email of 10 August 2011. I can confirm the REC has received the documents listed below as evidence of compliance with the approval conditions detailed in our letter dated 05 August 2011. Please note these documents are for information only and have not been reviewed by the committee.

Documents received

The documents received were as follows:

Document	*Version*	*Date*
Participant Information Sheet	3	02 August 2011

You should ensure that the sponsor has a copy of the final documentation for the study. It is the sponsor's responsibility to ensure that the documentation is made available to R&D offices at all participating sites.

11/EE/0246 **Please quote this number on all correspondence**

Yours sincerely

Mrs Lynda McCormack
Committee Co-ordinator

E-mail: lynda.mccormack@eoe.nhs.uk

Appendix D
Participant Information Sheet

Tel: 07582892415
Email: Tal.Moore@uea.ac.uk
Post: c/o Tal Moore, Clinical Psychology Doctorate Programme
Elizabeth Fry building, University of East Anglia
Norwich NR4 7TJ

Study information sheet

Invitation to participate in a study about distressing events, identity and culture

My name is Tal Moore and I am a trainee clinical psychologist at the University of East Anglia (UEA). I am conducting a study about distressing events, identity and culture. This study is supervised by Clinical Psychologists Dr Laura Jobson and Dr Deirdre Williams from the UEA. We would like to invite you to participate in this study. Before you decide if you wish to participate, it is important that you understand the reasons for conducting the study and the sort of questions that are asked. Please read the following information carefully. Take time to decide whether or not you wish to take part. If you have any questions or would like to discuss this further please contact me.

What is the purpose of the study?

The study aims to learn how distressing events affect people from different cultures. We would like to find out if people from different cultures (British and people from the former USSR) experience distressing events differently.

Why should I be invited?

You have been invited because you expressed an interest in the research and you are British or from the former USSR. We are hoping to include a total of 136 participants in the study.

Do I have to take part?

No. It is up to you to decide whether or not to take part. Your participation is totally voluntary. If you choose to participate, you will be asked to complete the study questionnaires and return these back to us.

What will happen to me if I take part?

If you choose to participate, you will be asked to complete 8 questionnaires in one sitting, and this usually takes about 30-45 minutes. You can choose to meet with a researcher to complete the questionnaires in-person, or you may complete the questionnaires online, or receive them by post in paper form. The questionnaires ask about distressing events that happened to you, about your views of yourself and your feelings over the past week. We also ask for your age, gender, nationality and length of time in the UK.

Can I stop taking part if I change my mind?

You can change your mind about participating before you send your completed questionnaires. If you chose to withdraw from the study you do not have to provide a reason and there will be no consequences. However, you would not be able to withdraw once you return your completed questionnaires.

What if there is a problem?

If you have concerns about any part of the study or wish to complain, please contact Tal Moore who is a Trainee Clinical Psychologist, using the details provided at the end of this form.
If you remain unsatisfied you may contact Dr Laura Jobson at Email: L.Jobson@uea.ac.uk or phone 01603 591158.

Will my taking part in this study be kept confidential?

Yes. All the collected data is anonymised: we do not ask you to write your name or address on the questionnaires, and your contact details will be separated from the questionnaires so that they will not be able to be linked. The data is stored securely: all paper copies of the questionnaires will be kept in a locked drawer and the information that we enter on the computer will be secured with a password. Identifiable data (i.e., participants' names and contact details after they have been separated from the questionnaires) will only be available to the study researchers (Tal Moore, Laura Jobson and Deirdre Williams) and the study sponsor for audit/monitoring purposes. The data will be analyzed and described in the present study. Once the study is completed, all the information will be stored in a locked drawer at the University of East Anglia for 15 years, and then it will be disposed of securely, in line with the 1998 Data Protection Act.

What are the possible risks of taking part?

The study questionnaires ask about distressing events that happened to you. Research suggests that these sorts of questions do not in general pose risks to participants' well-being. It is possible, however, that you may feel some distress during or following the study. If you do feel distressed during the study you may stop completing the questionnaires and decide not to return them to the researchers. If you feel distressed during or after the research then it is encouraged that you contact the first researcher Tal Moore, a Trainee Clinical Psychologist who is supervised by Clinical Psychologist Dr Laura Jobson. Alternatively, you may contact your local GP through NHS direct at 0845 4647, or the Samaritans helpline: 08457 90 90 90.

What are the possible benefits of taking part?

We hope that this research will improve our understanding of cultural differences in coping with distressing events. In addition, you will be entitled to enter a prize draw for a new Ipod nano. If you wish to enter the prize draw, you will be asked to enclose your name and address in a sealed envelope together with the questionnaires, or in a separate part of the online questionnaires. Your questionnaires will be recorded anonymously. After the prize draw, all participants' names and addresses will be destroyed or erased.

What will happen to the results of the study?

The information collected will be written up as the first researcher's thesis for the University of East Anglia. The information may also be written into an article to be published in a peer-reviewed journal. You will not be identified in any of these reports.

Who is organising and funding the study?

This study is organized by trainee clinical psychologist Tal Moore in collaboration with Dr Laura Jobson and Dr Deirdre Williams, and is funded by the University of East Anglia.

Who has reviewed the study?

This study received ethical approval by the Norfolk Research Ethics Committee.

Thank you for reading this information. If decide to participate please read the instructions about how to complete the questionnaires. When you have finished, save your answers on the online form or use the attached envelope to post you paper questionnaires to the researcher. By returning the completed questionnaires online, in person or by post, you will be telling us that you decided to take part in the study.

If you wish to find out about the findings of this study, you will be able to leave your postal or email address in the space provided in the "contact details for prize draw and study findings" form.

For more information please contact Tal Moore, Tel: 07582 892 415, E-mail:tal.moore@uea.ac.uk, Post: Tal Moore, Clinical Psychology Doctorate Programme, Elizabeth Fry building, University of East Anglia, Norwich NR4 7TJ.

Appendix E
Study Advertisement

An invitation to participate in a study about distressing events, identity and culture.

Help us learn more about cultural differences

in coping with distressing events!

We are looking for:

- ✓ People born in the UK, and
- ✓ People who were born in the former USSR and currently live in the UK.

Participants will be asked to complete questionnaires (in English or Russian), which take about 30-45 minutes.

Those who take part in the study can enter a prize draw to win an ***ipod nano.***

For more information please contact Tal Moore - Trainee clinical psychologist at the University of East Anglia

Email: Tal.Moore@uea.ac.uk
Telephone: 07582892415

Thank you for taking the time to read this!

Appendix F
Instructions Email

Hello,

This email contains a file attachment: “Participant Information Sheet” for you to read.

After you have read this file, you may click on the following link and complete the study questionnaires:

https://spreadsheets.google.com/spreadsheet/viewform?formkey=dHY3bFVpZ0lHWTJfZ0N1Q0JPRTIwNGc6MQ

Some of the questionnaires ask about distressing events that happened to you. Please complete all the questionnaires in one sitting and in the order in which they appear. It should take about 30-45 minutes.

When you finish the questionnaires, you will be entitled to enter the prize draw by typing your name and address in the space provided in the following link:

https://spreadsheets.google.com/spreadsheet/viewform?formkey=dDktWm9pOHRVM0h3SGg5ZkNxOXJyMWc6MQ

Your name and address will not be seen when the questionnaires are recorded.
After the prize draw at the end of the study, your contact details will be erased.

Thank you for your participation

Tal Moore

Tel: 07582892415

Email: Tal.Moore@uea.ac.uk

Post: c/o Tal Moore, Doctorate Programme in Clinical Psychology
Elizabeth Fry building, University of East Anglia
Norwich NR4 7TJ