Posttraumatic growth following major trauma.

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Declaration

This work has not been submitted to any other institution or for any other qualification.

Abstract

The relatively recent shift in research emphasis from virtually exclusive focus on the negative aftermath of trauma to an examination of possible benefits of

surviving trauma holds much promise as more encompassing framework for understanding adjustment to adversity.

However, a number of issues need to be highlighted. First, most research has been directed at documenting the prevalence of perceived growth following trauma as well as determining whether growth is associated with psychological adaptation (Tedeschi & Calhoun, 2004). This body of research has found perceptions of growth to be associated with both current and subsequent well-being (Davies & Nolen-Hoeksema, 2001, Curbow Somerfield, Baker, Wingard & Legro, 1993), although some studies have found no relationship (Tennen, Affleck, Urrows, Higgins & Mendola, 1992). Although the emphasis on documenting the prevalence and implications of perceiving growth is understandable given the status of this field, this focus leaves largely unexamined key questions concerning initial circumstances that serve catalyst of subsequent growth. In particular research is needed to determine predictors of posttraumatic growth and how these might be related to the objective circumstances or the subjective impact of the traumatic event.

The broad goal of the present study was to examine the associations between trauma exposure, posttraumatic stress, cognitive processes, social support and perceived positive changes and posttraumatic growth in survivors of war and torture. Furthermore, the study aimed to test whether social support moderated the relationship between trauma exposure and posttraumatic growth and whether constructive cognitive processes mediate the relationship between trauma exposure and posttraumatic growth. Social support was found to moderate the relationship between trauma exposure and posttraumatic growth.

Furthermore, in war and torture survivors, trauma exposure was found to predict posttraumatic growth via the mediating role of positive restructuring.

Finally, in war and torture survivors, levels of trauma were associated with levels of posttraumatic stress disorder. Interestingly, the findings also suggested that posttraumatic stress and posttraumatic growth are not mutually exclusive. Similar levels of posttraumatic growth were reported both in the PTSD group as in the non-PTSD group.

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Literature Review

Posttraumatic stress and growth; A review of trauma effects, current theories and research.

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Abstract

It is given that human existence will be exposed to life threatening events. In addition, the nature of modern warfare is such that whole populations are at risk of suffering extensive trauma, injustices, loss and displacement. The present review examines contemporary notions of trauma and particularly focuses on posttraumatic stress disorder (PTSD) and posttraumatic growth. Recent studies are reviewed to indicate the strengths and limitations of current research approaches. Furthermore, this review paper aims to recognize research trends within the traumatic stress literature, which have increasingly pointed towards the capacity for resilience and for people to shift toward more optimal functioning as a result of the adverse experience. Moreover, the review will seek to develop an understanding of reactions to adversity from psychopathology, through resilience to adversarial growth.

Key Words; Trauma, theories, stress, growth

Introduction

Of the several influences that have shaped past and current research, one of the most prominent has been in the field of psychiatric traumatology (Horowitz, 1986). The establishment of PTSD as a final common outcome after trauma has assisted in unifying previously disparate field of inquiry in trauma research" (Silove & Franzcp, 1999). Nevertheless, concerns have been raised about an exclusive focus on PTSD as the common outcome of an adverse experience (Horowitz, 1986). Additionally, PTSD might not fully capture the multiple complexities of the psychological responses that might arise out of severe traumata. Such concerns must be balanced against the advances that have been made in the research field since the introduction of PTSD (Mollica & Caspi-Yavin, 1992). Progress in that field will be reviewed first by drawing on a selection of illustrative studies, followed by an outline of a broader conceptual framework that may provide a more comprehensive foundation for pursuing further research in the field.

A comprehensive review of the posttraumatic stress disorder literature is beyond the scope of this paper, as our main focus is on posttraumatic growth. Moreover, an excellent review on 'Psychological theories of posttraumatic stress disorder' (which focuses on recent research and current theories) has already been published by Brewin and Holmes (2003) in Clinical Psychology Review. We will summarise below some of the recent findings in PTSD and identify some areas for further research.

Linley & Joseph's (2004) review examines what variables could be related to posttraumatic growth and the review revealed inconsistent associations

between adversial growth, socio-demographic variables and psychological distress variables. The present review builds on some of this work but is based on a broader range of studies, examines the co-existence of posttraumatic stress disorder and posttraumatic growth rather than considering these outcomes as separate entities, and provides more specific future research strategies for further investigation in this area.

Furthermore, the goal of this review is to stimulate both researchers studying trauma, stress and coping as well as clinicians involved in crisis intervention to consider posttraumatic growth as well as posttraumatic psychological disorders worthy of attention. The review will also emphasise that posttraumatic growth appears to have more impact on people's lives and involves fundamental changes or insights about living that does not appear to be merely another coping mechanism (Tedeschi & Calhoun, 1995). Therefore, we are treating posttraumatic growth as significant beneficial change in cognitive/emotional life that may have behavioural implications as well. This review offers a sketch of the development of the concept of posttraumatic growth and some of the important research efforts in this area. Finally, implications for future research will be considered.

Search strategy

Relevant studies were identified from searches from 1980 to 2005 of PsychINFO, Ovid, Swetswise and Medline, which contain published articles, books, dissertation abstracts and conference proceedings. Key terms included "PTSD, Posttraumatic growth, 'trauma' effects', 'coping', 'psychological theory', 'resilience' 'Review of PTSD', identifying articles from the reference sections of

papers was also employed. Other researchers in this field also contributed further relevant articles.

Theories and research on PTSD

Beck (1976) makes it clear that in order to understand the emotional reactions to an event it is necessary to elucidate personal or private meaning. Therefore, the diagnostic criteria for PTSD can be viewed as valuable, although not sufficient to appropriate and effective and therapeutic intervention. However, the role of diagnosis in cognitive therapy treatment decisions is unhelpful and might deflect from the underlying mechanisms. It is also acknowledged that the use of such criteria may promote a medical model and label the patient as a 'disorder' rather than what is often, a normal reaction to an abnormal event. In order to be able to understand, intervene and help survivors of traumatic events and who are suffering posttraumatic stress reactions, a theoretical model explaining onset and maintenance is required (Jones & Barlow, 1990). To date PTSD has been accompanied by different theoretical models that encompass different perspectives.

Models of PTSD

Emotional processing

PTSD is associated with disturbances in a wide range of psychological processes such as memory, attention, cognitive-affective reactions, beliefs, coping strategies and social support.

A useful framework for conceptualising the psychological reactions of survivors has been the concept of emotional processing forwarded by Rachman (1980).

He suggested that emotional processing results in emotional reactions being absorbed with the result that exposure to problematic cues no longer elicits a strong emotional response. Rachman's indices of indirect and direct signs of unsatisfactory processing can be seen as containing many of the diagnostic criteria for PTSD. He also indicates various factors, which may give rise to problems in emotional processing, stimulus factors, personality factors and associated activity factors. Rachman argues that if the stimulus is predictable, the person is high in self-efficacy, in a relaxed state at the time, increases his sense of control through associated activity, then the difficulties of emotional processing would be avoided. On the other hand, if the stimulus is sudden, intense and uncontrollable and unpredictable, if the person is in a state of fatigue, high in neuroticism or and there are pre-existing stressors and the person has a need to suppress appropriate emotional expression, emotional processing will be jeopardised. The factors thought to promote satisfactory emotional processing are engaged exposure, sense of control, and relevant conversation. Those likely to hinder processing are avoidant of the disturbing situation, refusal or inability to talk about it, and absence of perceived control.

Rachman's concept is evidently useful and links previously unrelated phenomenon labelling them as direct and indirect indicators of incomplete emotional processing. This allows the trauma reactions to be seen as indicative of an incomplete process rather than an abnormal process. It also helps to account for individual differences in severity and chronicity of the reactions by reference to the factors found to promote emotional processing.

Whilst this work provides a framework for the development of a theory of adaptation to posttraumatic stress, the concept is mainly descriptive and it has been said that in order to be theoretically sound it would need to explain the specific mechanisms involved (Joseph, Williams & Yule, 1997).

Cognitive models

Research into the development of PTSD reveals that different cognitive processes are implied in the maintenance of the traumatic stress symptoms. Theories of cognitive appraisal, expectancy theory and attributional style and causal attributions have been drawn upon (Joseph, Brewin, Yule & Williams, 1993). The theory of learned helplessness has been proposed as an explanation of the numbing affect and passivity seen in PTSD, despite having been originally applied to depression (Peterson & Seligman, 1983). Using data derived from animal responses to inescapable shocks, similarities between learned helplessness and victimization have been highlighted. It is posited that both these situations lead to generalised beliefs about failure, uncontrollability and futility of response. In support Joseph et al (1993) discovered the number of internal attributions made for disaster related events was positively associated with levels of intrusive thoughts, depression and anxiety at follow up in survivors of the Herald of Free Enterprise disaster. They further allowed that causal attributions for disaster related events may predict emotional states such as guilt and shame which in turn have potential to exacerbate responses to disaster.

The process whereby we attach meaning to an event, cognitive appraisal has also been extensively examined. Frank & Stewart (1984) have shown that

women raped in situations which they believed they were safe were more likely to experience severe reactions than women who were raped in situations they believed to be dangerous. These kinds of findings lend support to the idea that pre-existing cognitive schemata influence the individual's response to trauma and their ability to process it successfully.

The highlighted of idiosyncratic variables and the identification of the mechanisms involved in the production of emotional difficulties of shame, guilt, poor self-esteem and depression, all of which are associated with PTSD, offers insight into the broad variability in presentations of traumatic response. In giving emphasis to pre-existing cognitive schemata, research in this area illuminates possible factors, which determine why some do, and others do not develop PTSD. However, the lack of convincing means of explaining the core symptoms of PTSD in such approach has been pointed out (Mc Garvey 2001).

Current developments

In their review Brewin and Holmes (2003) summarised recent theories of PTSD and proposed three main models; emotional processing theory (Foa & Rothbaum, 1998), dual representation theory (Brewin, Dagliesh & Joseph 1996), and Ehlers and Clark's cognitive model (2000). There is a high degree of overlap between the recent theories of PTSD. All the models are able to identify factors affecting encoding, deteriorations in memory, appraisal, coping strategies, cognitive processing, prior beliefs and trauma exposure (Brewin & Holmes, 2003). However, Brewin and Holmes (2003) argues that these theories appear to differ in their accounts of how trauma impacts on memory, processes whereby changes are brought about in memory and how these are related to

recovery. 'All three theories agree that one of the benefits of reliving is the elaboration and contextualisation of the trauma memory' (Brewin & Holmes, 2003), but they offer different explanations why this might be helpful.

Foa and Rothbaum (1998) proposed that it enables the trauma memory to be reintegrated with the rest of the memory network, each element of the trauma is as strongly associated with external elements as well as each other. Ehlers and Clark (2000) suggested that trauma related information contextualises within periods and themes in a pre-existing autobiographical database and that this inhibits retrieval of sensory perception and physiological responses to trauma. According to Brewin (2001) contextualization results in the creation of new VAM memories (verbally accessible memory system, which correspond to easily retrievable memories) that prevents the amygdala from responding to traumatic reminders', (SAMs) (situationally accessible memory system) which refer to specific trauma related flashbacks and dreams. However, the present theories do differ in their account of how psychological treatment works. Emotional processing theory stresses the importance of incorporating specific types of disconfirmatory information into the trauma memory.

However, the theory does not make a distinction between automatic changes in the trauma memory brought about by exposure, and deliberate changes brought about by cognitive appraisal. Equally, the dual representation theory and Ehlers and Clark's model address separately the modifications of trauma memory and changes in appraisal. Brewin and Holmes emphasised that dual representation theory contains the additional notion that treatment 'creates new trauma memories that compete with the original representations to be retrieved

by trauma cues'. Research on outcomes suggests that exposure treatment for PTSD, which does not address cognition, is as effective as cognitive treatment containing no element of exposure (Brewin and Holmes 2003).

Brewin and Holmes (2003) stresses that whilst emotional processing theory has proven to be effective treatment for PTSD, its main focus has been on the habituation of fear. Other emotions associated with PTSD may not respond to exposure and hence contribute to failure of applying such techniques. Brewin and Holmes (2003) suggest an extended dual representation theory and propose that PTSD treatments should be inclusive of a wider range of emotional experiences than fear. Additionally, that such treatment should draw upon principles of memory functioning, such as retrieval competition and distinctiveness. However, such treatment trials have not yet been conducted from a dual representative perspective, and it remains clinically more informative than offering specific guidelines for therapy. Finally, Brewin and Holmes (2003) concludes that currently the most comprehensive implications for cognitive-behavioural treatment are that of Ehlers and Clark.

Conclusions and Future Research

As inferred at the outset, the models briefly outlined here are not meant to be taken as exhaustive. Besides those described, many other models exist from many theoretical persuasions, and the amount of literature on the aetiology of PTSD and empirical studies has been disconcerting (Mc Garvey, 2001).

In summary, there are two areas that would be of great importance for theoretical progress and for increasing our knowledge of PTSD. This involve the

way in which trauma is encoded and the connections between appraisals, emotions and memory. The relationship between pre-existing models of the self and the world, aspects of identity, beliefs, and emotions regarding the traumatic event are required in order to enhance our understanding of PTSD. The models briefly explicated within this paper are evidence of the evolutionary process of psychological conceptualisation from varying schools that have evolved in order to understand and intervene with those who are experiencing distress. Whilst writers like Foa & Rotherbaum (1998), advocate the use of cognitive therapy with PTSD, there are a large amount of studies still investigating its effectiveness. It should also be pointed out that it also appears that many publications advocate cognitive therapy adjunct to other forms of therapy, most frequently behavioural exposure and habituation through imaginal reliving.
It can be argued that cognitive therapy has established itself as a mature system of therapy for over three decades. Due to its evidence of effectiveness, it would seem well placed to address PTSD.

The work of Ehlers and Clark (2000) may go some way testing the validity of cognitive therapy as an effective treatment modality, as quite a few studies do not confirm its effectiveness (Mc Garvey, 2001).

Whilst acknowledging that PTSD is a condition which has many multiple components with a global impact on the individuals' functioning, it should be acknowledged that the experience of traumatic events does not necessarily impact negatively on psychological functioning. Positive outcomes, benefits, and changes in outlook are commonly reported following traumatic events (Tedeschi & Calhoun, 1995).

In addition to the above it is now recognised that researchers need to focus as much on the impact of trauma on pre-existing work, family, leisure and self-care capacities as on the frequency or intensity of PTSD symptoms. It will therefore also be important for researchers to examine predictors of 'functional resilience', especially from a public health perspective. The following sections highlight the theory of posttraumatic growth, the posttraumatic growth model, processes around positive coping and methodological issues. Finally, implications for future research will be discussed.

The Theory of Posttraumatic Growth

The occurrence of personal growth in the aftermath of traumatic experiences has long been recognised, but the scientific study of trauma has mostly emphasised the negative effects. A growing body of literature now relates the phenomenon of posttraumatic growth, a concept that individuals can experience dramatic positive changes in several domains through struggling with the effects of trauma. Psychologists have therefore begun to concentrate their attention on how people may grow and change positively following trauma and other difficult life experiences.

Most current scientific psychology describes change or growth in personality as occurring in gradual increments; however the concept of transformation implies a turning point, an event in life that produces a quantum change. One viewpoint is that a crisis can produce a developmental shift in adults that is a catalyst for an emerging new awareness (Greer, 1980). Typically, crisis theory propounds emotional homeostasis or a return to equilibrium as the resolution. In re-examining crisis theory, Greer suggests that crises have the potential to

produce epigenetic change, which involves an emerging awareness with a higher level of complexity and characteristics not present before. During a crisis an individual is faced with a threat that exceeds, at least temporarily, the person's adaptive resources. It is the individual's appraisal of the situation that defines the crisis, but usually this is associated with a stressful or traumatic life event. In engaging in this event, the opportunity exists to become more flexible, more adaptable and more competent. Crisis precipitates a rapid cognitive re-evaluation of the trauma, i.e. the crisis prompts changes of fundamental assumptions. Greer proposes that the events causing crises are the normative experiences frequently faced by adults such as terminal illness, death of a loved one, parenthood, and loss of job.

According to Decker (1993), trauma can act to increase the search for purpose and meaning in a personal transformation. The increased interest in meaning may not immediately change personality functioning, but even in chronic posttraumatic stress disorder (PTSD), the traumatised person will look for some proof that meaning is possible (Decker, 1993). Decker also sees the trauma survivor as needing some kind of basic reorganisation of personality. Without a reorganisation, the pathology of PTSD might become chronic. Discoveries of self must be promoted because trauma forces a confrontation with our basic assumption of the world. Spiritual growth through the search for purpose and meaning can occur even when a traumatic experience produces PTSD. Decker describes the process of spiritual transformation -using the metaphor of alchemy. First, there must be a return to the original substance through the breakdown caused by the trauma. The unconscious may become conscious, and the individual attains an awareness of the true self. Learning this might be

frightening for the individual and the person is in danger of dissociation as a defence. However, transformation brings a connectedness with reality and an expanded insight into the self, as the trauma becomes integrated (Decker, 1993).

Another way of viewing sudden transformation is through chaos theory. Butz (1992) defines chaos as overwhelming anxiety and suggests that it marks the first indication of potential for psychological growth. Often this chaos leads an individual beyond their current psychological limitations to a transcendent cycle that brings a "death and rebirth". The cycle starts with the appearance of chaos, moves to struggle against chaos, continues with acceptance of chaos, and ultimately leads to psychic death and rebirth or transcendence. Hager (1992) theorises that chaos and growth may occur together. There can be a simultaneous disorganisation of constructive reality and a reorganisation or modification of new reality resulting in a chaotic period for a person in crisis. During this chaotic period, old constructs are found wanting, but new ones are not yet crystallised. This period of chaos is a transition to a new synthesis of the individual's way of operating and interacting in the world.

The process described by Greer, Decker, Butz and Hager is similar to a cognitive process examined by others (Janoff-Bulman, 1992; Mc Cann & Pearlman, 1990; Saakvitne, Tennen & Affleck, 1998). The process of positive change begins when a traumatic event shatters assumptions and makes it necessary for individuals to modify their "fundamental assumptions" (Janoff-Bulman, 1989, 1992, 1997) and the need to rebuild them to accommodate the crisis. Janoff-Bulman's work offers profound insight into the theory of coping with trauma. The underlying theme is that we rely upon a few fundamental

assumptions about ourselves and the world that allow us to interpret our experiences and find meaning in our lives. Our basic assumptions are guides for daily thoughts and behaviours. Everyone develops a personal theory of reality, but this does not usually exist in conscious awareness. These assumptions provide us with expectations about how the world functions and how we will function in it. According to Janoff-Bulman (1992), most people have three fundamental assumptions: a) that the world is benevolent; b) that events in the world have a meaning; and c) that the self is worthy and competent. These assumptions make us feel secure, trusting, and invulnerable. Thus, we feel protected from misfortune. Our assumptions about benevolence allow us to believe that the world and people are good, and that we will be safe. Assumptions about meaning let us feel that justice will prevail and that people will earn what they deserve. Meaning can also be strongly related to religious and spiritual beliefs. The third category of assumptions involves self-worth, our perception of ourselves as good, competent and ethical people. When a traumatic event strikes we can no longer explain the world through these three unexamined assumptions and suddenly we are living in a world where survival is no longer guaranteed and nothing makes sense. "The essence of trauma is the abrupt disintegration of one's inner world" (Janoff-Bulman, 1992). Victims are thrown off equilibrium by their shattered assumptions because they are no longer capable of being guided by them. Janoff-Bulman argues that the "adjustment" of survivors largely depends on their level of disillusionment and on whether they despair or remain hopeful after a traumatic experience.

Tedeschi and Calhoon (1995) cite the common understanding that an event is traumatic if it occurs suddenly and unexpectedly, if it is perceived as

uncontrollable and out of the ordinary and thus creating long lasting problems. Trauma may also be chronic rather than a momentary single event. Typically, there is an initial period of shock, disbelief, and psychological numbness. Intrusive images of the event disturb the thoughts of the sufferer and alternate with the initial denial. The individual may experience hypervigilance, and strong emotional affect such as guilt, anger, and irritability, fear, anxiety and depression. Herman (1992) classifies the symptoms into three main categories of hyperarousal, intrusion and constriction. Hyperarousal is a kind of permanent alert in which the individual startles easily, sleeps poorly, and reacts irritably to annoyances. Intrusion is repetitive causing the traumatised person to reliving the event as if the danger were still present. This may be manifested by the experiences of flashbacks and nightmares. Anything that reminds the victim of the trauma can trigger intrusive traumatic memories, which have become encoded in abnormal form. The verbal narrative and context are lacking while the sensations and images are vividly encountered. Traumatic memories can overwhelm the individual producing lasting changes in physiological arousal, emotion, cognition and memory. Constriction is the psychological withdrawal involving numbing, dissociation, detachment and profound passivity. Symptoms involve a kind of fragmentation or dissociation, which causes the disruption of the normal integrative process.

The task for trauma victims is that of restructuring their core assumptions in the face of psychological breakdown and cognitive- affective disintegration. This is thought to happen through automatic routines of processing the traumatic data (denial/numbing and intrusive re-experiencing) efforts to reinterpret the new data so that they fit better and interactions with others to assist recovery

(Herman, 1992). In establishing fundamental assumptions that still reflect a meaningful world, trauma victims may use the cognitive strategy of accepting and ultimately transforming the traumatic experience by perceiving positive elements in the victimisation. It is not unusual for survivors to re-evaluate the traumatic experience by viewing it as worthwhile and a teacher of an important lesson. There may be newfound appreciation for life, a reordering of priorities and a new kind of wisdom. There is also awareness that the world can be dangerous, but this can make people aware of their strengths and potentials.

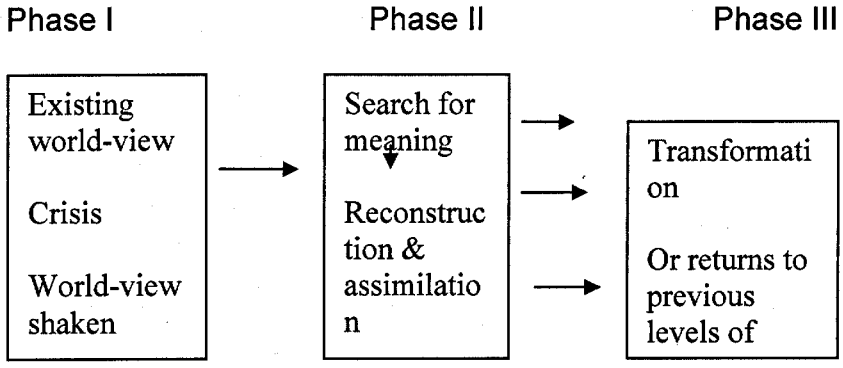
The Posttraumatic Growth Model

The theory of posttraumatic growth involves more than a return to the former level of functioning. Tedeschi, Park & Calhoun (1998) suggest that many people experience trauma as an opportunity to construct a superior life. They advance to a higher level of adaptation with greater insight and wisdom, which often causes them to value the process, although it often involves distress and loss. Posttraumatic growth is initiated when a traumatic event shatters one's assumptive world, much as an earthquake reduces physical structures to rubble (Tedeschi et al, 1998). The rebuilding of new assumptions is dependent on the collapse of old cognitive schemata. Growth occurs when schemata are reconstructed and involves cognitive changes in perception of self, in the way one relates to others, and in philosophy of life or world-view (Tedeschi & Calhoun, 1995). Changes in self, relationships and worldview occur through the shattering and rebuilding of assumptive worlds.

The process of posttraumatic growth can be summarised as occurring in three phases (see Figure 1). People construct personal theories of reality that give

meaning to the world and guide their actions. This is their world-view. Phase I of posttraumatic growth begin with a crisis and ends with the collapse of the old cognitive schemata – the shattering of fundamental assumptions. Phase II primarily involves the attempt to understand the event and find meaning. This leads to the reinterpretation and assimilation of the traumatic event into the existing world-view or, if meaning is not found, to despair. Phase III is defined as the outcome. If meaning is found and benefits are attained, the world-view may be reconstructed positively, and losses acknowledged but transcended. A transformation may occur that raises the individual to a higher level of functioning than before the crisis. If the trauma is explained by the existing world-view, there is a return to previous levels of functioning. If however, meaning is not found and mostly negative effects are experienced, however, the world-view may be reconstructed negatively. This may result in pathology. Thus, struggling with a traumatic event in no way ensures that personal growth will occur.

Figure 1. The three phases in the process of post traumatic growth



Stress symptoms versus growth

Van der Kolk (1994) indicates that while for many people who have undergone severe stress, the symptoms of PTSD fade after time, for others they become chronic. The response to trauma seems to be bimodal; with some people showing resilience and others showing vulnerability (Van der Kolk, 1994).

Van der Kolk suggests that three factors might predict chronic PTSD; these are the magnitude of exposure, prior exposure to trauma and lack of social support. However, what are the predictors of resilience to trauma, thriving or posttraumatic growth? What are the benefits perceived by those experiencing growth for negative life events? Who experiences these benefits?

Rahe (1993) suggest that those who have enriching early life experiences, a moderate use of psychological defences, and sufficient coping abilities usually recover from acute disorder. On the other hand, those with impoverished early life experiences, extreme use of psychological defences, and lack of coping skills do not recover. Elder and Clipp (1989) find that while some individuals experience long-term impairment, others find positive benefits associated with their combat experiences from World-War II. The negative effects include memories of personal loss and paralysing fear with anxieties and nightmares that often continued into old age. Yet there was a sense of emerging developmental maturity, resulting from the experience of heavy combat. Veterans felt that they had learned beneficial coping skills, self-discipline, and an increased appreciation of life. These findings suggest that the trauma of combat can have both pathological and developmental effects.

Benefits can even be perceived from abuse. A study carried out by Woodward & Joseph (2003) explored themes of post-traumatic growth of persons who have suffered emotional/physical/sexual abuse. The study used thematic analysis and identified three domains of themes related to positive change processes: 1) inner drive towards growth, 2) vehicles of change and 3) psychological changes. The authors emphasise that "personal growth after trauma should be viewed as originating not from the event but from within the person themselves" (Woodward & Joseph 2003). The authors stress the importance for clinicians to be able to recognise the different vehicles of change and how these have implications for facilitating post traumatic growth in clients who have experienced traumatic events.

Maercker and Herrle (2003) whilst studying the after effects of the 1945 Dresden bombing, found a direct relationship between perceived personal growth after trauma and trauma intensity. The study examined trauma severity, locus of control and levels of PTSD as independent variables to find how these variables may predict growth after trauma. The study indicated that those more strongly traumatised by the bombings also saw stronger positive changes in themselves and in their perception of their world, for instance "a more distinct differentiation of essential and non-essential aspects of their lives"(Maercker & Herrle, 2003). Traumatic exposure was related to current symptoms of PTSD and to personal growth. PTSD symptoms were primarily connected to external locus of control, whereas growth was primarily related to an internal locus of control. In addition, the authors state that an "individual can display post traumatic health deterioration and simultaneously perceive herself/himself as having grown as a result of the traumatic events" (Maercker & Herrle, 2003).

The Process of Coping and Finding Positive Effects

Examining the above studies, personal growth occurrence emerges as a common thread - either implied or stated - in the cognitive restructuring of attitudes, beliefs, and assumptions following an experience of crisis.

The empirical evidence suggests that when confronted with stressors or trauma, most people are usually inclined to talk about their experiences and share their emotions (Pennebaker & Harber, 1990). However, certain circumstances may discourage individuals from disclosing to others, such as if experiences are perceived as socially unacceptable, too painful or difficult, or if they perceive the consequences of disclosure as stigmatising. Many methods or school of clinical psychotherapy incorporate disclosure or discussion of traumatic experiences as part of the therapeutic process, (Williams, Davis, Millsap, 2004) "Such discussions can be desensitising, cathartic and can guide the psychotherapist in the provision of support and insight" (Williams, et al, 2004). The mechanisms linking disclosure to health and wellness outcomes remain however poorly understood (Stone, Smyth, Kaell, Hurewitz, 2000).

More recent theoretical work has proposed that cognitive processing may be linked to health (Clark, 1993). Making sense of traumatic experiences can be particularly challenging, requiring a unique type of cognitive processing at an emotional and cognitive level (Silver, Boon & Stones, 1983; Horowitz, 1976; Wortman & Silver, 1989; Meichenbaum, 1996). Janoff-Bulman (1989) suggests that the processing of trauma is predominantly a cognitive task, in which individuals who have faced trauma must integrate data from their traumatic

experience with their existing schemas. "A goal of effective cognitive processing is to find acceptable meaning in the trauma, on an emotional and cognitive level and to focus on different types of mental evidence to support these more positive changes" (Janoff-Bulman, 1989). Indicators of effective cognitive processing may include reduced signs of repression, such as avoidant/numbing behaviour (Williams et al, 2004), reduction in the "hyperaccessibility" of deliberately suppressed thoughts (Gold & Wegner, 1995, Williams et al, 2004), or intrusive thoughts, a reduction of the moral burden of deceptiveness, guilt or shame, (Williams et al., 2004). Cognitive processing may also be indicated by greater organisation of thoughts and meaning-making, greater ability to see the experience from alternative and positive perspectives, and a greater acceptance and resolution (Williams et al., 2004). According to Rachman (1980), successful cognitive processing is essentially "desensitisation and is evident when a person can face test probes (i.e. talk about, see, listen to, or be otherwise reminded of the emotional event) without experiencing distress" (Rachman, 1980).

Posttraumatic Social Support

Several studies have been carried out to examine the role of social support after a traumatic event. There is evidence that individuals who blame themselves for a negative event are more likely to withdraw socially and less likely to seek social support from others (Brewin, McCarthy & Furnham, 1989). The study of Survivors of the Herald of Free Enterprise Disaster carried out by Yule, Hodgkinson, Joseph, Parkes and Williams (1990) showed that greater crisis support at three years was associated with lower depression at five years. Moreover, greater crisis support at three years was associated with lower state

anxiety at five years. Joseph et al (1993, 1997) emphasised the role of personality and individual difference factors in determining posttraumatic stress. Individual variation in posttraumatic stress is attributable to a complex interaction between personality, cognitive appraisal and social support factors. Prior personality factors such as neuroticism and post event social support have been shown to be important vulnerability and protective factors, respectively in posttraumatic stress (Joseph and Linley, in press). Thus any theory must be able to accommodate these findings and explain the mechanisms through which prior personality and social support are influential. Moreover, Joseph et al (in press) suggest an "organismic valuing theory of growth through adversity" (OVP), which speculates that a social environment that is able to meet the individual's need for autonomy, competence and relatedness will lead the person towards growth. To the "extent that the person's current social environment is not supportive of these needs, concordance with their organismic valuing process will be thwarted, and the person will tend towards assimilation or negative accommodation of traumatic material" (Joseph and Linley in press). Thus, Joseph et al hypothesise that the greater the psychological need and satisfaction afforded by the post trauma environment to a person who is in a state of posttraumatic stress, the more likely they are to experience growth.

Trauma severity and posttraumatic growth

Tedeschi & Calhoun (2004) argue that while trauma severity has implications on posttraumatic growth it is not solely responsible for posttraumatic growth as much as what happens in the aftermath of trauma. They conclude that a determining factor is that the events are challenging enough to the assumptive

world in order to set in motion cognitive processing necessary for growth. There are several studies that allow some comparisons between traumatic events and levels of reported growth on the posttraumatic growth inventory (PTGI), although the sample characteristics differ. Some of the lowest reported scores come from a study of criminal victimisation in South Africa (PTGI M= 40/105; Peltzer, 2000), whereas the highest reported levels of growth come from a small sample of college students reporting the highest levels of trauma severity (PTGI M = 83/105, Tedeschi & Calhoun, 1995). Other studies have typically reported intermediate scores, for example bereaved parents (PTGI M = 60/105, Polatinsky & Esprey, 2000), and women with breast cancer (PTGI M= 58/105, Weiss, 2002). Maercker & Herrle's (2003) study refers to the extent of self-perceived growth after trauma and its relation to trauma intensity. The study found that those more strongly traumatised by the 1945 Dresden bombings also saw stronger positive changes in themselves and their perception of the world. On the basis of such evidence it is fair to conclude that some correlation has been found between the severity of trauma and levels of posttraumatic growth. Torture and maltreatment are arguably severe trauma events and from the above evidence one would expect posttraumatic growth to be present with victims of such events. Therefore, the next section will examine the relationship between torture and posttraumatic growth.

Posttraumatic growth after torture and maltreatment

Recent research suggest that torture victims are often more resilient and tolerant to adversity than victims of other traumatic experiences. Kira (2004) conducted two studies of 365 Iraqi refugees, of which 40% had experienced torture before coming to the United States. Participants in both studies

answered questions about torture and other traumatic experiences, how they coped with the trauma and how they faired on other mental health measures. Results of the studies show that those who had experienced torture, while less healthy physically – had stronger post-traumatic positive growth attitudes than their refugee counterparts, were less anxious, had less violent attitudes towards women and children, felt more supported and were more socio-culturally adjusted. Kira (2004) also suggested that torture could prime the victim's collective identity and their collective belief system that buffer against fear of death and fear of elimination or annihilation of their identity groups.
Finally, these studies conclude that traditional definitions of PTSD are limited explaining how torture affects people. Torture is a complex cumulative trauma that can yield in the vulnerable, complex effects that may go beyond the PTSD diagnosis. The findings of these studies suggest that a model capable of predicting both the positive and negative symptoms of torture is required.

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However, as most studies of torture survivors have been uncontrolled and involved refugees (Goldfield, Mollica, Pesavento & Faraone, 1988), definitive conclusions concerning the long-term effects of torture per se are not possible. No study has yet attempted to examine the relative impact of torture, controlling for other stressors during/and after the trauma.

Basoglu & Parker (1995) examined severity of trauma as a predictor of long-term psychological status in political victims of torture in Turkey. The study showed that severe torture induced moderate stress symptoms and no anxiety and depression in their study group. Eighteen of the fifty-five survivors had PTSD some time after the trauma and only ten had current PTSD. The authors

explained the low rate of stress symptoms found in their sample as a result of the fact that torture was neither a totally unpredictable or uncontrollable event (Basoglu & Parker, 1995). The victims had prior knowledge of what it involved and were psychologically prepared for its occurrence. They may have also used effective coping strategies to avoid loss of control during torture. "Effective coping combined with repeated exposures to torture may have immunised them against the traumatic stress" (Basoglu & Parker, 1995). Additionally, the survivors had no difficulty in finding an explanation for their experience, a factor important in emotional processing of the trauma (Foa, Steketee & Rothbaum, 1989). They were clearly aware of the purpose of torture as a means of political repression and knew why they were targeted for this kind of torture. Strong social support may also have provided some protection from the traumatic effects torture. This is consistent with the findings of other studies that point to the importance of posttraumatic social support (Joseph, Dagleish, Thrasher &Yule, 1997, Foy, Resnick, Sipprelle & Caroll, 1987). For example, longer stay in prison appeared a protective factor against anxiety, depression and PTSD (Basoglu & Mineka, 1992). The authors are explaining this finding, by the availability of opportunities for emotional support and sharing of traumatic experiences with friends in prison. The authors conclude that future research should also involve non-political survivors with no prior psychological preparedness for torture.

Summary

The review above examined recent literature and research around PTSD. In relation to memory, it has been proposed that PTSD should include a wider range of emotional experiences than fear. Moreover, treatments for PTSD

should draw upon principles of memory functioning such as retrieval competition and distinctiveness. Research examining the role of the association between PTSD and the extent to which a trauma event forms a reference point for a person's understanding and attribution of meaning to other events in their life story, appears promising. Furthermore, the cognitive organisation of the stressful memory seems more critical for the development of PTSD symptoms rather than whether the stressful event fulfils the diagnostic criteria for PTSD.

The theoretical literature of posttraumatic growth from the perspective of crisis, trauma and chaos and especially cognitive theory was also examined above. The theories and research presented in this review suggest a variety of personal and environmental resources that may enhance or decrease the likelihood of positive outcomes following life changing or traumatic events. The personal resources mentioned by most of the theorists reviewed are cognitive appraisal, coping style, memory and social support. It is clear that although individual factors are presented, the determinants and outcomes of change can be considered within the broad categories of affect, cognitions and behaviour. The measurement of successful adaptation will depend on the type of threat of challenge faced and will be influenced by the development stage of study participants. Both personal and social resources have been suggested as influencing the outcomes of challenge that can be measured in terms of type of resource, extent and frequency of use. For those with ample resources, knowing that they are there may be important even if they are not used (Tedeschi & Calhoun, 1998). For those with limited resources, their lack of availability may heighten the threat (Tedeschi & Calhoun, 1998).

Methodological issues and future research of posttraumatic growth

Although, research following the occurrence of a traumatic event is retrospective and one cannot accurately disentangle which resources were present before and/or after an event (or as a result of an event), exploratory research is necessary in order to begin to understand the phenomenon of markedly divergent outcomes following a traumatic event. The results of exploratory studies could guide the direction of more resource-intensive prospective studies. Also useful would be intensive case studies or studies of smaller cohorts of individuals designed to understand the depth and scope of responses. Another methodological challenge for this field is the identification of appropriate comparison groups. One possibility is to observe either prospectively or retrospectively the mobilisation of resources among a relatively large group of persons similarly challenged. Some of these individuals will have positive outcomes and some will not – providing a natural comparison cohort (Tedeschi & Calhoun, 1998). Current research seems to suggest that growth will not necessarily decrease pain or increase happiness, but on the contrary, significant growth may only occur when it is preceded by, or when it occurs together with significant amounts of subjective distress (Tedeschi & Calhoun, 1998). However, all of the methodological issues above deserve serious attention. To date empirical research investigating the integration of the constructs and processes reviewed has been limited. An investigation of the personal and environmental resources of those who have experienced trauma is warranted within the context of testable theoretical propositions measured against clearly evaluative criteria (Tedeschi & Calhoun, 1998). The values are numerous for understanding why and how some individuals grow in the aftermath of trauma, whereas others develop long-term psychological and

physical difficulties. Information regarding the role of social and environmental resources might lead to more effective clinical interventions. Life crises will never be eliminated but identification of the most effective means of responding to life crises can contribute to limiting the negative impact.

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Posttraumatic growth following major trauma

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Abstract

The present study aimed to investigate the relationship between cognitive processes, social support, posttraumatic stress disorder, trauma severity, posttraumatic growth and positive changes in outlook. A total of 147 Croatian males, selected on account of their experience of imprisonment in concentration camps during the Croatian war between 1991-1995, completed the following measures; 1) Cognitive Processing of Trauma Scale, 2) Crisis Support Scale, 3) The Harvard Trauma Questionnaire, 4) Posttraumatic Growth Inventory and 5) Positive/Negative Changes in Outlook. Moderation analysis showed that social support moderated the relationship between trauma exposure and posttraumatic growth. Path analysis revealed that positive restructuring emerged as a significant predictor of posttraumatic growth and mediated the relationship between trauma exposure and posttraumatic growth.

Key words: War, torture, PTSD and posttraumatic growth

Introduction

Posttraumatic growth is an emerging and rapidly growing field of interest. Research trends within the traumatic stress literature have increasingly pointed towards the capacity for people to shift toward more optimal functioning as a result of the adverse experience (Tedeschi & Calhoun, 1995; 1998; 2004). Although stressful events can lead to many negative consequences, increasing evidence shows that confronting them may also promote broadened perspectives, new coping strategies, enhanced relationships, and the development of personal resources. Moreover, evidence shows that positive existential changes in outlook are common following some events, with survivors reporting that the experience of a traumatic event has in some way been beneficial to them (Tedeschi & Calhoun, 2004).

Even though growth following trauma does seem common, it is difficult to estimate its actual prevalence. Firstly, in many studies posttraumatic growth has not been assessed systematically. For example, some prevalence rates are based on individuals who spontaneously reported some positive change to the researcher studying the negative effects of trauma. Other studies used open-ended questions on the effects of trauma, some of which asked about positive changes, or alternatively only asked about the perceived benefits without considering the negative features that might co-exist. Another limitation to posttraumatic growth research is that it has often focused on certain types of trauma such as illnesses. However, different types of trauma might result in dissimilar types or amounts of positive changes. For example, the experience of war and torture involves the intentional infliction of harm and may therefore be perceived as being less likely to lead to posttraumatic growth or positive

changes. In an effort to address some of these limitations, the current study assessed posttraumatic growth and positive and negative changes in outlook in survivors of an event that is not often studied in the area of posttraumatic growth – namely survivors of war and concentration camps.

Recent studies imply that there are several factors that have been associated with posttraumatic growth. These possible predictors of posttraumatic growth are outlined below.

Cognitive Processing and Posttraumatic Growth

The mechanisms linking disclosure to health and wellness outcomes still remain poorly understood (Stone, Smyth, Kaell & Hurewitz, 2000). More recent theoretical work has proposed that cognitive processing may act as a 'mediator' linking disclosure to health (Clark, 1993). The hallmarks of cognitive processing may include avoidance/numbing behaviour (Horowitz, 1976), intrusive thoughts, guilt and regret. Regret and repeated consideration of how the trauma might have been avoided appear to be implicated in psychological distress (Greenberg, 1995). Although such counterfactuals can persist for years, Lehman and Hemphill (1990) concluded that such counterfactual rumination is crucial in making sense of traumatic events and in rebuilding shattered assumptions.

Tedeschi and Calhoun (2004) suggest that following these outcomes over time is the only way researchers will be able to understand the process of cognitive processing involved in posttraumatic growth. Tedeschi & Calhoun (2004) underline the importance of initial revision of schemas that produce clarity may

be an intermediate step to posttraumatic growth. Data from recent studies provides support for the hypothesised relationship between cognitive processing and posttraumatic growth. Calhoun, Tedecshi & McMillan (2000) found in their study that young adult trauma survivors tended to report more posttraumatic growth when also reporting higher levels of cognitive processing recalled as occurring soon after the event.

Therefore, cognitive processing might be indicated by greater organisation of thoughts, assimilating and making sense of the traumatic event and greater acceptance and resolution. According to Rachman (1980) successful cognitive processing is evident when references to the trauma become less emotionally provoking and distressing. This is congruent with cognitive-behavioural therapy treatments such as exposure therapy, which seek to improve adjustments by decreasing a client's response to distressing stimulus. Specifically, cognitive processing may allow clinicians to differentiate between persistent distressing thoughts about a trauma versus productive thoughts. In increasing our understanding of the processes involved we might also enhance our understanding of the subtle differences between normal coping with a trauma and pathological coping with trauma.

Taking the above into account it appears that new studies of posttraumatic growth need to further examine the amount, content and quality of cognitive processing in which individuals engage as they struggle with what has happened to them and how these various elements of cognitive processing are related to posttraumatic growth. Furthermore, as our understanding of the specific mechanisms underlying coping with trauma is developed, it is possible

to translate these into useful clinical practice and potentially reduce suffering and distress associated with trauma.

Post-event social support

Post-event social support has been found to be associated with posttraumatic growth. Findings suggest that social support may moderate and determine the extent of posttraumatic growth if it remains stable over time (Tedeschi & Calhoun, 1995, 1998, 2004; Joseph, Williams & Yule, 1997). A study with survivors of breast cancer showed that women who received adequate social support were more likely to engage in cognitive processing and hence reported greater levels of posttraumatic growth (Tedeschi & Calhoun, 2004). Alternatively, it may also be that women who reported posttraumatic growth used constructive cognitive processing (such as downward comparison) which might in turn have encouraged more support from others and thus allowed for perceived positive benefits. However, there is also evidence that individuals who blame themselves for a negative event or show regret are more likely to withdraw socially and therefore less likely to seek social support from others (Brewin, McCarthy & Furnham, 1989).

Trauma severity

A direct relationship has also been found between reported personal growth following trauma and trauma severity. Maercker and Herrle (2003) examined trauma severity, locus of control and levels of posttraumatic stress disorder and how these variables predicted growth. The study indicated that those more strongly traumatised by bombings also saw stronger positive changes in themselves and in their perception of the world (Maercker & Herrle, 2003).

PTSD symptoms were primarily related to external locus of control, whereas growth was primarily related to internal locus of control. Additionally, the authors stated that ' an individual can display posttraumatic health deterioration and simultaneously perceive him/herself as having grown as a result of the traumatic event (Maercker & Herrle, 2003).

Torture survivors

Unfortunately, few studies of predictive factors in posttraumatic growth have been carried out in survivors of severe trauma, especially research into the effects of torture is limited, mainly due to difficulties in conducting research in this area. Recent research by Kira (2004) suggests that torture victims are often more resilient and tolerant to adversity than victims of other traumatic experiences. Kira (2004) conducted two studies of 365 Iraqi refugees, of whom 40% had experienced torture before coming to the United States. Participants in both studies answered questions about torture and other traumatic experiences, how they coped with the trauma, and how they faired on other mental health measures. Results of the studies showed that those who had experienced torture, while less physically healthy, had stronger posttraumatic positive growth attitudes than their refugee counterparts, were less anxious, had less violent attitudes towards women and children, felt more supported, and were more socio-culturally adjusted. Kira (2004) suggested that torture could prime the victims' collective identity and their collective belief system that buffers against fear of death and fear of elimination or annihilation of their identity groups. Finally, this study indicates that traditional definitions of PTSD are limited in explaining how torture affects people. Torture is a complex cumulative trauma that can yield into the vulnerable, complex effects that may go beyond the

PTSD diagnosis. The results of the studies suggest a model that predicts both the positive and negative symptoms of torture.

Aims

The above studies suggest that posttraumatic growth has been found to be associated with trauma severity, cognitive processing and post-event social support. The aim of the current study is to examine these associations in a sample of Croatian concentration camp survivors. The study focuses on how features of the trauma, and the individual's environmental and personal resources, might influence cognitive appraisal and lead to posttraumatic growth and positive changes in outlook. Furthermore, the study will explore whether posttraumatic growth is related to posttraumatic stress and positive changes in outlook.

Moreover, the study will examine how these factors affect the individual's adaptation to the experience of surviving a concentration camp and to the extent to which they experience positive and negative changes in outlook and posttraumatic growth. So far no such studies have been carried out with Croatian Concentration camp survivors after the war ended in 1995.

The overall aim is to investigate posttraumatic growth and positive/negative changes in outlook in Croatian concentration camp survivors. The study seeks to investigate the association between: trauma severity; cognitive strategies after trauma; the impact of social support; and the impact of posttraumatic stress disorder in predicting levels of posttraumatic growth and positive-negative changes in outlook following trauma. Explorative analysis will be

conducted to investigate some of these relationships and the specific hypotheses identified below.

Hypotheses

1) It is predicted that higher levels trauma severity will be associated with higher levels of posttraumatic growth.

2) It is predicted that social support will moderate the hypothesized relationship between trauma exposure and posttraumatic growth.

3) It is predicted that constructive cognitive strategies such as positive restructuring and acceptance/resolution and downward comparison will mediate the hypothesized relationship between trauma exposure and posttraumatic growth

METHOD

Design

This study comprised a survey questionnaire and used a multi factorial framework. This framework differentiated between trauma severity and PTSD as predictor variables, social support as moderating variable, and cognitive processes as mediating variables and posttraumatic growth and positive – negative changes in outlook as outcome variables.

Participants

Participants were all members of The Association of Croatian Volunteers of the Homeland War and had been in concentration camps between 1991 and 1995.

All of the participants had remained within Croatia both during and after the (1991-1995) war (these inclusion criteria were used to avoid the complication of an additional factor, like displacement).

300 survivors were approached by post. Out of the 300 potential participants, 157 responded giving a response rate of 52.3%. Of the 157 responses, 147 fully completed all the questionnaires.

Measures

Measures that were included in the questionnaire are the following:

Demographic information (Gender, Age, Profession, Employment, Levels of Education).

The Harvard Trauma Questionnaire (HTQ) was developed by the Harvard Program in Refugee Trauma (Mollica et al, 1992). The HTQ inquires about a variety of traumatic events (such as loss of close person, witnessing killings etc), torture history (beating, kicking, burning, etc) as well as the emotional symptoms considered to be uniquely associated with trauma. In addition, HTQ measures include **16 DSM-IV PTSD** questions and **24 symptom** items that focus on the impact of trauma on an individual's perception of his/her ability to function in everyday life. In the author's experience these symptoms are extremely important because traumatised people are usually more concerned about social functioning than about emotional distress.

Furthermore, the HTQ combines refugee and cultural specific symptoms with presumably universal PTSD syndrome criteria. Interrater reliability for the trauma event scale was found to be .93, and for the trauma related symptoms it

was .98. Using Pearson product-moment correlation test/retest reliability with a 1-week interval was calculated at .89 ($p < .0001$) for the trauma events (part I) and at .92 ($p < .0001$) for the trauma related symptoms (part III). The measure is able to satisfactory distinguish PTSD groups from non-PTSD groups. A cut off score of 75 (or a mean of 2.5) was selected to maximise classification accuracy. The sensitivity of the HTQ was found to be 78%, i.e. 78% of the patients with PTSD were correctly classified into the PTSD group by the HTQ. Specificity was found to be 65%, i.e. 65% of patients without PTSD were correctly classified into the non-PTSD group.

Cognitive Processing of Trauma Scale (Williams, Davis & Millsap, 2004). This is a 17-item scale measuring cognitive processing of traumatic experiences. The Cognitive Processing of Trauma Scale (CPOTS) measures five aspects of cognitive processing: 1) Positive Cognitive Reconstructuring, 2) Downward Comparison, 3) Resolution, 4) Denial, and 5) Regret. Confirmatory Factor Analysis confirmed the factor structure of the scale, and reliability was further established by computing internal consistency and test-retest reliability of each subscale (all alphas greater than .82). The discriminant and convergent validity for the CPOTS has been demonstrated by correlating the subscales with two existing measures, the Impact of Event Scale ($r = .36$ $p < .05$) and Stress Related Growth Scale ($r = .29$ $p < .02$)

Crisis Support Scale (Joseph, Andrews, Williams & Yule, 1992). This is a six item self-report measure of received support, which is anchored to the traumatic event. Each question is rated on a 7-point scale such that higher scores indicate greater received crisis support (item 6 is reverse coded). Internal reliability has

been reported with 35 survivors of the Jupiter disaster and found to be adequate (Cronbach's Alpha = 0.80; Joseph, Williams &Yule, 1992).

Posttraumatic Growth Inventory (Posttraumatic Growth Inventory; Tedeschi & Calhoun, 1996).

This is a 21-item self-report measure of positive outcomes following traumatic experience scored using a 6-point Likert format scale (0= I did not experience this change as a result of my crisis, 5= I experienced this change to a very great degree as a result of my crisis). For this study, "my crisis" was amended to "concentration camp experiences". The inventory yields a potential range of 0-105. All 21 items are positively scored, with a higher score indicating greater experience of posttraumatic growth. In the original form of the scale, each item referred to growth that pertained to college students' most negative events in the previous five years. Principal components analysis with orthogonal rotation revealed five factors that accounted for about 60% of the variance, a) relating to others, b) new possibilities, c) personal strength, d) spiritual change, e) appreciation of life. The discriminant validity of these subscales was supported by their differential relationship with other constructs. Both the full scale (.90) and the separate subscales (.67 -, 85) of the posttraumatic growth inventory have good internal reliability. The posttraumatic growth inventory was re-administered to a small sub-sample of students about two months later and the test-retest reliability of the full posttraumatic growth inventory was .71. Research to date supports the use of posttraumatic growth subscales scores and it enables researchers to test for varying effects on specific thriving domains (i.e. personal relationships, religious beliefs) as a function of variables such as type of stressor and length of time since stressors occurrence.

Moreover, the posttraumatic growth inventory has already been translated and administered to former refugees and displaced persons in Bosnia.

Changes in Outlook Questionnaire (CiOQ; Joseph, Williams & Yule, 1993). This is a 26-item self-report measure of positive and negative changes following a traumatic event, scored using a 6-point Likert format scale (1 = strongly disagree; 6 = strongly agree). The CiOQ has two subscales: positive changes (11 items) with a scoring range of 11-66, and negative changes (15 items) with a scoring range of 15-90. Previous uses of the CiOQ is limited to people directly affected by trauma (Joseph et al 1993). Joseph et al (1993) report satisfactory properties of internal consistency reliability for the positive and negative change scale, .83 and .90, respectively, and that the positive and negative change scale were uncorrelated, at r = -12,ns.

All of the above measures have been included in Appendix F.

Procedure

Concentration camp survivors were identified from the Association of Croatian Volunteers of the Homeland War. The Head of the Association discussed the research and its aims on several occasions with the organisation's members, before the study was actually carried out. He informed the members that he would write to them in the near future asking them whether they would be willing to participate and to complete a set of questionnaires. A letter of consent was also obtained from the volunteer organisation confirming that the members were informed that there was no obligation in taking part in the study and that the study would be conducted completely anonymously (see Appendix D).

The proposed measures/questionnaires were translated into Croatian and then back translated into English, thus ensuring all items retained their original meaning. The Harvard Trauma Questionnaire measuring trauma events, torture history and PTSD was already translated in Croatian by Mollica et al, (1992) and used with the Croatian population. The questionnaires were then distributed to the organisation's members. Once the questionnaires were completed, the participants were asked to send them back (in sealed pre-paid envelopes) to the Head of the Organisation. The researcher went to Croatia to collect the responses.

Statistical analyses

Power analyses were used to ensure that the sample size was large enough to avoid Type II errors during statistical analysis. The maximum number of predictors in any of the multiple regression analysis is 4, so 4 predictors are assumed for the purpose of calculating power. Given 4 predictors in a multiple regression analysis, the N required would be 50 + (8 x 4) = 82 to have a 80 % chance of finding a significant result at p = .05 (i.e. Power =.8) (Tabachnick & Fidell, 1996).

Data analysis

Kolmogorov-Smirnov Z indicated that data were normally distributed and therefore parametric analyses were used throughout. Correlational analyses (Pearson's) were conducted to determine the bivariate associations between trauma severity, cognitive processes, social support, PTSD and posttraumatic growth and positive/negative changes in outlook.

A series of regression analyses were used to examine whether social support plays a moderating role between trauma exposure and posttraumatic growth, and whether constructive cognitive processes mediate between trauma exposure and posttraumatic growth. These analyses were conducted according to the method described by Kenny and colleagues (Baron & Kenny, 1986; Kenny, Kashy and Bolger, 1998). A mediational relationship can be tested when bivariate associations between an independent variable, a mediator and a dependent variable achieve statistical significance and therefore the previous correlational analyses were used to select the variables to be tested. Perfect mediation is achieved if the relationship between the independent and dependent variable is not significant when controlling for a third, mediator variable.

Results

Characteristics of the sample

Only the main characteristics of the sample (n = 147) are reported here with both frequencies and percentages. The sample consisted only of Croatian males, whose mean age was 48. 73 (s.d, 6.86, range 36-66). Most (75%) were married and had children (65%). None of the men in the sample were in current employment (100%), and 65% were receiving state war pensions.

PTSD and Torture History

The study examined whether levels of PTSD differed on levels of torture experiences. Out of the 19 questions (see Appendix G for a full description),

only 'witnessed others being tortured' and 'starvation' were exclusively related to PTSD.

There was a significance association between PTSD status and whether the participants had witnessed others being tortured, $X^2 = 8.29$, df = 1, p< .004. There was also a significant association between PTSD status and whether or not the participants had been starved, $X^2 = 10.94$, df =1, p<. 001.

Table 1. Association between PTSD status and torture experiences

Trauma variable	PTSD Group	Yes	No	P
Witness others being tortured	PTSD	60	0	.004*
	Non-PTSD	61	9	
Starvation	PTSD	32	11	.001
	Non-PTSD	38	32	

Moreover, participants with PTSD were found to be significantly younger than participants without PTSD, (Mean age PTSD = 47.15, sd, 6.06), mean age non PTSD = 49.98, sd 7.44), t = 2.36, df =129, p<.020.

Across the 11 items that assessed posttraumatic growth (Tedeschi & Calhoun, 1996), the mean was 29.1. (Total score = 105) corresponding to a 'mild amount' of growth. The overall mean for posttraumatic growth was much lower than reported in most other studies, where the mean scores ranged from 40 – 83. These studies have been done with students who had stressful life event, major life event or parents who lost a child and people who suffered criminal victimisation.

Furthermore, across the 26-item Changes in Outlook Questionnaire (Joseph et al., 1993), the mean was 31.8 for positive changes (range = 11-66) and 57.2 for negative changes (range = 15-90). Trauma events showed a mean of 27.7 (total score = 48) and scores on torture history had a mean of 8.7 (total score = 19). Social support showed a mean of 20.2 (total score = 42) (See Table 2).

Table 2. Mean scores of trauma exposure, social support, posttraumatic growth inventory and positive/negative changes in outlook.

	N	Minimum	Maximum	Total Score	Mean
Trauma Events Total Score	142	19.00	40.00	48	27.68
Torture History Total Score	148	5.00	18.00	19	8.72
Posttraumatic growth Total Scores	130	7.00	76.00	105	29.12
Social Support Total	147	12.00	30.00	42	20.20
Negative Change in Outlook Total Score	130	6.00	87.00	15-90	57.22
Positive Changes in Outlook Total Score	130	3.00	45.00	11-66	31.78

PTSD and Posttraumatic growth and Positive Changes in Outlook

A total of 130 out of 147 respondents reported some aspect of posttraumatic growth. Of these, 59 fulfilled the diagnostic criteria of PTSD assessed by the Harvard Trauma Questionnaire (according to DSM IV) and 69 did not fulfil the criteria for PTSD. There was no significant difference on posttraumatic growth and positive changes in outlook in the PTSD versus non-PTSD group. These findings indicate there is no significant difference between the group in reported levels of growth and positive changes in outlook. Furthermore, the t-test shows that PTSD and posttraumatic growth are not mutually exclusive. The PTSD group reported slightly higher mean = 29.20 on posttraumatic growth and mean = 31.74 on positive changes in outlook. The non-PTSD group reported a mean

of = 27.75 on posttraumatic growth and mean of = 31.8 for positive changes in outlook than See table 3.

Table 3. Mean scores of Posttraumatic growth and Positive Changes in Outlook in PTSD group and non-PTSD group.

	Clinical PTSD	N	Mean
PT6 Scores	No	69	27.75
	Yes	59	29.20
Positive Changes Outlook	No	70	31.74
	Yes	60	31.81

Investigation of hypotheses

Association of posttraumatic growth and positive changes in outlook with PTSD, trauma severity, social support and cognitive processing

The aim of this study was to examine the relationship between trauma exposure, PTSD and posttraumatic growth. In order to examine this relationship The Harvard Trauma Questionnaire was implemented which examines types of traumatic events people experienced (such as lack of food, shelter, witnessed violence, witnessed killings, loss of close person etc). Furthermore, The Harvard Trauma Questionnaire examines 'torture history' (such as beatings, drowning, sexual abuse, mutilation etc). (These are both measures of trauma exposure), Moreover, the Harvard Trauma Questionnaire also measures levels of PTSD and social functioning and social support. To investigate how these variables may relate to growth, the positive and negative changes in outlook questionnaire and the posttraumatic growth inventory were used as outcome variables.

Pearson's r bivariate correlations were conducted to examine associations between predictor variables and outcome variables. Next hierarchical multiple regressions were conducted to determine whether social support moderates the relationship between trauma exposure and posttraumatic growth. Additionally, to examine whether any of the constructive cognitive variables (positive restructuring, acceptance/resolution, downward comparison), mediate the relationship between trauma and growth. Finally, a path analysis is presented based on the mediation analysis.

The first step for establishing mediation (Baron & Kenny, 1986) requires evidence that there is an effect to be moderated/mediated, so the predictor variables must be correlated with the dependent variables. Pearson's correlational analyses were used to assess the associations between the dependent variables (posttraumatic growth, positive/negative changes in outlook) and the independent variables (trauma exposure, social support, PTSD, cognitive processes).

Hypothesis 1: Is trauma severity associated with posttraumatic growth?
Hypothesis 1 was tested by using Pearson's r bivariate correlations between posttraumatic growth and positive/negative changes in outlook and traumatic events and torture history and levels of PTSD.

Trauma events; Trauma events were found to be significantly correlated to levels of PTSD, r =.-197, p = .027, indicating that participants with higher levels of trauma were experiencing higher levels of PTSD. Furthermore, trauma

events were significantly negatively correlated to posttraumatic growth, r = -.232, p <. 01, and significantly negatively correlated to positive changes in outlook r = -.26, p < .01, indicating that participants with higher levels of trauma were reporting less posttraumatic growth and less positive changes in outlook after trauma.

Torture history was also found to be significantly negatively correlated with posttraumatic growth r = -.18, p = .03; this correlation indicates that the higher the level of torture history, the less likely participants reported posttraumatic growth.

Preliminary Analyses for test of Moderation and Mediation

Association between cognitive strategies, social support with posttraumatic growth.

Positive restructuring was significantly positively associated with posttraumatic growth, r = .467, p < .0001 and significantly negatively correlated with torture history, r = -.345, p < .0001, indicating that participants utilizing positive restructuring were more likely to experience posttraumatic growth. However, participants who reported a severe history of torture were less likely to employ 'positive restructuring' as a cognitive strategy. Moreover, positive restructuring was also significantly correlated with positive changes in outlook, r = .256, p<. 001, which provides evidence that constructive cognitive processes are linked to post-event growth.

Resolution/Acceptance was significantly negatively correlated with PTSD, r = -.225, p<. 01, indicating that participants with higher levels of PTSD were less

likely to employ resolution/acceptance as a cognitive strategy. However resolution/acceptance was significantly positively correlated with positive changes in outlook, r = .417, p<. 0001. This finding indicates that participants employing resolution/acceptance as a cognitive strategy were more likely to report positive changes after the traumatic event.

Denial significantly positively correlated with crisis support, r = .212, p<. 016 and was also positively correlated with positive changes in outlook r = .188, p = .032, indicating participants in denial were more likely to have received social support and reported more positive changes after the traumatic event.

Downward comparison significantly negatively correlated with trauma events, r = 236, p<. 008 but significantly positively significantly correlated with crisis support, r = .193, p =. 028, and negatively correlated with PTSD r = -.335, p<. 0001. Results show that participants with higher trauma exposure and higher levels of PTSD are less likely to employ downward comparison. However, participants who used downward comparison as a cognitive strategy also reported post-event social support.

Regret was negatively correlated with positive changes in outlook, r = -.222, p<. 011, indicating that participants who were likely to carry regret, were also less likely to report a positive outlook after the traumatic event.

Hypothesis 2.

The moderating role of social support.

To test whether the relationship between torture history and posttraumatic growth occurs with social support as a moderator variable, a hierarchical multiple regression was conducted with the dependent variable of posttraumatic growth. Step 1; torture history and social support were entered as predictor variables. Step 2, the product of torture history x social support was entered. This was significant $F(3,125) = 3.34$, $p < .021$, $r^2 = .052$, accounting for 5.2% of the variance. In Step 1 torture history predicted posttraumatic growth, ß = -1.10, $t(3,125) = 2.23$, $p < .028$. The predictive value of the moderator variable (social support) was non significant, ß = -.893, $t(3,125) = -1.73$, $p < .085$. However, in Step 2, social support x torture history emerge as being significant predictors of posttraumatic growth, ß = 1.06, $t(3, 128) = 1.996$, $p <. 05$. Entering the interaction variables in the second step yielded support for the social support moderation hypothesis.

Hypothesis 3.

The mediating role of positive restructuring

As the data did not reveal an association between downward comparison, resolution/acceptance and posttraumatic growth, this data has been excluded since it did not fit the criteria for testing the mediation model.

However, regression analyses were used to test the hypothesised model that positive restructuring mediates the relationship between trauma exposure and posttraumatic growth. In order to test for mediation, Baron & Kenny's (1986) criteria were used and specifically 3 conditions must be met in order for

mediation to occur. The first condition requires the independent variables (torture history) to predict the dependent variable (posttraumatic growth). Secondly, the independent variable, torture history, must also predict the mediator (positive restructuring). Finally, the significant relation between the independent variable (torture history) and dependent variable (posttraumatic growth) must be reduced when the effects of the mediator (positive restructuring) are controlled. Having satisfied the necessary preconditions for Baron and Kenny's regression method, a final regression equation was required to establish whether the independent variable retained any predictive power once the hypothesised mediator variable was accounted for.

On visual inspection the assumptions of linearity, homeostacity and normality were satisfied. Findings show that in the first step, torture history predicted posttraumatic growth, ß = -.182, t (1,128) = -2.090, p< .05. In the second step torture history also predicted positive restructuring, ß = -.345, t (1,128) = 4.153, p< .0001. However, in Step 3, torture history showed reduced significance as predictor of posttraumatic growth, ß = .341, t (2,125) = -1.264, p=209, but showed that the use of positive restructuring as a cognitive strategy highly predicting posttraumatic growth, ß = .420, t (2,127) 4.983, p<. 001. Hypothesis 3 of torture history being mediated by constructive cognitive processing (e.g. positive restructuring) is therefore supported.

Path analysis

Path analytic strategy (Bryman & Cramer, 1990) followed as a straightforward extension of the mediation analysis above. A series of ordinary multiple regression analyses were employed to estimate the indirect and direct effects

among variables. The path analysis, included both measures we used for assessing trauma exposure i.e. torture history and trauma events. Both measures derived from the Harvard Trauma Questionnaire. Therefore, there are two exogenous variables and the model also includes positive restructuring as a mediating variable and posttraumatic growth as an outcome (see figure 1).

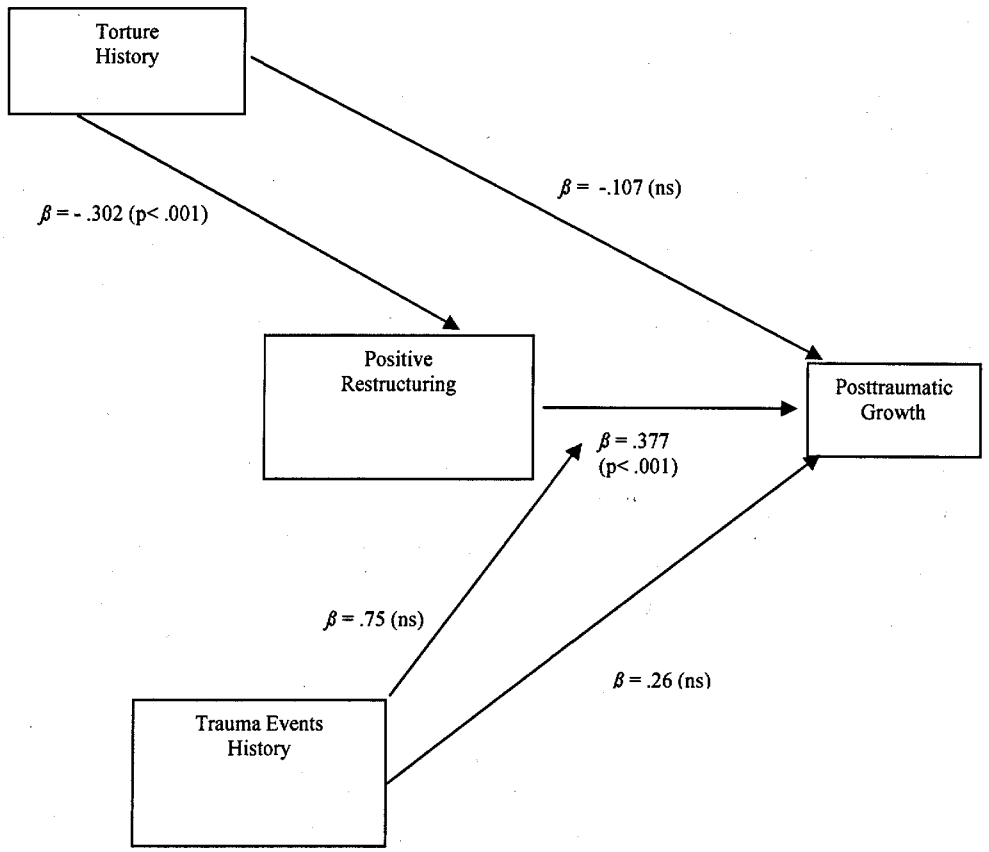
One extreme outlier was found deviating 7 standard deviations away from the mean and was therefore removed. On visual inspection, the graph showed linearity, homeostacity and normality was satisfied.

The two regression analyses were significant: with posttraumatic growth as outcome $F = (3,120) = 9.07$, $p < .0001$, and accounted for 16.4 % of the variance and with Positive restructuring as outcome, $F = (2,123) = 7.5$, $p < .001$ and accounted for 95% of the variance.

Torture history did not have a unique predictive value on posttraumatic growth, ß = -.107, t (3,120) = 1.192, p <. 236, when entered in the first step. Trauma events did not have a predictive value on posttraumatic growth, ß = -.026, t (2,123) = -.307, p< 759, but positive restructuring did emerge as a significant predictor, ß= .377, t (2,122) = 4.31, p<. 001.

The second regression equation involved the regression of torture history and trauma events on positive restructuring as dependent variable. Torture history did have a predictive value on positive restructuring, ß = -.302, t (2,123) =-3.421, p<. 001, but trauma exposure did not emerge as a significant predictor of positive restructuring, ß = -.075, t (2,123) = -.85, p< .399.

Figure 1. Path analysis of trauma exposure, positive restructuring and posttraumatic growth.



Discussion

The discussion will summarise the results. This will be followed by the consideration of the clinical implications of the findings. Finally the limitations of the study will be presented. Possibilities for future research will be discussed throughout.

The results of this study suggest that some concentration camp survivors did experience some degree of posttraumatic growth after war and torture. The overall mean for posttraumatic growth (M = 27.7) was much lower than reported in most other studies (Powell et al 2003, Maercker and Herrle, 2003, Tedeschi

et al, 1995, 1998, 2004).These studies have mainly been carried out with students who had stressful life events, major life event or with parents who lost a child and with people who suffered criminal victimisation.

Powell, Rosner, Butollo, Tedeschi and Calhoun (2003) examined levels of posttraumatic growth in refugees and displaced people in Sarajevo, Bosnia. Their findings showed a higher mean (44.10) of reported posttraumatic growth than participants in the current study, corresponding to 'moderate' levels of reported posttraumatic growth. Research into torture suggests that torture is a multilateral complex cumulative type III trauma that can traumatise the body, the autonomy and identity of the individual and his/her sense of safety and survival (Kira, 2004).

It seems therefore rather plausible that the lower levels of reported posttraumatic growth in the current study are related to the multiple and severe traumatic events and specifically to the torture experiences which the current sample suffered. Additionally, the intensity of the trauma experience might also have been caused by other factors specific to the sample like the fact that the torture experiences were often related to torturers that were previously known who were people they formerly trusted as friends, neighbours or fellow citizens in the same country.

Moreover, relatively little is known about the social and economic consequences of torture (Basoglu, 2001). In this study, the survivors all reported being unemployed and only some reported receiving a state war pension. The change in their socio-economic situation was reported in negative

terms. While the same socio-economic situation is also shared by a large part of the Croatian population in its totality, the vulnerable medical, psychological and social status of torture survivors makes their experiences of these negative changes catastrophic (Basoglu, 2001). They feel that imprisonment and torture have very much affected their economic status, their health, and relationships with others. Loss of social and occupational opportunities as a consequence of imprisonment and lack of employment after captivity contribute to social, economic and psychological difficulties. Precisely the social and economic consequences of torture in a post conflict society make it difficult to differentiate clearly between the consequences of torture per se, the consequences of war and the consequences of stressors in the post war condition. The influence of this compound set of factors must therefore be considered in the reported levels of posttraumatic growth in this sample.

The present study documented a high degree of psychological and social effects in a tortured population residing in their own society post-war. Trauma here is documented not only as a psychological process but also as social suffering. Torture survivors have not only to manage their health and mental health symptoms after imprisonment but must also cope with poverty and social exclusion (Basoglu, 2001). The torture survivors in Croatia face the effects of a severe lack of cohesive social and psychological support that undermine both their physical and psychological health, a cultural specific context that might also be affecting the level of posttraumatic growth observed. Moreover, unemployment, the modest socio-economic status, and the comparatively low levels of education found in this all male sample should be expected to show lower levels of posttraumatic growth. Park et al., (1996), Tedeschi & Calhoun

(1996) show that perceptions of growth may be less common for males than females and Cordova et al.(2001), Davies & Nolen-Hoeksema, (1998), Updegraff & Taylor. (2001) show the same for people with lower educational status and socio-economic status.

In this study 130 out of 147 participants showed some evidence of growth. Posttraumatic growth and PTSD are not mutually exclusive, of the 130 who showed some degree of posttraumatic growth, 59 also experienced PTSD and the posttraumatic growth mean score showed a similar percentage to those who identified aspects of posttraumatic growth in the absence of PTSD (69 of 130).

These results also highlight a potential theoretical conflict between the core features of negative reactions such as PTSD and posttraumatic growth. PTSD is characterised by a number of features such as intrusive images, flashbacks, nightmares, distress and physiological reactions when confronted with reminders (Horowitz, 1976). These symptoms are the opposite of the posttraumatic growth outcomes reported in this paper thereby raising the question of how they can co-exist. Researchers such as Christopher (2004) and Joseph & Linley (in press) are currently addressing these issues and suggesting different pathways to which both positive and negative effects of trauma may occur. However, further investigations are needed of the relationship between each of the diagnostic features of PTSD and posttraumatic growth that may shed some more light on this issue.

Furthermore, these results contradicted those of Maercker and Herrle (2003), who found a positive association between trauma severity and posttraumatic

growth. However, Maercker and Herrle conducted research on a less traumatised population than the current study. Their study examined posttraumatic growth on the people affected by the 1945 Dresden bombings, which meant that participants had had a much longer time frame to resolve their issues. Moreover, Maercker and Herrle's sample were by then living in a society that showed no trace of war or atrocities which might also have encouraged and ultimately contributed to higher levels of posttraumatic growth than found in the current sample.

In contrast to the Maercker & Herrle study, the present sample (N=147) had all witnessed mass violence and killings during the armed conflict and all (N =147) had lost a family member or close person and suffered some physical injury. Our findings clearly show that survivors who had experienced higher levels of trauma and torture showed higher levels of psychological symptoms of PTSD. Taking the above findings into account and the findings showing the presence of both PTSD and posttraumatic growth simultaneously, the study clearly demonstrates that war and torture experiences are complex and may go beyond the PTSD diagnosis.

The current study also supports the hypothesis that cognitive processes are associated with positive changes in outlook and posttraumatic growth. Cognitive appraisals and attributions have been linked to posttraumatic growth (Tedeschi & Calhoun, 1998, 2004, Joseph et al, 1997) and meaning making (Janoff-Bulman & Frantz, 1997). In the current study, positive restructuring was associated with posttraumatic growth, and resolution/acceptance was associated with higher levels of perceived positive changes following trauma.

Positive restructuring was also found to be related to posttraumatic growth and to mediate between trauma exposure and posttraumatic growth.

These findings are yielding evidence about the importance of cognitive processing in coping with the effects of trauma. Furthermore, these findings support Tedeschi & Calhoun's (2004) cognitive process model of posttraumatic growth. It may be that clinically the facilitation and encouragement of cognitive processing of emotional material in trauma survivors is the key to change, and that this could be enhanced by cognitive interventions.

Moreover, the current findings suggest that social support moderates the relationship between torture history and posttraumatic growth. This interaction shows that the strength of the relationship between torture history and posttraumatic growth might be different at different levels of social support. It might be predicted that those with lower social support would show less posttraumatic growth than those who experienced higher levels of social support, e.g. we expect the strength of the direction of the regression to depend on the level of social support. This also supports Tedeschi and Calhoun, (1995, 1998, 2004) and Joseph, Brewin, Williams & Yule (1993) findings that an individual's social support system may also play an important role in the general process of growth, particularly through provision of new schemas related to growth, and the empathic acceptance from the environment around disclosure of the traumatic event. Additionally, our findings showed that cognitive processing, such as downward comparison, was associated with social support. This might imply that individuals who receive adequate social support are more

likely to employ downward comparison as a cognitive strategy and as a result may experience posttraumatic growth.

Furthermore, the study found that people who used denial as a cognitive strategy received higher levels of social support and also reported higher levels of positive changes in outlook following the traumatic events. Silver, Wortman and Crofton (1990) suggest that the self-representational coping stance taken by victims can play an important role in the support provider's reaction. Silver et al (1990) argue that people who portray 'balanced coping', that is conveying that they are attempting to cope through their own efforts are more likely to receive social support from others.

In addition to these generic explanations, this finding could also be interpreted in a cultural specific context. The financial restraints, the severe lack of resources and of a psychologically aware social environment in post war Croatia are factors encouraging denial\as a functional cognitive strategy for receiving higher degrees of social and psychological support.
Moreover, by repressing traumatic material, the participants in denial are less likely to experience intrusive images and general symptoms of psychological distress, which in turn might provide them with more resources to seek help.

Therefore, whilst the present study supports previous findings regarding the important role of cognitive processes and social support in posttraumatic growth following traumatic events, it also provides evidence that certain cognitive processes may represent a key factor in social support despite levels of torture and further, that both cognitive appraisal and social support underlie the

psychological characteristics of posttraumatic growth. Overall, these results are compatible with a model whereby constructive cognitive appraisals leads to higher levels of social support and both these factors have a significant influence on posttraumatic growth and positive changes in outlook following trauma.

One of the objectives of the current study was to examine what specific cognitive process might be associated with positive changes in outlook and posttraumatic growth by measuring five components of cognitive processing (positive restructuring, downward comparison, resolution/acceptance, denial and regret). This provided useful information about the very nature of processing the trauma experiences by the current sample. Posttraumatic research to date has not yet investigated the specific cognitive components used in the current study. Moreover, more research is required to test these hypotheses and to establish the exact relationship between various cognitive processes, impact of social support and posttraumatic growth. Additionally, the development of measures of complicated cognitions associated with posttraumatic growth and the longitudinal examination of these processes await the attention of researchers focusing on this area.

Finally, whilst cognitive processes may be relevant to posttraumatic growth and positive changes in outlook, the mediation analysis and path analysis in this study test an implied causal model. Tedeschi & Calhoun (2004) state that initially the individual typically must engage in coping responses needed to manage overwhelming emotions, but intense cognitive processing of the difficult circumstances also needs to occur. The degree to which the individual engages

cognitively with the crisis appears to be a central element in the process of posttraumatic growth. Initially the trauma survivor reports intrusive thoughts and images. However, persistent cognitive processing, e.g. an attempt to rebuild schemas, goals and meaning should be associated with posttraumatic growth (Tedeschi & Calhoun, 2004). Following this cognitive processing long enough to see the outcome is the only way researchers will be able to understand the complex cognitive processes involved in posttraumatic growth, however longitudinal research is needed to confirm this.

Clinical Implications

The data above have both theoretical and clinical implications. Understanding the relationship between these thought processes and the best outcome for trauma survivors 'is important in helping professionals who work with such populations to discern the positive nature of the painful cognitive activity of these persons' (Tedeschi & Calhoun, 2004). Moreover, to suppress rumination in trauma survivors are perceived as most unhelpful (Lehman, Ellard, & Wortman, 1986; Lehman & Hemphill, 1990). Similarly, Tedecshi & Calhoun (1995) suggest that interventions focused on rapid stress relief may prevent longer-term gains.

Furthermore, the current data demonstrates that posttraumatic growth and positive changes in outlook following trauma may benefit from further focus on the influence of cognitive processes and post-event social support. To some extent the idea that persistent cognitive processing is associated with growth might be surprising, taking into account the evidence that shows a relationship between type of rumination and depression (Tedecshi & Calhoun, 2004,

Horowitz, 1986). Rumination has been recognised as being an important factor in the development and maintenance of psychological distress, however, the emphasis hitherto has mainly been placed on posttraumatic stress disorder to the neglect of the co-existence of posttraumatic growth. These findings add weight to the growing suggestions that cognitive processing deserves increased attention in the investigation of posttraumatic growth and positive changes in outlook following trauma. Likewise, Martin & Tesser (1996) proposed a definition that incorporates the common features of rumination as thinking that is conscious, revolves around a theme and occurs without cuing from the environment, although it is connected with important goals. It is this kind of rumination that is found to be related to growth.

Clinicians need to be aware of the potential for positive change following trauma and adversity (Linley & Joseph, 2004). Positive changes might be facilitated in therapy work by providing hope that the trauma can be overcome. It is possible that the individual formulates new goals and to revise components of their assumptive world in ways that acknowledge their changed life circumstances.

Finally, these results are of clinical importance in that they suggest that trauma interventions would benefit from the consideration of the individuals cognitive appraisal and support system. The clinician must show awareness when the client may be in the process of reconstructing schemas, thinking dialectically, recognising paradox and generate a revised life narrative (Tedeschi & Calhoun, 2004). However, even as part of a systematic intervention program, matters related to growth are best addressed after the individual has had a sufficient amount of time to adapt to the aftermath of trauma. Furthermore, an

assessment of the cognitive consequences of the trauma and available social support might then highlight targets for psychosocial intervention. Findings that highlight particular cognitive processes important in posttraumatic growth not only identify targets for therapy but also allow us insight into the underlying cognitive structures following traumatic events.

Limitations

It is important that these results are considered in context and the limitations of this study must also be acknowledged.

A number of methodological criticisms could be made of this study. A limitation of the measures used was that all were self-report retrospective measures and, as such may be subject to a large amount of bias. Moreover, the data was collected retrospectively, and the results are likely to contain more errors when participants are asked to recall the nature of their thinking during a traumatic event that occurred many years earlier. However, previous work with trauma survivors has shown significant results with such measures (Maercker & Herrle, 2003, Powell et al, 2003, Tedecshi & Calhoun, 1995, 2004, Peltzer, 2000) and self-reports of posttraumatic growth and positive/negative changes in outlook have been closely related to other independent measures of evaluation.

The present study is also limited by the fact that all of the measures (with the exception of the Harvard Trauma Questionnaire) were translated into the Croatian language. Although the translations were robust, the measures were not checked for their cultural validity. However, the measures of trauma events, torture history and PTSD (Harvard Trauma Questionnaire) were already translated into the Croatian language by Mollica et al, (1992) and had been

used by the Croatian population. A culture bound torture or trauma syndrome, if one exists, still needs to be identified (Mollica et al, 1992).

The posttraumatic growth model originates from America and discussions exist over whether investigators of posttraumatic growth could evaluate which elements of growth expressed by 'American' individuals appear to be influenced by the larger narratives, accounts and constructions of the larger society (Tedeschi & Calhoun, 2004). The broader understanding appears important, but on the other hand, considerable evidence is emerging from non-American samples that report posttraumatic growth, such as the present study. There are studies from Bosnia, (Powell, Rosner, Butollo, Tedeschi & Calhoun, 2003), China (Ho, Chan & Ho, 2003) and Germany (Maercker & Herrle, 2003) showing that this is not just an American phenomenon. However, it is also important to take into account cultural factors that are equally important and may be fruitful avenues of investigation to pursue (Tedeschi & Calhoun, 2004).

Conclusions

In summary this paper provides evidence that some individuals can experience a degree of posttraumatic growth and positive changes in outlook after war and torture experiences. However, this is not necessarily to the exclusion of PTSD. Although PTSD does not prevent posttraumatic growth, it is not clear whether the duration of PTSD is affected. These findings highlight yet again the conflict between PTSD diagnosis and the existence of posttraumatic growth. The understanding of trauma would benefit from investigating this further.

Our findings also highlight the importance of providing a supportive environment after trauma and additionally how cognitive processing might help to facilitate psychological adjustment and posttraumatic growth. However, the phenomenon of posttraumatic growth is complex and it cannot be easily reduced to simply a coping mechanism, a cognitive distortion, psychological adjustment or well-being (Tedecshi & Calhoun, 2004). The outcomes might be best considered as iterative, and it will take longitudinal work to trace the varied trajectories of the posttraumatic growth process (Tedeschi & Calhoun, 2004).

Furthermore, clinicians are encouraged to use interventions that facilitate posttraumatic growth with care, so as not to create an expectation of posttraumatic growth in all trauma survivors and to instead promote a respect for the difficulty of trauma recovery while allowing for the exploration of possibilities for various kinds of growth even in those who have suffered greatly (Tedeschi & Calhoun, 2004).

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Critical Appraisal

Origins of the research

The initial idea for this project came about when I was working in Croatia, prior commencing the D.Clin Psyc course in 2002. I was working as a program manager of planning and running psychosocial groups for UN Mine Victim Assistance Programme in 6 cities in Eastern Slavonia in Croatia. I was working with war veterans, torture survivors and mine victims. My experience whilst working with these groups suggested that some people who have been reminded of mortality and who had experienced that their world is not as predictable and ordered as they once thought, might become motivated to perceive their world as very meaningful. It appeared that to the extent that trauma and loss experiences remind one of one's own mortality and represents threat to aspects of one's fundamental beliefs or worldviews, people will actively be seeking ways to moderate these threats in order to maintain or reaffirm the belief that their life is meaningful. Moreover, not only had the people I worked with experienced war and its atrocities, but they had also sustained major injuries and become permanently physically disabled. Despite these multiple losses, e.g. loss of prior physical functioning, employment, loss of identity, issues around sexuality and masculinity, the majority of people articulated positive gains and growth as a result of their experiences. They reported greater appreciation of life, feeling closer to their family/and other people and enhanced empathy. The experience of working with the mine victims, war veterans and torture survivors sparked my interest in the possible positive effects in the aftermath of trauma.

Supervision and Motivation

With regards to my research supervisor, I had discussed my project idea with both Prof. Gillian Hardy and Prof. Graham Turpin in advance of writing an initial project proposal. I was informed that no course team member had conducted research on posttraumatic growth before, but after discussions with both Prof. Hardy and Prof. Turpin it was decided that I would be allocated them both as supervisors. Additionally, I contacted Dr. Stephen Joseph from University of Warwick given his knowledge and expertise of posttraumatic growth and for the possibility of including him as an advisor on the project. Dr Joseph's awareness of the subject matter and his openness, supportive nature and willingness to help was also very valuable in the research process. Although I did have a number of supervisors, it never raised any difficulties in managing the number of inputs, as they have not differed greatly from one another but rather complemented each other

Motivation was maintained though a number of strategies and situational factors. A key motivator was that I wanted to complete the research and write up on time, and to this end I set myself a series of mini-deadlines, although I was not able to keep them all. Arranging meetings with a peer to discuss research was extremely useful in maintaining motivation. Situational factors that helped to maintain my motivation were talking to people who shared the same interest field. Additionally, the feeling that my research was worthwhile and may contribute to something important to this literature was an important factor to me.

Initial literature searches

There is an extremely broad literature review relating to posttraumatic stress disorder (PTSD). There was therefore no difficulty in identifying risk factors as well as theoretical models from PSYC INFO and Medline databases. In addition Prof. Turpin was forthcoming in suggesting recent articles and reviews. Both Prof. Hardy and Dr. Joseph provided me with several articles related to posttraumatic growth. Although, posttraumatic growth is now a growing area of research, it is still in its infancy compared to PTSD.

Study Design

The present study was a retrospective study examining predictors of posttraumatic growth. It would have been desirable to use a prospective longitudinal design, as this would be the most effective way to establish the predictive characteristics of a measure. Furthermore, it would have been interesting to examine the longitudinal investigation of the impact of cognitive processing assessed early in the post trauma time period on posttraumatic growth assessed at later times. However, this was not possible as the war in Croatia ended in 1995. Furthermore, it would have been interesting to apply semi-structured interviews in order to obtain wider information from the participants. Due to the time-constraints I was operating under, working on placements, and suffering from chronic physical ill health for a long time-period, as well as the research being conducted in Croatia, this was unfortunately not possible.

I did however; conduct a small pilot study, in order to get feedback about the clarity and ease of filling out the translated questionnaires. The feedback was encouraging and I felt confident for the questionnaire-pack to be sent out.

Selection of measures

There are available a large number of measures relating to this area and the need to be careful with what measures were to be chosen, as I did not want to overload the participants. This meant examining refining my hypotheses and ensuring the measures used only related to these.

Personal contact was made with Professor Richard Tedeschi, Professor of Psychology at the University of North Carolina and who is one of the authors of the posttraumatic growth inventory and permission was given to include the posttraumatic inventory in my study.

Furthermore, contact was also made with Dr. Rhonda Williams from the Department of Rehabilitation Medicine and Veterans Administration of Puget Sound Health Care, Department of Psychology, Seattle Division, who kindly sent me the cognitive processing after trauma scale.

The Positive/Negative Changes in Outlook questionnaire and The Crisis Support Scale were provided by Dr. Stephen Joseph from the University of Warwick. Furthermore, I included the Harvard Trauma Questionnaire (which was free to download) by Mollica *et al* (1992) already translated into Croatian language. Additionally, the Harvard Trauma Questionnaire included 40 items

relating to PTSD and social functioning. The PDS (looking at past trauma events) was already available in the University Department.

Research Proposal

I was satisfied that the proposal I submitted represented a clear account of what I intended to achieve. Feedback from the internal research sub-committee was positive. However, some concerns were initially expressed regarding conducting the research in Croatia. Moreover, questions were raised whether I needed ethical approval from Croatia. I had already contacted the Croatian Psychological Society in regards to this, and I was informed that official ethical approval was not necessary, as I was not using NHS patients. However, I did get ethical approval from The Association of Croatian Volunteers of the Homeland War to carry out my study on its members. The rules for carrying out research in Croatia are the same as here in the U.K. Since I was not using NHS patients, but rather recruiting participants from a non-governmental (volunteer) organisation I could seek ethical approval directly from the organisation. Moreover, there was also a concern around how I would actually carry out my research given that it was conducted in Croatia, and furthermore distribute my questionnaires (in terms of the time framework). I had already pre-planned my approach carefully and had an allocated field person (Head of the Croatian Concentration Camp Association) who was to do all the necessary photocopying, buying envelopes, and stamps and distribute the pre-study information sheet as well as questionnaires to the organisations members. Finally, some concern was raised about how much the project would cost. I was only £60 over the £500 budget; so additional funding was sought and approved by the University of Sheffield.

Ethics Committee Application

Owing to the location of the study and the use of non-NHS clients, application for ethical approval was made to the University Ethical Committee, Sheffield University. However, before such an application was made I sought advice from Sheffield Health and Social Research Consortium and more specifically I spoke to Dr. Jonathan Boote, Research Manager (Governance) to clarify whether I needed to obtain any additional approval or insurance in relation to my project. However, this was confirmed as not being necessary in my instance and I could proceed and apply for ethical approval through The University of Sheffield. Ethical approval was granted on 20th April 2005.

Funding

As I did not have to pay for any of the measures used, my budget only overran by £60 and the University of Sheffield covered this.

Data Collection

It was important to get participants to fill out and send in their questionnaires as quickly as possible after receiving them (as I had been very late with getting my research and ethics approval due to my ill health). Moreover, postal questionnaires have a notoriously low response rate. However, it was thought that the involvement of the Head of The Association of Croatian volunteers of the Homeland War might also encourage its members to participate. Additionally, The Head of the Association had on several occasions spoken about the upcoming research study and its aims to their members, and people had responded very positively and appeared keen to take part. People wanted their experiences and suffering to be 'heard' and furthermore, wanted to

contribute in helping others with similar experiences. The data was all collected within 4-5 weeks.

Critical account of the research process and how this might inform future practice.

In conducting this research project, a number of issues were raised which added to the learning process and will inform future practice. In terms of implementation I would probably carry this out the same way, if I were to do a similar project in the future. If further time and money was available, there are some strategies I would use in order to increase the response rate. These will be highlighted below, along with a critical discussion of the process carrying out the research.

In the initial stages of the research, it was useful to talk to a range of people with knowledge and expertise in this field in order to discuss my ideas and to gain what were important issues to address. However, one of the drawbacks of this was having too many ideas. Initially, focusing down the issues I was interested in to a research project, which was practical within the timeframe and financial constraints, was challenging. This is when supervision was particularly useful and for any future research I might carry out, it would be of benefit to be able to discuss ideas with colleagues at this stage. It was also helpful to keep a research diary from the beginning, as I could note down other ideas for future research as they arose.

Once the research had been identified, the sample needed to be selected. It would have been possible to include a comparison group, such as war veterans

with no experience of torture in Croatia. Whilst this was discussed and would have been interesting, it would have added further complications to the data analysis, would have involved much more work in respect of liasing and setting up the project. It was finally deemed that within the financial constraints, inclusion of a comparison group was not possible, and that repeating a similar study with war veterans would be an interesting follow up to the current research project.

Another issue, which was highlighted for me, was the usefulness of pilot studies. I piloted the questionnaire pack with individuals who were members of a concentration camp association in another location than where my sample was from. Some of the comments made by these individuals were useful. It was also important to discover how long the questionnaire took to complete and whether thirty minutes felt an adequate amount of time. Piloting this project was essential, and I would advocate doing this again in the future.

There were also a number of other areas which it would have been interesting to examine (e.g. how trauma impact on ones identity or more details about recent trauma) but these were excluded in order to attempt to keep the questionnaire pack as short as possible. It is likely that this would have involved much more work for the participants and would have decreased the likelihood of returning the questionnaires. However, the questionnaire pack in its final version was still not particularly short. It is possible that the response rate would have been higher if the questionnaire pack had been shorter. However, there was a danger that if priority were given to making the booklet shorter, then valuable information would be lost.

Other main areas of learning for me were in relation to the statistics used. I was also careful to carry out a number of checks for errors in the data entered, based on previous experience of research. It was easy to 'get lost' in the statistical tests, and this is why consulting a statistician was essential. However, through consulting I realised I sometimes knew more than I realised I did, and I also learnt that often I was looking for an absolute answer when there wasn't one. I had previously seen statistical tests as very objective and governed by laws of how one should carry them out, and when they should be used. However, I have learnt that if more complex tests are used; there are less clear answers. For example in multiple regressions, the selection of method appears to relate too more subjective than objective choices to some degree. This is where consultation was particularly useful.

In summary, there were factors in carrying out this research that were useful and which enabled the project to be carried out. There were also some factors, which it would have been helpful to do differently. However, I have learned from the experience of carrying this out, which will aid future research, which I may do. I have also learned that there is no research, which is perfect, and there are always a number of questions raised for future research.

Appendix A

Author instructions for the authors of British Journal of Clinical Psychology

The Psychologist
Division / Section Publications
Consultation Papers

Journals
- British Journal of Psychology
- **British Journal of Clinical Psychology**
  - Online Articles
  - Order Information
  - Journal Scope
  - Editorial Board
  - **Notes for Contributors**
  - Special Issue - call for papers
- Psychology and Psychotherapy: Theory, Research and Practice
- British Journal of Health Psychology
- British Journal of Educational Psychology
- British Journal of Developmental Psychology
- British Journal of Social Psychology
- British Journal of Mathematical and Statistical Psychology
- Legal and Criminological Psychology
- Journal of Occupational and Organizational Psychology
- Subscribe Online
- Why Subscribe to our Journals
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- Author Resources
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- Reviews of Your Publications in Our Journals
- Advertising in Journals
- How to Propose a New Journal
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- Journals Feedback Form
- Contact the Journals Department
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Position Papers
Working Party Reports
Research Digest
Proceedings
Information for the Public
The Appointments Memorandum
Undergraduate Course Accreditation Documents

Notes for Contributors

The British Journal of Clinical Psychology publishes original contributions to sci knowledge in clinical psychology. This includes descriptive comparisons, as we the assessment, aetiology and treatment of people with a wide range of psycho problems in all age groups and settings. The level of analysis of studies ranges biological influences on individual behaviour through to studies of psychologica and treatments on individuals, dyads, families and groups, to investigations of t relationships between explicitly social and psychological levels of analysis.

The following types of paper are invited:

- Papers reporting original empirical investigations;
- Theoretical papers, provided that these are sufficiently related to the em
- Review articles which need not be exhaustive but which should give an of the state of the research in a given field and, where appropriate, ident implications;
- Brief reports and comments.

1. Circulation

The circulation of the Journal is worldwide. Papers are invited and enco authors throughout the world.

2. Length

Papers should normally be no more than 5,000 words, although the Edit discretion to publish papers beyond this length in cases where the clear expression of the scientific content requires greater length.

3. Reviewing

The journal operates a policy of anonymous peer review. Papers will no scrutinised and commented on by at least two independent expert refere addition to the Editor) although the Editor may process a paper at his or discretion. The referees will not be aware of the identity of the author. Al about authorship including personal acknowledgements and institutional should be confined to the title page (and the text should be free of such identifiable self-citations e.g. 'In our earlier work...').

4. Online submission process

1) All manuscripts must be submitted online at http://bjcp.edmgr.com .

First-time users: click the REGISTER button from the menu and details as instructed. On successful registration, an email will be you of your user name and password. Please keep this email for reference and proceed to LOGIN. (You do not need to re-registe changes e.g. author, reviewer or editor).
Registered users: click the LOGIN button from the menu and ent name and password for immediate access. Click 'Author Login'.

2) Follow the step-by-step instructions to submit your manuscript.

3) The submission must include the following as separate files:
   - Title page consisting of manuscript title, authors' full names and

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name and address for corresponding author - Editorial Mar
Page for Manuscript Submission
- Abstract
- Full manuscript omitting authors' names and affiliations. Figures can be attached separately if necessary.

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for Authors - Editorial Manager - Tutorial for Authors

Authors can log on at any time to check the status of the manuscript.

5. Manuscript requirements

- Contributions must be typed in double spacing with wide margins. All sh numbered.
- Tables should be typed in double spacing, each on a separate page wit explanatory title. Tables should be comprehensible without reference to should be placed at the end of the manuscript with their approximate loc indicated in the text.
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- For articles containing original scientific research, a structured abstract words should be included with the headings: Objectives, Design, Metho Conclusions. Review articles should use these headings: Purpose, Met Conclusions: British Journal of Clinical Psychology - Structured Abst Information
- For reference citations, please use APA style. Particular care should be ensure that references are accurate and complete. Give all journal titles
- SI units must be used for all measurements, rounded off to practical val appropriate, with the Imperial equivalent in parentheses.
- In normal circumstances, effect size should be incorporated.
- Authors are requested to avoid the use of sexist language.
- Authors are responsible for acquiring written permission to publish lengt illustrations etc for which they do not own copyright.

For Guidelines on editorial style, please consult the *APA Publication Manual* pu
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6. Brief reports and comments

These allow publication of research studies and theoretical, critical or re comments with an essential contribution to make. They should be limite words, including references. The abstract should not exceed 120 words structured under these headings: Objective, Method, Results, Conclusio should be no more than one table or figure, which should only be includ conveys information more efficiently than the text. Title, author and nam are not included in the word limit.

7. Publication ethics

Code of Conduct - Code of Conduct, Ethical Principles and Guidelin
Principles of Publishing - Principle of Publishing

8. Supplementary data

Supplementary data too extensive for publication may be deposited with Library Document Supply Centre. Such material includes numerical data programs, fuller details of case studies and experimental techniques. Th should be submitted to the Editor together with the article, for simultane refereeing.

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- Figures can be included at the end of the document or attached as sepa carefully labelled in initial capital/lower case lettering with symbols in a f with text use. Unnecessary background patterns, lines and shading sho avoided. Captions should be listed on a separate page. The resolution c images must be at least 300 dpi.
- For articles containing original scientific research, a structured abstract words should be included with the headings: Objectives, Design, Metho Conclusions. Review articles should use these headings: Purpose, Met Conclusions: British Journal of Clinical Psychology - Structured Abst Information
- For reference citations, please use APA style. Particular care should be ensure that references are accurate and complete. Give all journal titles
- SI units must be used for all measurements, rounded off to practical val appropriate, with the Imperial equivalent in parentheses.
- In normal circumstances, effect size should be incorporated.
- Authors are requested to avoid the use of sexist language.
- Authors are responsible for acquiring written permission to publish lengt illustrations etc for which they do not own copyright.

For Guidelines on editorial style, please consult the *APA Publication Manual* pu American Psychological Association, Washington DC, USA (http://www.apasty

6. Brief reports and comments

These allow publication of research studies and theoretical, critical or re comments with an essential contribution to make. They should be limite words, including references. The abstract should not exceed 120 words structured under these headings: Objective, Method, Results, Conclusio should be no more than one table or figure, which should only be includ conveys information more efficiently than the text. Title, author and nam are not included in the word limit.

7. Publication ethics

Code of Conduct - Code of Conduct, Ethical Principles and Guidelin
Principles of Publishing - Principle of Publishing

8. Supplementary data

Supplementary data too extensive for publication may be deposited with Library Document Supply Centre. Such material includes numerical data programs, fuller details of case studies and experimental techniques. Th should be submitted to the Editor together with the article, for simultane refereeing.

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11. Checklist of requirements

- Abstract (100-200 words)
- Title page (include title, authors' names, affiliations, full contact details)
- Full article text (double-spaced with numbered pages and anonymised)
- References (APA style). Authors are responsible for bibliographic accur check every reference in the manuscript and proofread again in the pag
- Tables, figures, captions placed at the end of the article or attached as s

Appendix B

Letter of approval for nominated journal of the Research Sub-Committee

THE UNIVERSITY OF SHEFFIELD
Clinical Psychology Unit
Department of Psychology

Doctor of Clinical Psychology (DClin Psy) Programmes (Pre-registration and post-qualification)
Clinical supervision training and NHS research training and consultancy

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Prof Nigel Beail

29 June 2005

Lillian Bilic
Third year trainee
Clinical Psychology Unit
University of Sheffield

Dear Lillian

I am writing to indicate our approval of the journal(s) you have nominated for publishing work contained in your research thesis.

Literature Review: British Journal of Clinical Psychology

Research Report: Option A

Please ensure that you bind this letter and copies of the relevant Instructions to Authors into an appendix in your thesis.

Yours sincerely

Andrew Thompson
Chair, Research Sub-Committee

Appendix C

Letter of approval from the Ethics Committee of the University of Sheffield

THE UNIVERSITY OF SHEFFIELD

Department of Psychology

Prof R I Nicolson (Head of Department)

Prof K J Connolly
Prof P Dean
Prof C Eiser
Prof J R Eiser
Prof J P Frisby
Prof J E W Mayhew
Prof M Siegal
Prof G Turpin
Prof T Wall
Prof P Warr

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Ms Lillian Louise Billé
Trainee Clinical Psychologist
Clinical Psychology Unit
Department of Psychology
University of Sheffield

13 April, 2005

Re: Ethics of Research Proposal "Life changes and posttraumatic growth in Croatian concentration camp survivors: Relationship to trauma severity, cognitive processes and PTSD"

Dear Ms Billé,

Thank you for your submission to the Department of Psychology Ethics Sub-Committee (DESC).

DESC has now had the opportunity to consider your proposal. The committee finds that your methodology and procedure meet the BPS (1995) guidelines concerning the conduct of research with human participants.

The ethics of your research are therefore approved.

Yours Sincerely,

Professor Paschal Sheeran
Chair, Department of Psychology Ethics Sub-Committee

Appendix D

Letter of approval for project participation of the Association of the Volunteers of the Homeland War.

ASSOCIATION OF CROATIAN VOLUNTEERS OF THE HOMELAND WAR

Re: letter of consent

I hereby confirm that the members of our association have all been informed about the work of miss Lillijan Bilić at The University of Sheffield, doctor of clinical psychology programme. The members are informed that there is no obligation to take part in the study and that it will be conducted anonymous.

Yours sincerely, mr. Vlado Petrić.

Predsjednik UHBDR
Vukovarsko-srijemske županije

Appendix E

Study Information Sheet

Information Sheet.

You are invited to fill in the following questionnaires. Before doing so it is important for you to understand why the research is carried out and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Take time to decide whether or not you wish to take part. It will take you approximately an hour to fill out all the questionnaires.

THANK YOU FOR READING THIS.

Who is conducting the study?

My name is Lillian Louise Bilić and I am a Trainee Clinical Psychologist at the University of Sheffield, Doctor of Clinical Psychology Programme.

What is the purpose of the questionnaires?

The purpose of the questionnaires is to explore the effects of being imprisoned during the war in Croatia and how this may have impacted on your life. There are NO right or wrong answers. By examining the association between trauma severity, the impact of social support, cognitive processes, levels of posttraumatic stress disorder, will help us in finding out whether people who has been in concentration camp may also experience "posttraumatic growth" as a result of their experiences. Moreover, the study will help us to identify what factors may be predictors of growth and hence aid clinicians in facilitating growth after severe traumatic events.

Do I have to take part?

There is NO obligation to take part for any reason. However, once you have completed the questionnaires and returned it to me, there will not be possible to return the forms, as they are completely anonymous.

What do I have to do?

All that is required is that you fill out the items in the following questionnaires following the instructions given to you. Return the questionnaires by sending them back in the pre-paid envelope.

What information will be collected?

The questionnaires contains a series of questions that ask you about your experiences in the concentration camp, your feelings and thoughts about these experiences and how these may have impacted on your life. Additionally, there is also a set of questions looking at whether you feel you have received adequate social support post event.*

Will all information be kept confidential?

The questionnaires are filled in anonymously (do not put your name on any of them) and are to be returned to me in the pre-paid envelope. The questionnaires will only be accessed by myself and accredited examiners only.

*** N.B. In answering the following questions you should not include any information that might identify yourself.**

What do I do if I wish to make a complaint?

There is NO obligation to take part for any reason. However, once you have completed the questionnaires and returned it to me, there will not be possible to return the forms, as they are completely anonymous.

What do I have to do?

All that is required is that you fill out the items in the following questionnaires following the instructions given to you. Return the questionnaires by sending them back in the pre-paid envelope.

What information will be collected?

The questionnaires contains a series of questions that ask you about your experiences in the concentration camp, your feelings and thoughts about these experiences and how these may have impacted on your life. Additionally, there is also a set of questions looking at whether you feel you have received adequate social support post event.*

Will all information be kept confidential?

The questionnaires are filled in anonymously (do not put your name on any of them) and are to be returned to me in the pre-paid envelope. The questionnaires will only be accessed by myself and accredited examiners only.

*** N.B. In answering the following questions you should not include any information that might identify yourself.**

What do I do if I wish to make a complaint?

If you have any complaint about the conduct or the content of the study then you should contact Mr. Vlado Petrić. Alternatively, you may also contact my supervisors, Professor of Clinical Psychology Gillian Hardy of the University of Sheffield by telephoning +44 114 222 6632 or by e-mail g.hardy@sheffield.ac.uk or Unit Director, Professor Graham Turpin, tel. +44 114 222 6632 or by e-mail g.turpin@sheffield.ac.uk

What if the material in the study leads me to feel upset or concerned?

It is suggested that if the material presented in the questionnaires leads to any upset or concern on your behalf or others, that you raise this in the first instance with Mr. Petrić, which will provide you with the appropriate support. Furthermore, please do also contact your General Practitioner should you feel this would be more appropriate or convenient to you.

Appendix F

Questionnaires

Changes in Outlook Questionnaire

1. I don't look forward to the future anymore. 1 2 3 4 5 6
2. My life has no meaning anymore. 1 2 3 4 5 6
3. I no longer feel able to cope with things. 1 2 3 4 5 6
4. I don't take life for granted anymore. 1 2 3 4 5 6
5. I value my relationships much more now. 1 2 3 4 5 6
6. I feel more experienced about life now. 1 2 3 4 5 6
7. I don't worry about death at all anymore. 1 2 3 4 5 6
8. I live everyday to the full now. 1 2 3 4 5 6
9. I fear death very much now. 1 2 3 4 5 6
10. I look upon each day as a bonus. 1 2 3 4 5 6
11. I feel as if something bad is just waiting around the corner to happen. 1 2 3 4 5 6
12. I am more understanding and tolerant person now. 1 2 3 4 5 6
13. I have greater faith in human nature now. 1 2 3 4 5 6
14. I no longer take people or things for granted. 1 2 3 4 5 6
15. I desperately wish I could turn the clock back before it happened. 1 2 3 4 5 6
16. I sometimes think it's not worth being a good person. 1 2 3 4 5 6
17. I have very little trust in other people now. 1 2 3 4 5 6
18. I feel very much as if I am in limbo. 1 2 3 4 5 6
19. I have very little trust in myself now. 1 2 3 4 5 6
20. I feel harder towards other people. 1 2 3 4 5 6

21. I am less tolerant of others now.	1	2	3	4	5	6
22. I am much less able to communicate with other people now.	1	2	3	4	5	6
23. I value other people more now.	1	2	3	4	5	6
24. I am more determined to succeed in life now.	1	2	3	4	5	6
25. Nothing makes me happy anymore.	1	2	3	4	5	6
26. I feel as if I'm dead from the neck downwards.	1	2	3	4	5	6
27. I feel harder towards other people now.	1	2	3	4	5	6

Post Traumatic Growth Inventory

Indicate for each of the statements on the scale below the degree to which you experienced changes in your life as a result of your experiences during the war.

0= I did not experience this change as a result of my crisis.

1= I experienced this change to a very small degree as a result of my crisis.

2= I experienced this change to a small degree as a result of my crisis.

3= I experienced this change to a moderate degree as a result of my crisis.

4= I experienced this change to a great degree as a result of my crisis.

5= I experienced this change to a very great degree as a result of my crisis.

1. I changed my priorities about what is important in life.
2. I have a greater appreciation for the value of my own life.
3. I developed new interests.
4. I have a greater feeling of self-reliance.
5. I have a better understanding of spiritual matters.
6. I more clearly see that I can count on people in times of trouble.
7. I established a new path for my life.
8. I have a greater sense of closeness with others.
9. I am more willing to express my emotions.
10. I know better that I can handle difficulties.
11. I am able to do better things with my life.
12. I am better able to accept the way things work out.
13. I can better appreciate each day.
14. New opportunities are available which wouldn't have been otherwise.
15. I have more compassion for others.

16. I put more effort into my relationships.

17. I am more likely to try to change things which need changing.

18. I have a stronger religious faith.

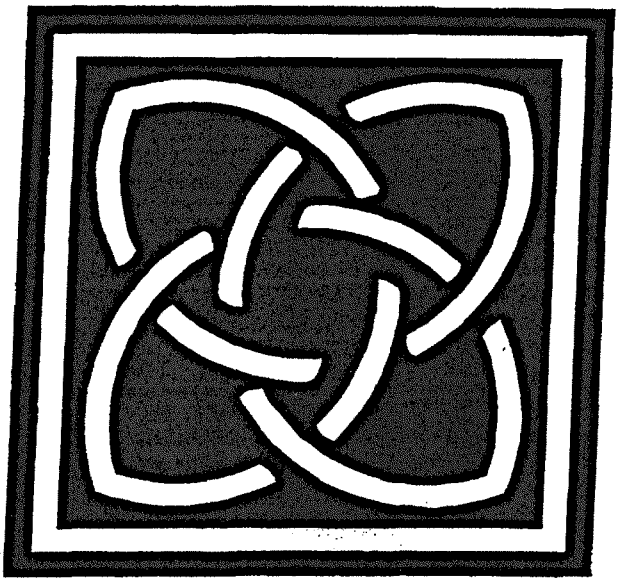
19. I discovered that I'm stronger than I thought I was.

20. I learned a great deal about how wonderful people are.

21. I better accept needing others.

HARVARDSKI UPITNIK ZA TRAUMU

HARVARD TRAUMA QUESTIONNAIRE



Verzija Namijenjena Hrvatskim Veteranima

Croatian Veterans Version

Ime i Prezime/ Šifra: _____ Datum: _____
Name/Code *Date:*

Datum Rođenja: _____ Spol: _____ Ime Liječnika: _____
Date of Birth *Sex* *Clinician:*

Preciznost Izvješćivanja: Visoka ☐ Srednja ☐ Niska ☐
Accuracy of Reporting *High* *Medium* *Low*

UPUTSTVA

Željeli bi Vas pitati o povijesti Vaše bolesti i sadašnjim smetnjama. Podaci će nam koristiti kako bi Vam mogli pružiti bolje liječenje. Međutim, neka pitanja Vas mogu uznemiriti. U tom slučaju na takva pitanja ne morate odgovoriti. Zasigurno to neće imati utjecaja na vaše daljnje liječenje. Svi odgovori na postavljena pitanja biti će strogo povjerljivi.

INSTRUCTIONS

We would like to ask you about your past history and present symptoms. This information will be used to help us provide you with better medical care. However, you may find some questions upsetting. If so, please feel free not to answer. This will certainly not affect your treatment. The answer to the questions will be kept confidential.

DIO I: TRAUMATSKI DOŽIVLJAJI

PART I: TRAUMA EVENTS

Molimo Vas da u prazna polja ispod odgovora DA ili NE, križićem ("x") označite jeste li doživjeli neke od slijedećih situacija:

Please indicate whether you have experienced any of the following events (check YES or NO):

		Da/ *Yes*	Ne/ *No*
1.	Nemogućnost skloniti se *Lack of shelter*		
2.	Nedostatak hrane ili vode *Lack of food or water*		
3.	Bolesno stanje bez adekvatne liječničke skrbi *Ill health without access to medical care*		
4.	Oduzimanje ili uništenje osobne imovine *Confiscation or destruction of personal property*		
5.	Nedostatak podrške od strane obitelji i prijatelja za tjelesne i/ili emocionalne probleme. *Unable to gain support from family and friends for physical and/or emotional problems*		
6.	Nedostatak podrške od strane lokalnih *Unable to gain support from local authorities for physical and/or emotional problems*		

		Da/ *Yes*	Ne/ *No*
7.	Pucanje na neprijatelja *Fired on the enemy*		
8.	Izloženost nadolazećoj vatri *Received incoming fire*		
9.	Sudjelovanje u borbama u kojima su stradali civili *Participated in combat missions resulting in civilian casualties*		
10.	Sudjelovanje u borbama u kojima je stradao neprijatelj *Participated in combat missions resulting in enemy casualties*		
11.	Sudjelovanje u borbama u kojima su stradali Vaši suborci *Participated in combat missions resulting in casualties in your own unit*		
12.	Sudjelovanje u "čišćenju terena" *Took part in "cleaning the terrain"*		
13.	Upadanje u minska polja *Ran into a minefield*		
14.	Sudjelovanje u čišćenju minskih polja *Cleared mines from the fields*		
15.	Pod snajperskom vatrom *Received sniper or sapper fire*		
16.	Upadanje u zasjedu *Ran into an ambush*		
17.	Sigurnost dovedena u pitanje zbog kvara opreme *Equipment failure that jeopardized safety*		
18.	Neprijateljski prepad i prisilno povlačenje *Overrun by the enemy and forced to flee*		
19.	Tijekom borbe obaveza prevoženja i pokapanja mrtvih *While on combat duty assigned the responsibility of transporting and burying the dead*		
20.	Udaranje po tijelu *Beating to the body*		
21.	Silovanje *Rape*		
22.	Zlostavljanje drugim oblicima seksualnog iskorištavanja ili ponižavanja *Other types of sexual abuse or sexual humiliation*		

		Da/ *Yes*	Ne/ *No*
23.	Mučenje (npr. tijekom zarobljeništva podvrgavani sustavnim tjelesnim ili psihičkim patnjama) *Torture (i.e., while in captivity you received deliberate and systematic infliction of physical or mental suffering)*		
24.	Ozbiljno ranjavanje u borbi ili nagazom na mine (npr. šrapnel, opekline, ranjavanje metkom, ubod, itd.) *Serious physical injury from combat or landmine (e.g., shrapnel, burns, bullet wound, stabbing, etc.)*		
25.	Zatočeništvo *Imprisonment*		
26.	Izolacija u samici *Solitary confinement*		
27.	Prisilni rad *Forced labor*		
28.	Pokraden ili opljačkan *Extortion or robbery*		
29.	Pranje mozga *Brainwashing*		
30.	Prisilno skrivanje *Forced to hide*		
31.	Otet *Kidnapped*		
32.	Prisilno odvajanje od obitelji na druge načine *Other forced separation from family*		
33.	Prisilno traženje i zakapanje mrtvih *Forced to find and desecrate bodies of the dead*		
34.	Prisilno ozlijeđivanje drugih *Forced to harm others*		
35.	Ubojstvo ili nasilna smrt bračnog druga *Murder or death due to violence of spouse*		
36.	Ubojstvo ili nasilna smrt sina ili kćeri *Murder or death, due to violence, of son or daughter*		
37.	Ubojstvo ili nasilna smrt drugih članova obitelji ili prijatelja *Murder or death, due to violence, of other family member or friend*		
38.	Ranjavanje člana obitelji *Injury of family member*		
39.	Smrt suborca tijekom borbe *Death, due to combat, of member of your unit*		

		Da/ *Yes*	Ne/ *No*
40.	Ranjavanje suborca tijekom borbe *Injury, due to combat, of member of your unit*		
41.	Svjedočenje udaranja drugih po glavi ili tijelu *Witness beatings to head or body*		
42.	Svjedočenje mučenju *Witness torture*		
43.	Svjedočenje ubijanju/umorstvu *Witness killing or murder*		
44.	Svjedočenje silovanju ili drugoj seksualnoj zlorabi *Witness rape or sexual abuse*		
45.	Vidjeti izgorjela ili izobličena tijela *Witness burned or disfigured bodies*		
46.	Nakon povratka s ratišta osjećaj neuvažavanja od obitelji i prijatelja *Upon return from war zone felt unappreciated by family or friends*		
47.	Nakon povratka s ratišta osjećaj zanemarenosti od lokalne vlasti *Upon return from war zone felt neglected by the local authorities*		
48.	Bilo koja druga situacija koja je bila zastrašujuća ili u kojoj ste imali osjećaj da je Vaš život ugrožen. Opišite: *Any other situation that was very frightening or in which you felt your life was in danger. Specify:*		

DIO III: POVREDA MOZGA

PART III: BRAIN INJURY

Ukoliko odgovorite s DA za niže navedena traumatska iskustva, molimo naznačite jeste li izgubili svijest, i koliko ste dugo bili bez svijesti.
If you answer "yes" to the following trauma events, please indicate if you lost consciousness and for how long.

		Proživio? *Experienced?*		Gubitak svijesti? *Loss of consciousness?*		Ukoliko DA koliko dugo? *If yes, for how long?*	
		Da *Yes*	Ne *No*	Da *Yes*	Ne *No*	Sati *Hours*	Minute *Minutes*
1.	Udaranje po glavi *Beatings to the head*						
2.	Gušenje ili davljenje *Suffocation or strangulation*						
3.	Utapanje *Near drowning*						
4.	Ozlijeda glave uslijed eksplozije u neposrednoj blizini *Injury to the head from nearby explosion*						
5.	Druge vrste ozljede glave (npr. šrapnel, rana metkom, ubodom, opekline, i dr.) *Other types of injury to the head (e.g., shrapnel, bullet wound, stabbing, burns, etc.)*						
6.	Izgladnjivanje *Starvation*						

(6a.) Ukoliko Da: Navesti normalnu težinu: _____
Težina nakon izgladnjivanja: _____
If Yes: *Normal weight:* _____
Starvation weight: _____

(6b.) Ukoliko Da: Jeste li bili blizu smrti radi izgladnjivanja? Da ____ Ne ____
If Yes: *Were you near death due to starvation?* *Yes:* ____ *No:* ____

DIO IV: SIMPTOMI TRAUME

PART IV: TRAUMA SYMPTOMS

Navedene su smetnje koje osobe ponekad imaju nakon bolnih i strašnih događaja u njihovom životu. Molimo svako pitanje pažljivo pročitajte i procijenite koliko su Vam ti simptomi smetali u zadnjih tjedan dana.
The following are symptoms that people sometimes have after experiencing hurtful or terrifying events in their lives. Please read each one carefully and decide how much the symptoms bothered you in the past week.

		(1) Nimalo *Not at all*	(2) Malo *A little*	(3) Dosta *Quite a bit*	(4) Jako *Extremely*
1.	Vraćaju mi se misli na najteža iskustva *Recurrent thoughts or memories of the most hurtful or terrifying events*				
2.	Osjećam kao da se to iskustvo ponovno dogodilo *Feeling as though the event is happening again*				
3.	Imam noćne more *Recurrent nightmares*				
4.	Osjećam se odvojen i povlačim se od drugih ljudi *Feeling detached or withdrawn from people*				
5.	Čini mi se da nemam više sposobnost osjećanja *Unable to feel emotions*				
6.	Osjećam se uznemireno *Feeling jumpy, easily startled*				
7.	Teško se koncentriram *Difficulty concentrating*				
8.	Imam nemiran san *Trouble sleeping*				
9.	Osjećam kao da sam stalno na straži *Feeling on guard*				
10.	Radražljiv sam i lako se razbjesnim *Feeling irritable or having outbursts of anger*				

		(1) Nimalo *Not at all*	(2) Malo *A little*	(3) Dosta *Quite a bit*	(4) Jako *Extremely*
11.	Izbjegavam aktivnosti koje me podsjećaju na traumatski ili bolni doživljaj *Avoiding activities that remind you of the traumatic or hurtful event*				
12.	Nemogu se sjetiti dijelova najbolnijeg traumatskig doživljaja *Inability to remember parts of the most hurtful or traumatic events*				
13.	Sve me manje zanimaju svakidašnje aktivnosti *Less interest in daily activities*				
14.	Osjećam se kao da nemam budućnosti *Feeling as if you don't have a future*				
15.	Izbjegavam razmišljanja ili osjećaj u svezi s traumatskim ili bolnim događajima *Avoiding thoughts or feelings associated with the traumatic or hurtful events*				
16.	Iznenada se uznemirim ili fizički reagiram kada se podsjetim na najbolnije ili traumatske doživljaje *Sudden emotional or physical reaction when reminded of the most hurtful or traumatic events*				
17.	Osjećam da imam manje vještina nego ranije *Feeling that you have less skills than you had before*				
18.	Ne snalazim se u novim situacijama *Having difficulty dealing with new situations*				
19.	Osjećam se iscrpljeno *Feeling exhausted*				
20.	Tjelesna bol *Bodily pain*				

		(1) Nimalo *Not at all*	(2) Malo *A little*	(3) Dosta *Quite a bit*	(4) Jako *Extremely*
21.	Uznemirenost radi fizičkih problema *Troubled by physical problem(s)*				
22.	Loše pamtim *Poor memory*				
23.	Drugi mi pričaju da sam učinio nešto čega se ne mogu sjetiti *Finding out or being told by other people that you have done something that you cannot remember*				
24.	Poteškoće s obraćanjem pažnje na nešto *Difficulty paying attention*				
25.	Osjećam kao da su u meni podvojene dvije osobe i jedna osoba gleda što druga radi *Feeling as if you are split into two people and one of you is watching what the other is doing*				
26.	Teško organiziram dan *Feeling unable to make daily plans*				
27.	Optužujem sebe za sve što se dogodilo *Blaming yourself for things that have happened*				
28.	Osjećam se krivim što sam preživio *Feeling guilty for having survived*				
29.	Bez nade *Without hope*				
30.	Osjećam sram zbog bolnih ili traumatskih događaja koji su mi se dogodili *Feeling ashamed of the hurtful or traumatic events that have happened to you*				
31.	Osjećam da ljudi ne razumiju što mi se dogodilo *Feeling that people do not understand what happened to you*				

		(1) Nimalo *Not at all*	(2) Malo *A little*	(3) Dosta *Quite a bit*	(4) Jako *Extremely*
32.	Osjećam da su drugi neprijateljski raspoloženi prema meni *Feeling others are hostile to you*				
33.	Osjećam da se ni na koga ne mogu osloniti *Feeling that you have no one to rely upon*				
34.	Osjećam da me je iznevjerila osoba u koju sam imao povjerenja *Feeling someone you trusted betrayed you*				
35.	Osjećam se poniženim *Feeling humiliated by your experience*				
36.	Nemam povjerenja u druge *Feeling no trust in others*				
37.	Nisam sposoban pomoći drugima *Feeling powerless to help others*				
38.	Stalno razmišljam zašto se sve to baš meni dogodilo *Spending time thinking why these events happened to you*				
39.	Imam osjećaj da sam jedina osoba koja je pretrpjela takvo iskustvo *Feeling that you are the only one that suffered these events*				
40.	Imam potrebu za osvetom *Feeling a need for revenge*				

Dodatak - Mučenja kojima su ispitanici bili podvrgnuti
Appendix — Torture History

	Dogadjaj/*Event*	Da/*Yes*	Ne/*No*
1.	Premlaćivanje, udaranje predmetima *Beating, kicking, striking with objects*		
2.	Prijetnje, ponižavanja *Threats, humiliation*		
3.	Vezanje lancima ili vezanje za druge *Being chained or tied to others*		
4.	Izloženost vrućini, suncu, jakom svjetlu *Exposed to heat, sun, strong light*		
5.	Izloženost kiši, smrzavanju, hladnoći *Exposed to rain, body immersion, cold*		
6.	Zatvaranje u vreće, kutije, kontejnere, male prostorije *Placed in a sack, box, or very small space*		
7.	Potapanje glave u vodu, utapljanje *Drowning, submersion of head in water*		
8.	Vješanje, gušenje ili davljenje *Strangled, choked, suffocated*		
9.	Iscrpljivanje, težak fizički rad *Overexertion, hard labor*		

10.	Izloženost nehigijenskim uvjetima koji mogu dovesti do infekcija ili drugih bolesti *Exposed to unhygienic conditions conducive to infections or other diseases*		
11.	Osljepljivanje *Blindfolding*		
12.	Izolacija, samice (ako da, koliko mjeseci?____) *Isolation, solitary confinement (if yes, how many months?____)*		
13.	Lažno smaknuće *Mock execution*		
14.	Prisiljenost da se bude svjedokom mučenja *Made to witness others being tortured*		
15.	Izgladnjivanje *Starvation*		
16.	Nemogućnost (zabrana) spavanja *Sleep deprivation*		
17.	Vješanje na šipku za ruke ili noge *Suspension from a rod by hands and feet*		
18.	Silovanje, osakaćivanje genitalija *Rape, mutilation of genitalia*		
19.	Namjerno nanošenje opekotina (npr. cigaretama) *Burning (e.g. from cigarettes)*		

Cognitive Processing of Trauma Scale (C-POTS)

Please rate the extent to which you agree with each of the following statements, using the following rating scale.

-3 strongly disagree
-2 moderately disagree
-1 slightly disagree
0 neither mainly agree nor disagree
1 slightly agree
2 moderately agree
3 strongly agree

1. There is ultimately more good than bad in this experience.
2. I have figured out how to cope.
3. I say to myself "this isn't real."
4. I have moved on and left this event in the past.
5. Overall, this event feels resolved for me.
6. I have cometo terms with this experience.
7. I often think, "if only I had done something different".
8. I blame myself for what happened.
9. I refuse to believe that this really happened to me.
10. I wish I could have handled this differently.
11. Other people have had worse experiences than mine.
12. I act as if this event never really happened.
13. Even though my experience was difficult, I can think of ways that it could have been worse.
14. My situation is not so bad compared to other peoples' situations.
15. I am able to find positive aspects of this experience.
16. I have been able to find a "silver lining" in this event.
17. I pretend this didn't really happen.

Crisis Support Scale

We would like to ask you a few questions about your family and friends, the people you have turned to for help, advice, support since your experience of being in concentration camp. Each question asks about the support you received just after the concentration camp experience. That is three months following being released. Each question has seven answer choices ranging from *Never* to *Always.*

Never	Very Seldom	Seldom	Sometimes	Often	Very Often	Always
1	2	3	4	5	6	7

Now thinking about those people you have turned to for help, advice and support.....

	Never						Always
1) Whenever you wanted to talk how often was there someone willing to listen, just after your release from the concentration camp?	1	2	3	4	5	6	7
2)Did you have any personal contact with other survivors or people with similar experiences just after your release from the concentration camp?	1	2	3	4	5	6	7
3)Were you able to talk about your thoughts and your feelings just after the release from the concentration camp?	1	2	3	4	5	6	7
4) Were people sympathetic and supportive just after the release from the concentration camp?	1	2	3	4	5	6	7
5) Were people helpful in a practical sort of way just after you were released from the concentration camp?	1	2	3	4	5	6	7
6) Did people you expected to be supportive make you feel worse at any time just after your release from the concentration camp?	1	2	3	4	5	6	7

Promjene pogleda na život. – Upitnik

Pročitaj svaku točku o tome kako ti se promjenio pogled na život od ratnog iskustva svakoj dodjeli odgovarajuću vrijednost prema navedenoj tablizi označavajući stupanj prihvačanja.

1 – potpuno se ne slažem
2 – ne slažem se
3 – malo se ne slažem
4 – malo se slažem
5 – slažem se
6 – potpuno se slažem

1. Ne nadam se i ne očekujem ništa od budućnosti _____
2. Moj život više nema značaja _____
3. Više se ne osjećam kao da mogu podnositi sve to _____
4. Za mene život više nije predpostavljen _____
5. Sada cijenim više svoje odnose sa drugima _____
6. Osjećam da sam iskusniji po pitanju života nego drugi _____
7. Smrt me više ni najmanje ne uzbuđuje _____
8. Svaki dan živim maksimalno _____
9. Sada se vrlo bojim smrti _____
10. Svaki dan mi je sada veliki plus u mom životu _____
11. Osjećam da će mi se uskoro desiti nešto jako loše _____
12. Sada imam više razumjevanja i strpljenja _____
13. Sada više vjerujem ljudskoj naravi nego prije _____
14. Sada ozbiljnije shvačam ljude _____
15. Očajno želim da bih mogao vratiti sat unazad do prije rata _____
16. Nekada mislim da ne vrijedi biti dobra osoba _____
17. Jako malo vjerujem drugima sada _____
18. Imam osjećaj kao da nigdje ne idem sa svojim životom _____
19. Vrlo malo vjerujem sam sebi sada _____
20. Čvršći sam prema drugim osobama _____
21. Teže podnosim druge ljude sada _____
22. Sada sam daleko manje sposoban da komuniciram sa drugima _____
23. Sada više cijenim druge _____
24. Odlučniji sam da uspijem u životu _____
25. Više me ništa ne usrečuje _____
26. Osjećam da sam mrtav od vrata na niže _____

Analiza post traumatskog rasta

Svakoj točci dodjeli odgovarajući rejting od 0 do 5, prema ponuđenoj skali, označavajući stupanj životne promjene koje si doživio kao resultat ratnih iskustava.

0=Nisam osjetio ovu životnu promjenu
1=Vrlo mali stupanj promjene
2=Manji stupanj promjene
3=Prilično je utjecalo na moj život
4=Jako je utjecalo na moj život
5=Potpuno je utjecalo na moj život

1. Promjenio sam prioritete u svezi stvari koje su inače važne u životu. _____
2. Visoko cijenim važnost vlastitog života _____
3. Razvio sam nove interese _____
4. Imam jaći osječaj vlastitog pouzdanja _____
5. Jaće mi je razvijeni vjerski osječaji i uvjerenja _____
6. Jasnije mi je da se mogu osloniti na prijatelje u trenucima potrebe _____
7. Postavio sam novi životni put _____
8. Osjećam veću blizinu ili povezanost sa drugim ljudima _____
9. Spremniji sam da iskažem svoje osječaje _____
10. Znam bolje da mogu podnijeti probleme _____
11. U stanju sam da radim bolje stvari u životu _____
12. Lakše prihvačam kako se stvari razvijaju _____
13. Bolje cijenim svaki novi dan _____
14. Nove mogučnosti su sada dostupne koje inače nebi bile _____
15. Imam veće razumjevanje i osječaje za druge _____
16. Više energije ulažem u međuodnose sa bližnima _____
17. Više sam sklon da izmjenim stvari koje treba mjenjati _____
18. Više mi je izražena vjera u crkvu i boga _____
19. Jači sam nego što sam bio _____
20. Shvatio sam kako su ljudi divni _____
21. Bolje i lakše prihvačam potrebu za drugim ljudima _____

Srodna obrada ljestvice traume

Označi stupanj slaganja ili neslaganja sa slijedećim točkama, koristeći navedene vrijednosti.

-3 - potpuno se ne slažem
-2 - u glavnom se ne slažem
-1 - malo se ne slažem
0 - neznam dali se slažem ili neslažem
1 - malo se slažem
2 - u glavnom se slažem
3 - potpuno se slažem

1. Uglavnom ima više dobrog nego lošeg u mojim ratnim iskustvima ___
2. Shvatio sam kako da se nosim sa situacijom ___
3. Sebi ponavljam „OVO NIJE STVARNO" ___
4. Otišao sam dalje a ova iskustva ostavio u prošlosti ___
5. Sve u svemu ovaj događaj je za mene riješen ___
6. Suočio sam se sa ovim iskustvom i shvatio ga ___
7. Često mislim „da sam bar radio nešto drugo" ___
8. Krivim sam sebe za ono što se desilo ___
9. Ne želim prihvatiti da se ovo stvarno desilo meni ___
10. Volio bih da sam sve to mogao drugačije učiniti ___
11. Drugi su imali i gora iskustva od mene ___
12. Ponašam se kao da se ništa nije ni desilo ___
13. Iako sam imao teška iskustva, moglo je biti i gore ___
14. Moja situacija i nije tako strašna naspram drugih ___
15. Uspijevam pronači i pozitivnu stranu tog iskustva ___
16. Uspijevam pronači svijetle točke ovog iskustva ___
17. Pretvaram se da se sve to nije ni dogodilo ___

Skala potpore krizi.

Htjeli bi Vam postaviti nekoliko pitanja u svezi Vaše obitelji i Vaših prijatelja, ljudi kojima ste se obratili za pomoć i savjet nakon Vašeg povratka iz logora.Svako pitanje pita o podršci koju ste dobili odmah nakon iskustava u logoru, odnosno 3 mjeseca nakon izlaska. Svako pitanje ima 7 mogučnosti u rasponu od NIKADA do UVIJEK.

1 Nikada
2 Vrlo rijetko
3 Rijetko
4 Ponekad
5 Često
6 Vrlo često
7 Uvijek

Mislite na ljude koji ma ste se okrenuli za pomoć...

1. Kad ste htjeli razgovarati koliko često je bio netko spreman da Vas posluša nakon Vašeg izlaska iz logora?	1 2 3 4 5 6 7
2. Dali ste imali osobnog kontakta sa drugim zarobljenicima koji su imali slična iskustva kao Vi, nakon izlaska?	1 2 3 4 5 6 7
3. Dali ste mogli pričati o Vašim razmišljanjima nakon izlaska iz logora?	1 2 3 4 5 6 7
4. Dali su ljudi općenito bili susretljivi i nudili Vam podršku nakon izlaska?	1 2 3 4 5 6 7
5. Dali su ljudi bili od praktične pomoći nakon Vašeg izlaska?	1 2 3 4 5 6 7
6. Dali su Vas razočarali oni od kojih ste očekivali podršku i razumjevanje?	1 2 3 4 5 6 7

Appendix G

Data analysis and additional information

Descriptive Statistics

	N	Minimum	Maximum	Total Score	Mean
Trauma Events Total Score	142	19.00	40.00	48	27.6761
Torture History Total Score	148	5.00	18.00	19	8.7162
PTG Total Scores	130	7.00	76.00	105	29.1154
Crisis Total	147	12.00	30.00	105	20.1973
Negative Change in Outlook Total Score	130	6.00	87.00	15-90	57.2154
Positive Changes in Outlook Total Score	130	3.00	45.00	11-66	31.7769

Appendix - Torture History

		YES	NO
1.	Beating, kicking, striking with objects	147	1
2.	Threats, humiliation	148	-
3.	Being changes or tied to others	40	107
4.	Exposed to heat, sun, strong light	141	6
5.	Exposed to rain, body immersion, cold	144	4
6.	Placed in a sack, box, or very small space	12	135
7.	Drowning, submersion of head in water	5	142
8.	Strangled, choked, or suffocated	23	124
9.	Over-exertion, hard labour	18	129
10.	Exposed to unhygienic conditions conducive to infections or other diseases	148	-
11.	Blindfolding	148	-
12.	Isolation, solitary confinement (if yes, how many months?_____)	12	136
13.	Mock execution	26	122
14.	Made to witness others being tortured	139	9
15.	Starvation	105	43
16.	Sleep deprivation	148	-
17.	Suspension from a rod by hands and feet	2	146
18.	Rape, mutilation of genitalia	1	147
19.	Burning (e.g. from cigarettes)	19	129
			-

Total N= 148

Table 4. Intercorrelations among measures.

	TH	PTSD	PTG	PC	NC	SS	DC	R	D	RA	PR
Trauma exposure (TE)	.375**	.197*	-.232*	-.264**	0.86	-.276**	-.236**	.039	-.008	-..056	.-.156
Torture history (TH)		0.158	-.182*	-.099	.049	-.411**	-.046	-.059	-.143	.078	-.345**
Posttraumatic stress disorder (PTSD)			0.63	-.0.97	.293**	.005	.335**	.222*	-.143	.078	-.345**
Posttraumatic growth (PTG)				.366**	-.236**	.175*	-.100	-.143	.008	-.030	.467**
Positive Changes (PC)					-.278**	.071	.133	.222*	.188*	.417**	.256**
Negative changes						-.142	.-464**	.230**	.044	-342**	-.127
Social support (SS)							.193*	-.059	.212*	-.045	.145
Downward comparison (DC)											
Regret (R)											

Denial (D)

Resolution/Acc

eptance (RA)

Positive

restruct. (PR)

*p<.05.

**p< .01.

Note n= 147