

## Meaning as a mission



# MEANING AS A MISSION

*Making sense after war and peacekeeping*

Betekenis als missie:  
Zingeving na oorlogs- en vredesoperaties  
(met een samenvatting in het Nederlands)

Proefschrift

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Michaela Louise Schok  
geboren op 10 augustus 1968,  
te Saanen, Zwitserland

Promotor: Prof. dr. R.J. Kleber

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*We leven tussen wonderen,  
alleen hebben we het nooit begrepen*

A. den Doolaard (1968)

Voor Pim en Bryan

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Uitgeverij Eburon

Postbus 2867

2601 CW Delft

Tel.: 015 – 213 14 84 / Fax: 015 – 214 68 88

[info@eburon.nl](mailto:info@eburon.nl) / [www.eburon.nl](http://www.eburon.nl)

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# Preface

Most veterans adapt remarkably well after returning home from their military mission. There is much to be learned from these experts. However, most research on psychological adaptation after military deployment focuses on psychopathology (e.g. PTSD). Of course these mental health problems need to be prevented or treated because of their negative impact on healthy functioning and well being. But during my research mission to the veterans I saw and spoke with, I noticed that these men had fascinating stories to tell. Many veterans spoke with pride about their tour of duty and they had special memories about that time in their lives. Facing a world beyond imagination during their military service made them the person who they are today, strengthened and more resourceful. Dealing with dangerous situations and being challenged by difficult circumstances together with comrades made them aware of their own potential and gave them wisdom about life. Learning about new cultures and providing protection and humanitarian aid to local people broadened their horizon and gave them a sense of fulfilment they otherwise would not have had. These extraordinary experiences also brought them a story to tell after returning home.

Michaela Schok  
July 2009



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# 1

## General Introduction



*“One of the most impressive qualities of the human psyche is its ability to withstand severe personal tragedy successfully.”*

(Taylor, 1983)

War and peacekeeping leave an indelible memory in the minds of veterans, especially when soldiers have faced life threatening events or lost a comrade in combat. These personal tragedies are devastating and set in motion a search for meaning about why they happened and what makes life valuable. Each veteran must find his own answers to these existential questions to regain a sense of control over the emotional impact of his experiences (Kleber, Brom & Defares, 1997). Some veterans find it problematic to make sense of the harsh reality they faced in the war zone and lose their faith in a just world. Nightmares and intrusive thoughts, reminding them of what happened during their mission abroad, haunt them and may ultimately result in posttraumatic disorder (PTSD; APA, 1994). Fortunately, most veterans are able to make sense of their war and peacekeeping experiences. Recent research supports this notion by demonstrating that only a minority of soldiers deployed to Iraq developed actual PTSD (Engelhard, Van den Hout, Weerts, Arntz, Hox & McNally, 2007). Although not all soldiers face life threatening events during a mission, an empirically relevant question that still remains unanswered is how the majority of these soldiers make sense of their war experiences without developing persistent posttraumatic stress reactions.

The answer can be found in discovering more about the positive consequences of war and peacekeeping for the individual veteran. As suggested by Joseph and Linley (2005), positive adjustment to threatening events should account for both positive and negative aspects of the human experience. In the aftermath of potential trauma, positive psychological changes have been reported (Affleck & Tennen, 1996; Calhoun & Tedeschi, 2001; Collins, Taylor & Skokan, 1990; Helgeson, Reynolds & Tomich, 2006; Joseph & Linley, 2006; Zoellner & Maercker, 2006). However, the relationship of positive psychological changes with adaptation to trauma remains a matter of debate (Butler, 2007; Hobfoll, Hall, Canetti-Nisim, Galea, Johnson & Palmieri, 2007; Pat-Horenczyk & Brom, 2007; Stasko & Ickovics, 2007). The concept of meaning offers a most interesting perspective to study both positive and negative consequences of war and peacekeeping experiences. It emphasizes the subjective perspective of the individual and provides a broader perspective on positive psychological adaptation of military deployment. Although general theories on stress and trauma assume that assigning meaning plays a crucial role in mental adaptation after stressful and threatening events (Frankl, 1984; Horowitz, 1997), the concept has been given scarce attention in research on stress and trauma compared to symptoms of PTSD. More insight in adaptive mechanisms will be gained by exploring the significance of positive and negative meaning in the process of cognitive adaptation to war zone experiences.

Assigning meaning to war and peacekeeping experiences is an important part of treatment in war-related posttraumatic stress disorder in active duty servicemen and veterans, and is based on techniques to integrate events, cognitions and feelings (Meijer, 2002; see also Kleber, Mittendorff & van der Hart, 1997). As a predominantly negative meaning of military deployment may sustain posttraumatic stress symptoms, construing positive meaning may enhance self-esteem and a sense of mastery. Appraisals of war and peacekeeping after deployment may well determine the success of processing these experiences. Moreover, meaning can function as a signal for poor adaptation if a positive meaning of military deployment has proven to be adaptive. Veterans with a negative perception of deployment experiences may well be at risk of developing posttraumatic stress symptoms or related health problems. Detecting a negative perception in its early stage may prevent symptoms from becoming chronic. Listening to the interpretations and appraisals that veterans assign to their military experiences may be effective in preventing posttraumatic stress symptomatology.

The central aim of this thesis is to explore the significance of meaning in the process of cognitive adaptation after military deployment among veterans who were deployed during various war and peacekeeping operations. This chapter will provide information on the theoretical background of this study and conclude with the objectives that guided this thesis.

## **1.1 War and peacekeeping**

The Netherlands has participated in more than fifty international military operations since 1945, deploying approximately 275.000 military personnel (Klep & Gils, 2005; Weerts, 2008). After the Second World War, soldiers were deployed to the (Dutch)-Indonesian Decolonisation War (1945-1949), the Korean War (1950-1953), and the Dutch-Indonesian conflict on Irian Jaya (New-Guinea, 1950-1962). They participated in so-called traditional military operations in which enemies were more clearly defined and military men fought at the frontlines. Back then soldiers were, in large numbers, part of a national army.

Since the late 1970s soldiers were deployed during military operations sanctioned by the United Nations (UN) aimed at preventing war and establishing world peace. Since the 1990s, many Dutch soldiers participated in military operations ranging from providing humanitarian aid, observing, and peacekeeping, to peace-enforcing and combat. These missions concentrated mainly on conflicts in the Middle East (UNIFIL), former Yugoslavia (UNPROFOR, IFOR/SFOR, KFOR), Iraq (SFIR) and Afghanistan (ISAF). (For an extensive overview of Dutch military operations, see the website of the Netherlands Institute for

Military History [www.nimh.nl](http://www.nimh.nl).) During these international military operations, soldiers were at risk of being exposed to actual or threatened death or serious injury, or a threat to the physical integrity of themselves and others (A-criterion of PTSD: APA, 1994). This can result in serious physical and mental problems in the aftermath of deployment.

Since 1991, about 114.000 veterans have registered at the Veterans Institute in need of special services and benefits related to social recognition and health care (Veterans Institute, 2008a). Most of these registered veterans have served during traditional war operations. However, in the near future the number of UN peacekeeping veterans will increase and veterans of peacekeeping missions will outnumber veterans of combat. Moreover, the more recently registered veterans are often been deployed multiple times. Veterans who are registered are mostly male and range in age from 21 to 96 years indicating a very heterogeneous population in different phases of the life course. Over the last years, the strongest growth in percentages has been from veterans serving in Iraq and Afghanistan (Veterans Institute, 2008). For veterans in need of specialised care, the National Health Care system for Veterans is founded, a cooperation of civil and military organisations that provides health care interventions based on the principles of stepped care (Gersons, 2005).

The psychological consequences of military deployment experiences among Dutch veterans are mainly investigated from a psychopathological perspective (Bramsen, Klaarenbeek & Van der Ploeg, 1995; Bramsen, Dirkzwager & Van der Ploeg, 1997; Bramsen, Dirkzwager & Van der Ploeg, 2000; Dirkzwager, 2002; Jongedijk, Carlier, Schreuder & Gersons, 1996; Van Esch, Bramsen & Van der Ploeg, 2001). A minority of Dutch former military personnel develop actual posttraumatic stress disorder after being deployed (2-17%: Bramsen, et al., 1997; Dirkzwager, 2002; Engelhard et al., 2007; Mouthaan, Dirkzwager, Vries, Elands, Scagliola & Weerts, 2005; Mulder & Reijneveld, 1999; Schok, Mouthaan & Weerts, 2003; Van Esch, et al., 1998), sometimes with a delayed onset. The highest rates were found for registered veterans serving in Libanon (17%: Mouthaan et al., 2005). The most frequent reported symptom of PTSD is hyperarousal, especially among veterans who were deployed in former Yugoslavia and Libanon (Dirkzwager, 2002). Comorbid disorders of PTSD are often depression, anxiety disorder and substance abuse, and veterans need about 10 years on average before seeking treatment (Kloet, Vermetten & Unck, 2002). The strongest predictors of PTSD in military samples are young age at trauma, lack of education, childhood adversity, trauma severity and lack of social support (Brewin, Andrews & Valentine, 2000). In addition, health complaints have also been reported, with common features like forgetfulness, difficulty

concentrating and fatigue, in Dutch veterans who were deployed to Cambodia (17%: Vries, 2002).

Currently there is much debate on the concept of posttraumatic stress disorder. Rosen and Lilienfeld (2007) evaluated the core assumptions underlying PTSD and came to the conclusion that they lack compelling or consistent empirical support. Research on the causal relation between criterion A and subsequent signs and symptoms are inconsistent. Moreover, the unclarity in de concept of PTSD may mistake soldier's natural process of psychological adjustment after deployment for dysfunction. Postdeployment distress should be seen as part of a normal adaption process (McNally, 2003; Spitzer, First & Wakefield, 2007). Therefore, normal psychological processing after potentially traumatic events should be studied more extensively to prevent misdiagnosis and to make sure that soldiers in need of treatment receive the treatment they need.

It may be argued that soldiers serving in peacekeeping missions do not experience as many life threatening events as veterans from earlier wars have (Klep & Gils, 2005). However, according to Britt (1998) the lack of control soldiers feel during peacekeeping operations may constitute one of their greatest sources of stress. For example, one of the most difficult issues for soldiers during certain types of peacekeeping operations is to have to stand by and witness horrific acts committed against members of a local population without being able to intervene (Weisaeth, 2003). They must also put up with being taunted and humiliated without being able to respond (Litz, Orsillo, Friedman, Ehlich & Batres, 1997; Weisaeth, 2003). Rules of engagement that are overly restrictive can make the soldier feel "out of control" and restrain the soldier's natural tendency toward action and aggression (Britt, 1998). Although the peacekeeping soldier is less often in mortal danger, he may be exposed to numerous and sometimes constant humiliations and occasional sudden attacks. Moreover, he has to control his fight-or-flight impulses and suppress his basic behavioural responses (Mehlum, 1995). Although stressors may differ among veterans deployed during war or peacekeeping operations, their perceptions of threat may not.

The significance of the subjective perception of threat is often a more influential predictor of distress than more objective indicators (Brewin & Holmes, 2003). It is also assumed that traumatic experiences represent a threat to existing meaning structures of reality (Dalglish, 2004; Horowitz, 1997; Janoff-Bulman, 1992). Consistent with this idea are findings showing that negative appraisals are associated with the development of posttraumatic stress pathology (Ali, Dunmore, Clark & Ehlers, 2002; Bryant & Guthrie, 2005; Ehlers & Clark, 2000; Engelhard & Kindt, 2005; O'Donnell, Elliott, Wolfgang & Creamer,

2007). These findings stress the importance of cognitions in the aftermath of processing threatening events, addressed in the next paragraph.

## 1.2 Cognitive perspectives

The fundamental ideas that guided and inspired this study are provided by three influential theories on cognitive adaptation after threatening events. The main reason for using these cognitive perspectives is that they emphasize the need for cognitive reappraisal processes after threatening experiences. Recent psychological theories on PTSD are far more complex and address issues related to emotions and memory in processing trauma. A cognitive perspective was chosen to increase clarity on the conceptualization and operationalization of meaning-making.

The first important cognitive perspective is Horowitz's stress response theory that introduced the drive for completion (Horowitz, 2001). He assumes that a traumatic event presents information that is incongruent with existing schemas of reality. This incongruence gives rise to a stress response that requires reappraisal and revision of the schema. The completion tendency reflects the psychological need to resolve incongruence by oscillating between phases of intrusions and denial to gradually assimilate or accommodate the new information until an emotional equilibrium is reached. From that perspective, intrusions and denial are adaptive mechanisms that reflect attempts to make sense of the traumatic event (see also Creamer, 1995). On the one hand, intrusive thoughts promote the working through of the traumatic information by making it conscious. On the other hand, the mechanism of denial offers some protection against overwhelming emotions by the suppression of traumatic information.

Complementary to this theory is Janoff-Bulman's theory of assumptive worlds (Janoff-Bulman, 1992). She proposed that traumatic events shatter assumptions about the benevolence of the world, a sense of meaning and the self as worthy. These assumptions promote the idea that the world is a good place, that there is a self-outcome contingency between a person and what happens to him or her, and that we perceive ourselves as good, capable, and moral individuals. When confronted with a threatening event, the individual becomes acutely aware that bad things can happen and perceives the external world as a frightening place. The world no longer makes sense and this realization may be devastating (Janoff-Bulman & Frantz, 1997; Kleber, Brom & Defares, 1997). Rebuilding these shattered assumptions requires the integration of the old and the new information. This process of cognitive integration succeeds when the negative impact of this new information is reappraised to fit mental models (assimilation), or if existing models of the world are revised to fit this new

information (accommodation). On the other hand, when individuals are incapable of integrating trauma-related information into existing beliefs about self, others and the world or are incapable of changing their view of the world, posttraumatic symptoms and or eventual disorders (e.g. PTSD) will most likely be the outcome. The theory of assumptive worlds accommodates the notion of the completion tendency and the idea that people are intrinsically motivated to make sense of and find meaning in their experiences (Joseph & Linley, 2005).

In contrast, Taylor's theory of cognitive adaptation (1983) is described from a more positive orientation towards psychological adjustment. She argues that the adjustment process centers upon three themes. The first is a search for meaning, the need to understand why the experience happened and to rethink one's attitudes and priorities along more satisfying lines. A second theme of cognitive adaptation centers on gaining a sense of mastery over the event to prevent it from happening again. The third theme Taylor identified was an effort to enhance the self and restore self-esteem. Taylor's cognitive adaptation theory views people as adaptable, self-protective, and functional in the face of setbacks. Based on her analysis of interviews with women with breast cancer, she concluded that the construal of positive meaning produced significantly better psychological adjustment. More recent findings showed that the ability to find meaning in the experience is also associated with a less rapid course of illness (Taylor, Kemeny, Reed, Bower & Gruenewald, 2000). This research suggests that psychological beliefs such as meaning, control, and optimism act as resources, which may not only preserve mental health in the context of traumatic or life-threatening events but also protect physical health.

All three perspectives emphasize the importance of finding meaning after traumatic events as self adaptive and functional in the face of adversity, especially when positive meaning is construed. In the following paragraph the concept of meaning will be elaborated on and some premises are formulated.

### **1.3 The concept of meaning**

There is a great diversity in the conceptual and operational approaches of meaning that have been used in the context of adjustment to stressful life events and conditions (see for a review Park and Folkman, 1997). For example, the conceptualization of meaning refers to a general life orientation, construing personal significance in cognitive and affective terms, or causality and the process of making attributions about why an event occurred. Moreover, meaning also refers to coping activities in which the individual finds redeeming or transcendent features in the event, and it can be an outcome of the process of dealing with traumatic events. However, strong evidence suggests that

meaning making is based on two distinct processes that play independent roles in the cognitive adaptation process when individuals perceive threat (Davis, Nolen-Hoeksema & Larson, 1998; Janoff-Bulman & Topyk, 2004; Taylor, 1983).

First, people seek to understand the event in retrospect and try to *comprehend* what has happened (Janoff-Bulman & Frantz, 1997; Joseph & Linley, 2005; Wong & Weiner, 1981). This means that they have to make sense of the event by understanding what happened, how it happened, and why it happened. Second, they have to find *personal significance* in the event or gain something for their present life from the experience (Antoni et al., 2001; Helgeson, Reynolds & Tomich, 2006; Joseph & Linley, 2005; Tedeschi & Calhoun, 1996). This implies that people evaluate and interpret what the experience has brought them in terms of personal skills, relationships, life philosophy and world view, also referred to as benefit finding or posttraumatic growth. In this study, both construals of meaning will be taken into account. Figure 1 shows the core variables that will be examined in this study.

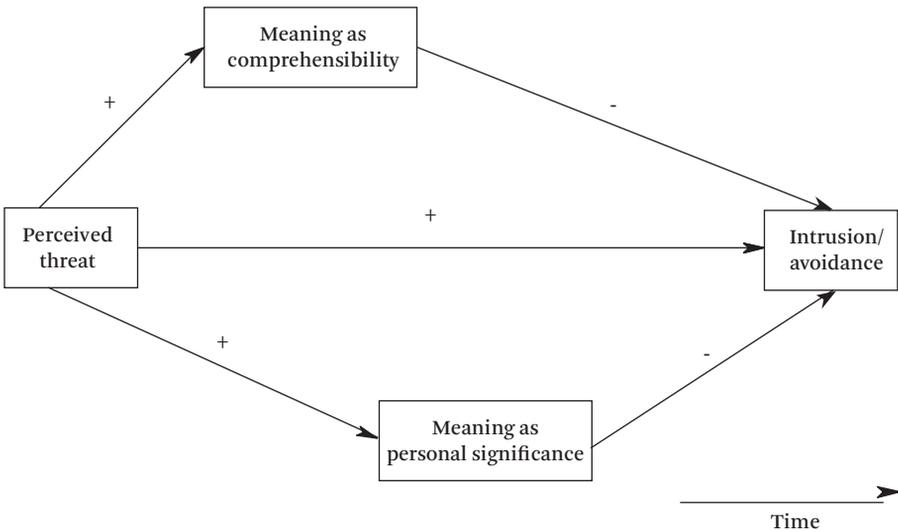


Figure 1 Hypothetical model of construals of meaning as a mediator between perceived threat and posttraumatic stress reactions

It is expected that the search for meaning functions as a mediator between perceiving threat from war zone stressors and the cognitive adaptation to these events afterwards reflected in levels of intrusions and avoidance. For example, experiencing life threat during a fire fight between conflicting parties may be a devastating experience for a soldier after surviving this event. In his search for meaning he may try to reduce the negative emotional impact by regarding

the experience as part of his job. After returning home from his mission he then may realize how fortunate he has been to survive. These re-appraisals develop after primary and secondary appraisals have taken place during the initial confrontation (Janoff-Bulman, 1992; Lazarus & Folkman, 1984). They emphasize interpretations and redefinitions of the event during the course of cognitive adjustment that creates and reveals evidence of a benevolent world, a world in which events are meaningful and make sense, and in which the veteran can regain a sense of cognitive control over what happened.

In contrast, negative appraisals have been shown to be associated with the development of posttraumatic stress pathology (Ehlers & Clark, 2000). The soldier who survived the firefight may keep thinking that bad things will always happen to him as a way of comprehending what happened to him. This may sustain a current sense of threat resulting in a negative perception of the world and other people, ultimately resulting in posttraumatic symptoms. When the implications of the shootings remain insufficiently elaborated on and integrated with autobiographical memory, symptoms of intrusions and avoidance will continue (Boelen, van den Hout & van den Bout, 2006; Neimeyer, 2006). As this example demonstrates, the search for meaning can be understood as both a process and an outcome (Janoff-Bulman, 1992; Linley, 2003). This means that construing meaning is dynamic and not static and it serves to reinstate a sense of comprehension in the place of existential chaos (Janoff-Bulman & Frantz, 1997).

Personal resources, in particular self esteem, optimism and personal control, have been shown to preserve mental health in the context of traumatic or life-threatening events and to protect physical health (Taylor, Kemeny, Reed, Bower & Gruenewald, 2000). For instance, self-enhancement has been shown to result in better adjustment among Bosnian civilians in the immediate aftermath of the Balkan civil war and among survivors of the 11 September 2001 attack in New York City (Bonanno, Field, Kovacevic & Kaltman, 2002; Bonanno, Rennie & Dekel, 2005). Moreover, Solber Nes and Segerstrom (2006) pointed out that optimistic coping appears to be flexible with regard to the demands of the stressor and is responsive to the possibility of modifying either the stressor itself or one's response to it. Those who are able to maintain or restore a sense of control have been found to cope better with the situation and experience less depression and anxiety (Taylor, Helgeson, Reed & Skokan, 1991; Thompson, Sobolow-Shubin, Galbraith, Schwankovsky & Cruzen, 1993). Therefore, this thesis will also examine personal resources (self esteem, optimism and personal control) in relation to making sense of war and peacekeeping experiences and finding some value in the experience for one's present life.

### 1.3 Objectives and outline of this thesis

The main objective of this study is to explore the significance of meaning in terms of comprehension and personal significance, as part of cognitive adaptation after military deployment. The study focuses on the following objectives:

1. to review scientific literature on appraisals of war zone experiences and their relationship to psychological adaptation;
2. to introduce a measure of cognitive assumptions related to war zone experiences;
3. to examine if positive appraisals are adaptive in the psychological processing of military deployment experiences;
4. to examine if meaning functions as a mediator between perceived threat and stress responses;
5. to explore the personal meanings that veterans attribute to their deployment experiences long after they have left the service and the extent to which these meanings remain significant in their lives;
6. to examine whether personal resources, in particular self-esteem, optimism and personal control, are associated with meaning-making.

The scientific literature was reviewed to integrate and summarize the approaches and measures that have been used in empirical studies appraising war and peacekeeping experiences.

For the purpose of this study, a mixed-method approach was used to examine associations between meaning-related variables and to explore in more depth themes of meaning relevant to veterans' personal perceptions. Quantitative and qualitative methods were combined to collect empirical data on meaning-making, as the sole reliance on quantitative measures may constrain the ability to understand other important dimensions that influence meaning-making. At first, a large cross-sectional study was conducted to identify associations between meaning-related variables and measures of cognitive adaptation among veterans who were deployed during various war and peacekeeping operations. No studies were available on meaning-making among heterogeneous samples of veterans; therefore, a cross-section was taken. Further, the use of a large sample increases generalizability of the findings for the veteran population as a whole. Moreover, longitudinal research may be considered when empirical evidence has established significant associations between meaning and psychological adjustment.

Second, following the questionnaire study, in-depth interviews were conducted among a sub sample of veterans who were deployed during a specific

military operation (e.g. in Cambodia (UNTAC)) in order to explore personal meanings of peacekeeping in more detail. This is called a sequential explanatory design (Creswell, Plano Clark, Gutmann & Hanson, 2003). The questionnaire study made use of validated measures of cognitive processing and meaning. In addition, the qualitative study was conducted to extend findings of the questionnaire study and to elaborate on themes of meaning reflecting the individual perception on military deployment. The distinction between the two methods was emphasized and the two methods were used for complementary purposes.

This thesis consists of nine chapters including six manuscripts that have been published separately or have been submitted for publication in international scientific journals. The present chapter contains a general introduction to the subject of this dissertation. Chapter 2 presents a literature review of empirical studies on appraisals of war and peacekeeping experiences. Chapter 3 introduces a measure to assess cognitive meaning after violence and war. Chapter 4 reports on the significance of positive appraisals in cognitive adaptation and quality of life after military deployment. Chapter 5 presents a quantitative study on the role of meaning in processing war and peacekeeping experiences. Chapter 6 contains a qualitative study on personal meanings of peacekeeping in Cambodia. Chapter 7 examines a model of resilience and meaning after military deployment. In Chapter 8 the findings of this thesis will be summarized and discussed in light of methodological strengths and weaknesses, theoretical and practical implications and future recommendations. Chapter 9 contains a Dutch translation of the summary and general conclusions.



# 2

## Meaning as a Mission: A Review of Empirical Studies on Appraisals of War and Peacekeeping Experiences



Schok, M.L., Kleber, R.J., Elands, M. & Weerts, J.M.P. (2008). Meaning as a mission: a review of empirical studies on appraisals of war and peacekeeping experiences. *Clinical Psychology Review*, 28, 357-365.

## **Abstract**

This study presents a review of scientific literature on making sense of war and peacekeeping experiences, and it includes an analysis of empirical studies that examine appraisals of military deployment experiences among veterans. Veterans reported more positive than negative effects in the studies of this review. Furthermore, construing positive meaning from war and peacekeeping experiences, especially related to combat exposure or high perceived threat, is associated with better psychological adjustment. More insight on “normal” psychological processing of stressful and traumatic experiences is obtained when the concept of meaning is used in research. This perspective emphasizes the perception of individuals and focuses on beliefs and attitudes in making sense of threatening events instead of pathologizing the response to trauma.

## Introduction

It has frequently been assumed that assigning meaning plays a crucial role in adaptation to stressful and threatening events (Frankl, 1984; Horowitz, 1976/1977). Cognitive approaches to trauma (Brewin & Holmes, 2003; Joseph & Linley, 2005) state that successful processing occurs if new information is assimilated into existing structures or existing models of the world are accommodated to this information. Unsuccessful processing occurs when individuals are incapable of integrating trauma-related information into existing beliefs about self, others and the world, or when individuals are incapable of changing their view of the world. The specific meaning that individuals assign to their stressful and threatening experiences may prove to be essential in the process of adaptation. Certain beliefs about self, others and the world are expected to be more adaptive, and may facilitate successful integration of the threatening experience, especially if these beliefs relate to inner safety and trust (Janoff-Bulman, 1992).

According to Park and Folkman (1997), there is a great diversity in the conceptual and operational approaches of meaning used in the context of coping and adjustment to stressful life events and conditions. They demonstrated that the concept of meaning referred to several perspectives, such as a general life orientation, personal significance, the process of making causal attributions about why an event occurred, finding redeeming or transcendent features in the event, and as an outcome of the process of adjustment to trauma. These various perspectives on meaning are reflected in diverse operational definitions (Park & Folkman, 1997). For instance, meaning has been assessed in terms of reevaluating an event as positive, answering the question as to why an event occurred or the question: "Why me?". It has also been operationalized as enumerating ways in which life changed because of the event, and stating the extent to which one has "made sense of" the event.

Research has indicated that the processes of making sense of the extreme event and finding benefits in the traumatic experience play independent roles in adjustment (Davis, Nolen-Hoeksema & Larson, 1998; Taylor, 1983). According to Taylor (1983), the attempt to find meaning discloses itself in two ways: a causal explanation that provides an answer to the question why it happened and a rethinking of one's attitudes and priorities to restructure one's life along more satisfying lines, changes that are prompted by and attributed to the event. When positive meaning can be construed from the threatening experience, Taylor (1983) found that it produces significantly better psychological adjustment among cancer patients. Davis et al. (1998) analyzed the two processes of making sense of the event and finding benefits following the loss of a family

member. The results of their prospective and longitudinal study showed that making sense of the loss was associated with less distress only in the first year after the event happened, whereas benefit-finding was most strongly associated with adjustment at 13 and 18 months after loss. These findings point to two independent pathways following each other in the construction of meaning as part of the psychological adjustment process to threatening experiences (Janoff-Bulman & Frantz, 1997; Joseph & Linley, 2005). Firstly, one has to make sense of the event by answering the questions: what happened, how and why. Secondly, one has to find personal significance in the event or gain from the experience for one's present life.

The concept of meaning in terms of comprehensibility and personal significance is relevant to veterans being exposed to threatening and traumatic events during war and peacekeeping operations, such as combat exposure, bombardment and witnessing death and destruction. This perspective broadens the scope to normal psychological adaptation instead of pathologizing the response to trauma. The concept of meaning fits very well into a broader view on trauma in which resilience plays a major role, especially because empirical studies have repeatedly shown that only a minority (although sometimes considerable) will develop mental disorders after traumatic experiences and that the majority of affected people will recover after a short period (Bonanno, 2004; Kleber & Brom, 1992). Furthermore, the focus on meaning emphasizes a more subjective perspective. By asking veterans how they look back on their military mission, we can get more insight on coping mechanisms from a personal point of view and find out more about positive and negative outcomes related to stressful and threatening events. Focusing on psychopathological consequences limits our understanding of 'normal' adaptation to threatening events.

The aim of this article is to review the scientific literature on making sense of war and peacekeeping experiences in relation to psychological adjustment. This review includes an analysis of empirical studies that examined appraisals of military deployment experiences among veterans. Based on theoretical approaches and empirical findings (Davis et al., 1998; Taylor, 1983), it is expected that attributing positive meaning to war and peacekeeping experiences is associated with better psychological adjustment after deployment. This review will address conceptual issues such as conceptualizations of meaning, dimensions of meaning, domains of change, and meaning in relation to perceived threat and psychological adjustment. Furthermore, methodological issues with regard to research designs, population and response rates and instruments will be discussed.

## **Methods**

For the purpose of this review relevant publications were searched with Webspirs (searches PsycINFO and Medline) and PILOTS using general terms such as veterans, soldiers in combination with meaning, appraisals. Additional specific search terms were used such as benefit finding, coping, change, effects, consequences. The search results were screened for their relevance to the review. Non-empirical (i.e. theoretical and literature reviews) publications were excluded. References of the identified publications were checked for relevance. This process was repeated until no new references arose. Seven empirical studies met our criteria of inclusion. Table 1 provides an overview of the included empirical studies.

## **Conceptual issues**

The following issues will be discussed: the theoretical definitions of meaning, the dimensions of meaning, the domains of change, the perceived threat during war and peacekeeping, and psychological adjustment in relation to meaning.

### ***Conceptualizations of meaning***

The empirical studies under review showed a lack of clarity as far as the concept of meaning is concerned (see Park & Folkman, 1997). Several studies examined influences of military experience from a lifespan perspective (Aldwin et al., 1994; Elder & Clipp, 1989; Spiro et al., 1999). Some researchers used a more psychodynamic orientation (Dohrenwend et al., 2004; Fontana & Rosenheck, 1998). Fontana and Rosenheck (1998) used a more extended definition of psychological benefits and liabilities as being positive and negative changes regarding self-image, cognitions, feelings and behaviour. Dohrenwend et al. (2004) defined tertiary appraisals as "... ongoing evaluations, sometimes over many years, of the impact of an experience after it has occurred" (p. 417). Britt et al. (2001) based their research on the stress and coping paradigm and defined meaning "...in two different ways as (a) being engaged in important and relevant work during the operation and (b) experiencing events during the course of the deployment that put the deployment in a broader contextual framework" (p. 55). Mehlum (1995) examined positive and negative consequences of serving in a UN peacekeeping mission without clearly defining these consequences from a theoretical perspective. Overall, emphasis in the concept of meaning was placed on psychological changes after war and peacekeeping experiences reflecting a preference for meaning as personal significance.

**Table 1** Empirical studies on the meaning of war- and peacekeeping experiences

Authors (year)	Research design	Population	Sample size (response)	Measures of meaning	Outcome
Elder & Clipp (1989)	Longitudinal	World War II and Korea veterans	149	Appraisal of the effects of military service (28 items) divided between desirable and undesirable items.	Effects of military service were negative and positive, reflecting the capacity to experience pain and growth from the same event.
Aldwin, Levenson & Spiro (1994)	Longitudinal	World War II, Korea, Vietnam and World War I veterans	1,287 (83%)	Appraisal of the effects of military service (28 items) divided between desirable ( $\alpha=.91$ ) and undesirable items ( $\alpha=.62$ ).	Lifelong negative consequences of combat exposure were observed, perceiving positive benefits from stressful experience mitigated the effect. Positive and negative effects of military experience constitute independent pathways.
Mehlum (1995)	Cross-sectional	UNIFIL personnel serving from 1978-1991 / repatriated group / matched control group	724 (68%) / 316 (60%) / 456 (72%)	Positive and negative consequences of the service either by use of questionnaires and/or personal interviews.	In spite of the stressful events and traumatic experiences that many faced, the vast majority of subjects had a predominantly positive main impression of the service (increasing self-confidence, (military) qualifications, stress-tolerance and expanding horizon).
Fontana & Rosenheck (1998)	Cross-sectional	Vietnam theater veterans	1,198	Psychological benefits were coded dichotomously in three categories: affirmation of patriotic beliefs, self-improvement and solidarity with others. Psychological liabilities were coded into three corresponding dichotomous categories: disillusionment of patriotic beliefs, self-improvement, and alienation from others.	Psychological benefits counteracted and psychological liabilities passed through the effects of traumatic exposure on PTSD. The psychological benefit of self-improvement moderated the effects of the psychological liability of self-improvement on PTSD.
Spiro, Schnurr & Aldwin (1999)	Longitudinal	World War II and Korea veterans	1,263 (83%)	Appraisal of the effects of military service (28 items) divided between desirable and undesirable items.	Combat exposure was associated with both positive and negative outcomes, and heavy combat exposure was particularly associated with negative outcomes. The two appraisals were independent and opposite mediators of the effect of combat exposure on PTSD.
Britt, Adler & Bartone (2001)	Longitudinal	U.S. soldiers participating in Bosnia peacekeeping mission	161 (16%)	Mid-Deployment Assessment at 6-month point in Bosnia: Job Importance ( $\alpha=.88$ ), Job Engagement ( $\alpha=.91$ ) and Peacekeeper Identity ( $\alpha=.84$ ). Post-Deployment Assessment at 4-5 months on Perceived benefits ( $\alpha=.84$ )	The tendency to find meaning in work during the mission was prospectively related to reporting benefits from the deployment (e.g. increased personal experience and increased ability to deal with stress) months after the deployment was over. Exposure to stressful events among U.S. peacekeeping Bosnia soldiers is positively related to construing benefits.
Dohrenwend, Neria, Turner, Turse, Marshall, Lewis-Fernandez & Koenen (2004)	Cross-sectional	Vietnam Theater and Era veterans	1,183 (83%) / 412 (76%)	Measures of salience and valence were developed from the NNVRS survey. Salience (2 items); current importance of the Vietnam War in the veteran's life. Valence (2 items); whether the effects of military service and the war were positive or negative. Open-ended questions were used about the content of the appraisals.	Almost 71% of the U.S. male veterans who served in Vietnam perceived the impact of their wartime experiences on their present lives as mainly positive. Over 40% of the veterans felt the war's influence was still highly important in their lives. Theater veterans made tertiary appraisals that are both more positive and more salient than those of era veterans.

### *Dimensions of meaning*

In most reviewed studies an emphasis on a positive and a negative dimension in the meaning of war and peacekeeping experiences was found, except in the case of the study by Britt et al. (2001). For example, World War II and Korean veterans attributed both negative and positive influences to their combat experience in later life (Elder & Clipp, 1989). Between 60% and 70% of these veterans reported positive aspects, such as having learned to cope with adversity, having developed self-discipline, a feeling of greater independence, and a broader perspective on life. Undesirable influences, reported by these veterans with less frequency, were, among others: disrupted life, pain of separation from loved ones, and delayed career development. These outcomes were confirmed by the study of Aldwin et al. (1994). The mean rating for the desirable aspects of military service among World War II, Korea and Vietnam veterans was much higher than that given to undesirable aspects. They found no correlation between the negative and positive appraisals which indicates independent dimensions of meaning. In the study of Spiro et al. (1999), combat exposure among World War II and Korea veterans was also associated with positive and negative outcomes that were independent of one another.

More than 70% of UN peacekeepers who served in Lebanon (Mehlum, 1995) had a predominantly positive main impression of the service. They reported that it expanded their horizons, increased their stress-tolerance and self confidence, as well as enhancing their skills in military disciplines. Negative consequences as reported by less than 20% of the peacekeepers in this study, included posttraumatic stress symptoms, increased alcohol intake and suicide attempts. Fontana and Rosenheck (1998) found in their study among Vietnam veterans that psychological benefits and liabilities were largely independent of one another. They concluded "...that people are quite capable of having both positive and negative reactions to the same set of circumstances" (p. 501).

Finally, in the study of Dohrenwend et al. (2004) the majority of Vietnam veterans (70.9%) appraised the impact of their service in Vietnam on their present lives as mainly positive. Moreover, over 40% of the veterans felt the war's influence was still highly important in their lives. The authors concluded that, for veterans who have been highly exposed to war-zone stressors, concurrent negative and positive tertiary appraisals were mostly adaptive in reflecting the reality of the experience as well as providing a cognitive context for growth. From this perspective the balance between a positive and a negative meaning of war and peacekeeping experiences is expected to be critical.

### ***Domains of change***

The reported changes or benefits as a result of war or peacekeeping experiences can be categorized in three domains of change, reflecting changes in self-image, in social relationships and in personal growth and priorities in life.

With regard to changes in self-image, World War II and Korea veterans reported aspects such as broadening their perspectives, enhancing coping skills, increasing self-discipline and independence (Aldwin et al., 1994; Elder & Clipp, 1989; Spiro et al., 1999). Vietnam veterans described changes for better or worse in self-worth, assertiveness, maturity, responsibility and personal skills (Dohrenwend et al., 2004; Fontana & Rosenheck, 1998). UNIFIL personnel serving in Lebanon reported increased self-confidence and stress-tolerance (Mehlum, 1995). They felt that the experiences expanded their horizons and increased their military skills. Perceived benefits among Bosnian peacekeepers in relation to self-concept consisted in dealing better with stress, more awareness of problems in the world, and not taking things for granted (Britt et al., 2001). Examples of reported changes in social relationships were having learned to cooperate and finding life-long friends (Aldwin et al., 1994; Elder & Clipp, 1989; Spiro et al., 1999), becoming more tolerant, less prejudiced, and more compassionate, and feeling closer to other people and getting along with different people and people from other cultures (Fontana & Rosenheck, 1998). Changes in personal growth and life priorities that were mentioned in the included studies were valuing life more, appreciation of peace (Elder & Clipp, 1989; Spiro et al., 1999), realizing the importance of family, and strengthening of faith/spirituality (Britt et al., 2001).

### ***Meaning in relation to perceived threat***

Veterans who were exposed to higher perceived threat reported more positive outcomes. The findings of Elder and Clipp (1989) show that men who fought in heavy combat were more likely to value human life than others who were less exposed to war's atrocities. Furthermore, veterans who suffered personal losses on the battlefield reported more enduring ties to combat comrades. Veterans reported more positive development outcomes when they were exposed to more intense combat (Aldwin et al., 1994; Spiro et al., 1999). Psychological benefits as measured by Fontana and Rosenheck (1998) were associated with most types of traumatic exposure in the war zone such as fighting, killing, perceived threat and death of others, except for atrocities. Britt et al. (2001) showed that Bosnian peacekeepers were more likely to report benefits as a result of deployment when they had at least some exposure to the damage caused by the war. Dohrenwend et al. (2004) found among Vietnam war veterans that mainly

positive tertiary appraisals, referring to ongoing evaluations of the impact of an experience, were associated to a greater extent with higher war zone exposure. Unfortunately, the association between perceived threat and positive outcomes was not addressed in study of Mehlum (1995). The association of perceived threat and positive meaning will be addressed later in more detail.

### *Meaning in relation to psychological adjustment*

Longitudinal data reveals that veterans who were engaged in heavy combat during World War II and the Korean War became significantly less helpless and more resilient between adolescence and mid-life, but that they were not necessarily symptom free in terms of emotional distress and impairment (Elder & Clipp, 1989). Furthermore, the association between combat exposure in early adulthood among World War II and Korea veterans and PTSD symptoms in later life was partially mediated by appraisals of the desirable and undesirable effects of military service (Aldwin et al., 1994). In this latter study, the perception of undesirable effects, such as losses in career and relationships, and experiencing negative affective states, was moderately and positively related to PTSD symptoms, whereas the perception of positive effects, such as the development of coping resources, was negatively related to PTSD symptom levels. The appraisal of negative effects as well as depression also moderated the relationship between combat stress and PTSD symptoms by exacerbating the stress effects slightly. Moreover, in the study of Spiro et al. (1999) path analyses demonstrated that positive and negative appraisals are opposite mediators of the effect of combat exposure on PTSD, even after controlling for depressive symptoms or response style. A significant part of the effects of combat exposure on PTSD was mediated through the appraisals.

Fontana and Rosenheck (1998) found that psychological benefits among Vietnam veterans, in particular self-improvement, played a mediational role by counteracting the effects of traumatic exposure on PTSD. According to the authors, the results suggest that the sense that one coped successfully with the trauma appears to be the best insulation against developing PTSD from the exposure. On the other hand, they found that psychological liabilities, in particular alienation from others, mediate between traumatic exposure and PTSD in the opposite direction. Fontana and Rosenheck (1998) also found evidence for a moderating role of psychological benefits on psychological liabilities, especially when the benefits are self-improvement and the liabilities are self-improvement. This finding again confirms that the individual sense of success and failure in coping appears to be a highly influential set of reactions for the development of PTSD.

Using the same data set, Dohrenwend et al. (2004) found that Vietnam veterans who reported mainly negative effects of military service and judged their Vietnam war experiences as highly salient were by far the most likely ones to suffer from current PTSD when controlling for level of exposure to war-zone stressors and compared to other subgroups. Furthermore, they found that in the subgroup of veterans with high exposure and current PTSD, those who reported mainly positive effects of military service and highly salient appraisals showed better wartime and post-war functioning than those who reported mainly negative effects and high salience appraisals. The authors concluded that these results are consistent with the hypothesis that positive tertiary appraisals are affirmations of successful wartime and post-war adaptation rather than defensive denials related to maladaptive outcomes. Unfortunately, the two studies on peacekeepers (Britt et al., 2001; Mehlum, 1995) reported no results on meaning in relation to psychological adjustment.

## **Methodological issues**

In this paragraph methodological issues with regard to the empirical studies under review are discussed. These issues concern the following three subjects: the research designs that were used, the populations and response rates, and the instruments used to measure meaning or appraisals of the experience.

### ***Research designs***

Unfortunately, all assessments of meaning or appraisals related to war and peacekeeping experiences were only conducted once, although several studies were longitudinal (see Table 1). In most cases meaning was not the central issue in the study, but part of a larger study design. Based on the findings in these studies it is not clear if meaning changes over time.

Furthermore, the time of measurement varies among the empirical studies. For example, the studies conducted among the older generation of veterans (World War I, World War II, and the Korean war) took place approximately forty years after service. The Vietnam War veterans were contacted 11 to 12 years after the end of the war. For the more recently deployed veterans research was conducted on average 6 to 7 years after service for UNIFIL personnel (Lebanon) and 4 to 5 months post deployment for the Bosnian peacekeepers. Different moments of measurement make it difficult to compare results of the studies due to differences in age, life phase and other major life events that influence the meaning making process.

Another issue concerns the absence of a control group in almost all the empirical studies under review. The inclusion of control groups consisting of

former military men who were not deployed or who were deployed during another military operation with a lower degree of stressful events or combat, could demonstrate whether the psychological effects or changes were indeed a result of exposure to combat or stressful events during military service or deployment. The studies of Dohrenwend et al. (2004) and Mehlum (1995) mentioned the use of a control group in the method section, but results on meaning or cognitive appraisals for the control group were not reported in the results section. Most studies made comparisons of meaning or cognitive appraisals within the sample based on degree of combat exposure (none, moderate or high).

### ***Populations and response rates***

The samples of the studies were quite diverse and consisted of war and peacekeeping veterans. Most studies focused on veterans with war experiences such as World War II, the Korean and Vietnam war. The younger generation veterans were somewhat underrepresented.

Research among Vietnam War veterans published by Fontana and Rosenheck (1998) and by Dohrenwend et al. (2004) used prior collected data from the National Vietnam Veterans Readjustment Study. In fact they used the same data but with a different approach in coding the qualitative data.

The studies included in this review reported different response rates ranging from 74% among World War II and Korea veterans (Aldwin et al., 1994; Spiro et al., 1999), 83% and 76% for Vietnam Theater and Era veterans (Dohrenwend et al., 2004), 68% among UNIFIL soldiers (Mehlum, 1995) to 16% for Bosnian soldiers (Britt et al., 2001). Therefore, it is unknown if, for example, veterans with problems were underrepresented or overrepresented in the sample. Furthermore, it is unclear if the samples in these studies were representative for the entire population.

### ***Instruments measuring meaning***

The use of different instruments to measure meaning or appraisals of war and peacekeeping experiences makes it difficult to compare results. Most studies used self-constructed instruments based on empirically gathered information (Aldwin et al., 1994; Britt et al., 2001; Elder & Clipp, 1989; Spiro et al., 1999), or coded qualitative data for statistical analyses (Dohrenwend et al., 2004; Fontana & Rosenheck, 1998). The assessment of the consequences of service in the study of Mehlum (1995) was not clear; the data was either collected by use of questionnaires and/or by personal interviews.

The instrument developed by Elder and Clipp (1998) was used among the veterans serving in World War II and Korea (Aldwin et al., 1994; Spiro et al., 1999). Based on literature and intensive interviews, the authors constructed

a list of 13 positive and 14 negative influences of military service. All veterans were asked to select the three most and three least desirable aspects of their experience. Aldwin et al. (1994) were the only ones who reported on the psychometric properties of this instrument; internal reliability was higher for desirable ( $\alpha=.91$ ) than undesirable effects ( $\alpha=.62$ ).

Britt et al. (2001) measured engagement in meaningful work during the deployment with two questionnaires called Job Importance and Soldier Engagement, and 4 to 5 months after deployment soldiers completed two measures called Perceived Benefits and Contextual Experiences to assess experiencing events that put the deployment in a broader contextual framework. The Cronbach Alpha's for these scales ranged from .84 to .91 indicating good reliability.

## Discussion

Veterans reported more positive than negative effects in the studies of this review (Aldwin et al., 1994; Dohrenwend et al., 2004; Elder & Clipp, 1989; Mehlum, 1995; Spiro et al., 1999). Positive and negative meanings of war and peacekeeping experiences reflected independent dimensions and were found to co-exist. Furthermore, findings indicate a mediating effect of perceived benefits from (highly) stressful experiences on psychological adjustment. These findings clearly illustrate the importance of the individual's perception of positive and negative changes related to the psychological processing of war and peacekeeping experiences. However, the directionality of this association has to be interpreted with caution because in all the reviewed studies the measurement of meaning was cross-sectional.

The concept of meaning in terms of personal significance was well-addressed in the studies in this review, although diverse but overlapping conceptualizations were used. There appears to be consensus about a positive and negative dimension of meaning that reflects independent positive and negative psychological changes as a result of military service or deployment. In relation to positive adaptation, it is expected that the balance between positive and negative appraisals is critical in order to integrate the reality of the experience and to provide a context for personal growth. Therefore, it is important to assess meaning from a positive as well as from a negative perspective, since these two forms constitute independent pathways. In this regard, the concept of posttraumatic growth emphasizes a more positive dimension of psychological change as a result of coping with a major loss or trauma (Calhoun & Tedeschi, 2001), and lacks the negative dimension of meaning-making.

Furthermore, three important and consistent domains of change were frequently described as part of meaning as significance: (1) self-concept, (2) social

relationships, and (3) personal growth and priorities in life (see Updegraff & Taylor, 2000). In successful processing of highly stressful war and peacekeeping experiences it may well be that changes in relation to self-image, social relationships and world view are necessary to provide a sense of control and inner safety and trust (Taylor, 1983; Janoff-Bulman, 1992). Moreover, it would be very useful to examine which domain of change has priority in time. For example, it may be that beliefs about the world as a safe place are necessary before someone develops stronger positive beliefs about social relationships and self-image. Insight on the order of these changes can be used to facilitate interventions for veterans with problems in processing their experiences, and it deepens our understanding of how a sense of control and inner safety can be re-established. Research that provides insight on the best order of these domains of change can be accomplished by using within-subjects and prospective research designs (Lazarus, 2000). This kind of research allows the identification of changes or processes over time and it helps us to understand the role and evolution of meaning in the psychological adjustment to threatening and stressful events.

The finding that veterans exposed to higher perceived threat report more positive outcomes is supported by several studies among former prisoners of war (Sledge, Boydstun & Rahe, 1980; Solomon, Waysman, Neria, Orhy, Schwarzwald, & Wiener, 1999). In line with Baumeister (1991), this can be explained by the fact that a higher perceived threat results in a higher need in attributing meaning to the experience. By attributing meaning to a threat, in this case highly stressful war and peacekeeping experiences, veterans may master the situation much better than would otherwise have been possible. Furthermore, this higher need in the search of meaning may also reflect a search of congruity as a result of cognitive dissonance (Festinger, 1979). Dissonance arises when behavior (such as the sacrifices made while engaged in combat) is inconsistent with beliefs or attitudes (i.e., holding the opinion or attitude that the sacrifices made were not made for a worthwhile cause), in effect, "I suffered and it was not for an important cause." In such a case, the attitudes or beliefs are modified (to impute meaning to engaging in combat) in order to reduce cognitive dissonance. Then the sacrifices made as a result of exposure to combat and war zone stressors may not be in vain.

Some serious methodological limitations were observed in the reviewed studies. First, the time of measurement varied among the studies. Besides the influence of other major life events that influence the specific meaning of the military experiences, Walker, Skowronski and Thompson (2003) showed that recollections of the past are positively biased. This implies that bad memories are more often forgotten than good memories. This would also indicate that

looking back on the military deployment or service is more remembered for its positive events than for its negative events. A second limitation is the absence of a control group in the studies under review. A control group is needed to demonstrate the effects of military deployment on meaning-making, especially when research is cross-sectional. Third, because it is not clear if the samples of the empirical studies in this review are representative, it is not certain if the conclusions are generalizable to the entire population. Fourth, the use of different instruments to measure meaning or appraisals of war and peacekeeping experiences makes it difficult to compare results. Most of these self-constructed measures were based on empirically gathered information or in some studies original data was re-analyzed. Instruments were not designed from a well-defined theoretical framework. Findings are therefore difficult to interpret within cognitive theories on trauma. Finally, cross-sectional data makes it difficult to draw conclusions about causality. It could be just as easily the other way round, indicating that veterans who experience posttraumatic stress reactions are more likely to assign a negative meaning to their war or peacekeeping experiences. Longitudinal designs are necessary to demonstrate the directionality of the associations between meaning and psychological adjustment (Lazarus, 2000).

More insight on “normal” psychological processing of stressful and traumatic experiences is obtained when the concept of meaning is more extensively used in research. This perspective emphasizes the personal interpretation of the traumatic situation and focuses on beliefs and attitudes in making sense of threatening events instead of pathologizing the response to trauma. In order to broaden the scope to normal adaptation, it is necessary to study individuals who successfully assimilate or accommodate negative experiences into existing meaning structures. Based on these findings, effective tools and guidelines for coping with stress and trauma can be developed.

Findings from this review show that construing positive meaning from war and peacekeeping experiences, especially related to combat exposure or high perceived threat, is associated with better psychological adjustment. However, the directionality of this association is unclear. Future research can clarify the relation between meaning and psychological adjustment by using longitudinal research designs and combining quantitative and qualitative methods in measuring meaning. By making meaning a mission we can expand our horizons on studying the response to trauma and make sense of normal psychological adaptation to threatening events.

# 3

## Making Sense of Adverse Events: A Questionnaire Exploring the Search for Meaning after Experiences of War and Violence



Mooren, T., Schok, M. & Kleber, R.J. (2009). De zin van ingrijpende gebeurtenissen: een vragenlijst over betekenisgeving na oorlogs- en geweldservaringen. *Psychologie & Gezondheid*, 39, 101-109.

## **Abstract**

The Meaning of War Scale has been developed to examine cognitive assumptions related to threatening experiences specific to war or violence. Questionnaires filled out by two different samples were analysed in order to obtain the psychometric properties of this new scale: 1. refugees from Bosnia-Herzegovina living in the Netherlands (N=365), and 2. Dutch veterans sent to different war and peacekeeping missions (N=1561). Factor analysis and construct validity were used to examine psychometric qualities of the Meaning of War Scale. Three out of four sub-scales showed good reliability and validity: distrust, personal growth and religious adherence. Moreover, these scales have been found to be related to traumatic stress responses and dispositional features of the cognitive adaptation process to war-related experiences.

## Introduction

The concept of meaning plays a central role in theories about the psychological processing of traumatic experiences (for instance, Brewin & Holmes, 2003; Creamer, 1995; Kleber & Brom, 1992). The psychiatrist Frankl (1946), who had survived the German concentration camps during the Second World War, referred to the fundamental *search for meaning* as a primary force in the survival of the terrors of war. The search for meaning arises when the obviousness of existence becomes severely damaged by the confrontation with acts of violence and war, such as bombardments, the loss of loved ones, the destruction of property and having to leave house and home in search of a safe refuge. The need for meaning intensifies when basic assumptions about the world are destroyed and fundamental certainties collapse (Janoff-Bulman, 1992). Those affected search for meaning in an attempt to get a grip again on their own lives (Park & Folkman, 1997).

In periods of war people are confronted with events characterised by powerlessness, disruption and fear of dying; in other words, traumatic experiences. The information inherent to these highly adverse experiences is incompatible with existing knowledge structures (“schemata”). This leads to a period of processing or integration. This theoretical assumption can be found in both the cognitive-psychodynamic approach to psychotrauma (Horowitz, 2001), as well as in cognitively oriented trauma models, which are rooted in information processing theories (Brewin & Holmes, 2003; Dalgleish, 2004; Ehlers & Clark, 2000). As the highly disruptive information does not conform with or fit within existing notions of self, others and the surrounding world, either cognitive structures need to be adapted (accommodation), or the information to be implemented will have to be modified (assimilation).

It appears that people start to search for an explanation of what has happened to them relatively quickly after shocking events. These explanations mainly concern cause and effect. The search for explanations of events should be considered as a form of exercising secondary control (Rothbaum, Weisz & Snyder, 1982). The sense of disruption is being combated by searching for answers to a number of questions, such as “How could this happen?” or “Why did this happen to me?” This process has been analyzed by attribution theorists (Taylor, 1983; Taylor & Stanton, 2007). People will attribute events to internal or external circumstances.

Explanations resulting from this search for answers will often be existential in nature. Reference to this has already been made in older theories of trauma (Lifton, 1978). This does not just involve finding a causal explanation for the event, but also attempting to understand the place these experiences

will take within an individual's personal or family life (Schok, Kleber, Eland & Weerts, 2008). The individual constructs, mostly implicitly, a vision of the world and themselves in which the traumatic experiences might be placed. This search for explanations and meaning reflects the attempt to repair the loss of continuity people often experience after extreme life events. The traumatic experience becomes embedded and receives meaning in an individual's biography. The emotionally laden experiences become a central turning point for the organisation of autobiographical knowledge structures (Berntsen & Rubin, 2006, 2007). The significance of the experiences in relation to an individual's identity is central; the interpretation of what has happened becomes the key to a set of associated ideas and feelings. The search for meaning does not necessarily lead to positive results. It may also ultimately lead to a negative sense of meaning associated with resentment, suspicion and a sense of alienation. The fact that a minority of people (the percentages from samples of victims of war and violence vary between 5 and 50%) develop symptoms which lead to a post-traumatic stress disorder (PTSD), depression or other conditions, illustrates this (Fazel, Wheeler & Danesh, 2005; Kleber & Brom, 1992).

Refugees and veterans are two groups of people who have experienced many adverse events, relatively speaking, in episodes of war, violence and migration or dispossession. Creating a sense of meaning is central for both of these groups of war victims. It is important for veterans to be able to look back positively on their military service. Otherwise, persistent thoughts of failure and guilt could play an inhibitory role in processing the adverse events. For refugees experiences often mean a significant loss of identity; the way they were before the outbreak of war is often barely evident once they settle in The Netherlands. The meaning of disruptive events is often related to the concept of loss (Eisenbruch, 1998). A significant sense of powerlessness is experienced by both groups.

There are many instruments available to assess post-traumatic stress disorder and associated symptoms (see for instance Brewin, 2005), however, there are few instruments measuring the sense of meaning after adverse events. Instruments such as these all refer back to general psychological principles about fundamental values and sources of motivation (Joseph & Linley, 2005). An example of this is the *Self Coherence Scale* by Antonovsky (1993), himself a Holocaust survivor. The central concept in this scale is self-coherence, expressed in the themes of manageability, controllability, and sensibility. The *World Assumption Scale* (Janoff-Bulman, 1989) consists of questions mapping, respectively, general beliefs about oneself, others and the world. This scale is often used in research into the consequences of trauma, although no normative data are available for this instrument. The *Centrality of Event Scale* (Bern-

tsen & Rubin, 2006) consists of items about the significance of adverse events on identity. The notion behind this scale is that traumatic experiences are particularly well retained and used “to hang up” other memories. The disadvantages of existing instruments include their moderate validity, as well as the fact that they are not directly associated with experiences of war and violence.

There is a need to use topics assessing thoughts and assumptions related to specific experiences of war and violence. Aside from the theoretical relevance, this will also allow changes over time or the effects of psychotherapeutic interventions to be measured. This would enable the significance of meaning, as formulated in modern theories of trauma processing, to be clarified further. The development of the *Meaning of War Scale (MWS)* is an attempt to contribute to the operationalisation of the search for meaning after war and violence. The search for meaning is expected to be a sign of cognitive processing of adverse events, which contributes to the reduction in stress responses. Pessimism is generally associated with a narrowing of vision and a particular focus on negative thoughts (“the glass is half empty”), whereas optimism is mostly associated with a freedom of thought and finding multiple alternative explanations for what has happened. We therefore expected a positive association in this study between an optimistic disposition and the scores on an instrument measuring sense of meaning.

## **Method**

### ***Developing the items***

A number of central themes were chosen on the basis of the scientific literature regarding the search for meaning after traumatic war experiences (Antonovsky, 1993; Bramsen, 1995; Debats, 1996; Janoff-Bulman, 1989, 1992) and experiences from interviews out of our own studies with Dutch survivors of the Second World War (Kleber, 1994; Mooren & Kleber, 1996) and Bosnian refugees (Mooren & Kleber, 1999; Mooren, De Jong, Kleber & Ruvic, 2003). These were perspectives on people and the world (in terms of trust and distrust), manageability of the world (the ability to learn from experiences, growth), the importance of religion, the search for (causal) explanations (“why” did it happen?) and concrete ideas about (the) war. Subsequently an item pool was created with self-constructed items. The items were discussed and wording was thoroughly assessed. Attention was paid in this process to ensure that the wording of items was simple and clear, and that the items consisted of a limited number of words that were evidently relevant to the construct to be measured. A Likert scale (1-4) was chosen for the response options, where 1 corresponded to “disagree totally” and 4 to “agree totally”. This resulted in a pool of 34 items

referencing to experiences of war (*Meaning of War Scale* (MWS); Mooren & Kleber, 2001).

### ***Procedure and respondents***

Two datasets of respondents were used for this study evaluating the psychometric properties of the new questionnaire. These originated from two different studies: 1. Refugees originating from Bosnia-Herzegovina who had arrived in The Netherlands between 1992 and 1998 (N=365) and who had participated in a study at Utrecht University (see Mooren, 2001), and 2. Former soldiers (veterans) who had been posted to various former conflict areas, such as Dutch East India, Korea, New Guinea and more recently Cambodia and former Yugoslavia. They were approached by the Veterans Institute to participate in the study (N=1561). These datasets were re-analysed for the purpose of this article.

The average age of the refugees originating from Bosnia-Herzegovina was 42.3 years (S.D. = 13.0); and there were slightly more male (52.3%) than female (47.7%) participants. More than half the sample (68.8%) was married and more than half had completed primary and basic secondary education. All of the group of veterans were male. Their average age was 57.7 years (S.D. = 18.5). Nearly all of the sample were married or cohabiting (80.8%) and had predominantly completed primary and basic secondary education. The average duration of a military deployment was 18.8 months (S.D. 17.5). The refugee sample was tested on two occasions: 206 participants completed the questions again nine months after the first contact. This allowed the stability of the instrument to be assessed for this sample.

### ***Instruments***

Data were collated from the veterans and Bosnian refugees using the Dutch and Bosnian versions of the Impact of Event Scale (*Schokverwerkingslijst*, SVL; Brom & Kleber, 1985; Van der Ploeg, Mooren, Kleber, Van der Velden & Brom, 2004; original version of the IES: Horowitz, Wilner & Alvarez, 1979), which is often used in studies of trauma and measures the two general stress responses of intrusion and avoidance. Intrusion refers to continued pre-occupation with the event, memories and emotions which constantly well up, nightmares and fear reactions to situations which appear similar to the original event. Avoidance is the tendency to avoid situations which appear similar to the original traumatic event. There are seven items regarding intrusion and eight avoidance items. Together, these produce an indication of traumatic stress responses (Horowitz et al., 1979). The answers to all items relate to the past seven days and with one or more adverse events in mind. Responses are scored on a four-point scale (0-1-3-5). Internal consistency was high (0.94 for veterans and 0.93 for refugees,

respectively). A negative correlation was predicted between the traumatic stress responses experienced and the indicators for sense of meaning.

The group of Bosnian refugees also completed the *World Assumption Scale* (Janoff-Bulman, 1989) in order to evaluate the construct validity of the scale. As some items (part of the “Self Worth” and “Meaningfulness of the World” scales) were considered not to be applicable or to be too painful for the participants following the violence of war due to a significant emphasis on self-reproach and controllability of daily life, these were removed from the questionnaires (for instance, “People’s misfortunes result from mistakes they have made”). All items were presented in the form of statements to be evaluated on a Likert scale (1-6). Only the “Benevolence of the World” scale was used in the analyses.

Personal optimism was also measured with the *Life Orientation Test* (LOT; Scheier & Carver, 1985) for the construct validity. This brief scale consists of twelve statements about general attitudes towards life and the future. The LOT is an instrument which assesses optimism as a disposition. The total score reflects an individual’s position along a pessimism versus optimism continuum. It is assumed that a greater level of distrust and lack of hope on the Meaning of War Scale are associated with a lower score on the LOT. Repeated studies have shown the LOT to possess good psychometric properties (Van der Velden et al., 2007). The reliability for the Bosnian refugees was 0.81.

The questions were translated into Bosnian (Serbo-Croatian) for the refugees. The standard procedure, consisting of forward and backward translation by bilingual translators, was followed.

### ***Statistical analysis***

The factor analysis was carried out using a principal components analysis (with varimax rotation). Internal consistency was evaluated using Cronbach’s alpha. Pearson’s correlation coefficients were used to evaluate the inter-correlations and convergent validity. Product moment correlations were used to evaluate the internal stability of the scales (for the refugee sample). SPSS 17.0 was used for the analyses.

## **Results**

### ***Contents of the scales***

The final version consisted of 34 items, which all included a direct indication of the effect of war. Initially, the scales were based on a principal components analysis of the responses from Bosnian refugees to the items. Principal components analysis (with varimax rotation) provided the most optimum solution of five factors (Kaiser’s criterion and scree plots), which was able to

explain 40.4% of the variance between the items. This analysis demonstrated that three items did not load sufficiently on a single factor, and it was therefore decided to remove these items from further analysis. Incidentally, an item was included in this scale on the basis of interpretation and following agreement between the researchers, even though in terms of content it clearly belonged to a different scale. Furthermore, as the fifth factor only had a single item with a factor loading  $>0.30$  (the criterion selected), this scale was also removed from further analysis. The following subscales resulted from the factor analysis:

1. Views on people and the surrounding world in terms of *trust*, *distrust* and *alienation*. Statements regarding the level of trust or distrust in relation to war experiences belong to this scale. Examples are: "Since the war, I only have trust in myself", "Since the war I don't believe in justice anymore". The scale consists of 11 items.
2. *Personal growth* or learning about what has happened, expressed through experiencing hope or hopelessness and goals in life. This scale is an expression of thoughts about control and hope. The 8 items in this scale reflect an idea of empowerment: "I believe I have a grip on my life", "The war has given my life meaning".
3. *Importance of religion*. This scale consists of three items: "The war has increased my faith", "My faith allows me to forgive what others did to me during the war" and "I pray more since the war".
4. *Causal explanations*. Five items belong to this subscale. These represent cognitions reflecting causal explanations. An example of this is: "The war in ... could have been prevented by the international community". However, there are also items in the scale that are less obvious in terms of content: "I feel I have a connection with people who have had the same experiences as me".

This division of items was subsequently retained for the study involving the veterans. The content of the items in the *Meaning of War Scale*, as well as the loadings on the four distinct factors in both samples, have both been included as an appendix to this chapter (Appendix).

### ***Internal consistency***

Table 1 contains Cronbach's alpha for the scales, which was satisfactory for the first three scales for the two samples (ranging between .56 to .85). Limited internal consistency was demonstrated for the fourth scale in both samples. As this two-item scale (causal explanations for war and deployment) did not demonstrate satisfactory homogeneity, it was decided to remove it from further analysis.

**Table 1** Internal consistency of subscales of the Meaning of War scale in two samples (refugees  $N = 365$ ; veterans  $N = 1561$ )

Variables	Refugees	Veterans
Distrust	.81	.85
Personal growth	.56	.76
Religion	.65	.85
Causal explanations	.35	.34

**Inter-correlations**

Inter-correlations between the three scales from the MWS were derived for the Bosnian refugees and the veterans in order to explore the association between both groups. A comparison of the correlations demonstrated that the scales revealed very similar associations for both groups of individuals with war experiences (Table 2). Furthermore, the inter-correlations between the three scales were low, therefore reflecting distinct aspects of sense of meaning.

**Table 2** Correlations between instruments in Bosnian refugees living in the Netherlands ( $N=365$ ) and veterans ( $N=1561$ )

Variables	1	2	3	4	5	6	Refugees	
							M	SD
1. Distrust (MWS)	-	.19**	.10	.38**	-.42**	-.31**	25.88	5.52
2. Personal growth (MWS)	-.09**	-	.29**	.08	.28**	.24**	18.77	4.10
3. Religion (MWS)	.11**	.13**	-	.21**	.09	-.01	6.82	2.73
4. Stress responses (IES)	.49**	-.08**	.13**	-	-.25**	-.08	38.40	17.20
5. Optimism (LOT)	-.37**	.39**	-.08**	-.37**	-	.41**	21.99	4.14
6. Benevolence world (WAS)	-	-	-	-	-	-	28.66	6.17
<b>Veterans M</b>	25.85	22.52	5.88	12.78	29.09	-		
<b>Veterans SD</b>	5.19	2.50	2.12	15.45	4.94	-		

\*\*  $p < .01$ .

**Stability**

In order to explore the stability of the scales the questions were re-presented to 206 respondents in the study of the Bosnian refugees ( $N=206$ ). This second assessment took place approximately nine months after the first. Little is known of the progress in time of cognitive adaptation in victims of war. There were no expectations that changes in sense of meaning would have “already” occurred in the current time frame. It was apparent from the product-moment correlations between the test-retest assessments that the scales were moderately stable ( $p < .001$ ). The coefficients were: trust .73, growth .60 and religion .74.

**Construct validity**

The Pearson’s correlation coefficients demonstrated some association (.08 - .49) between the scales of the MWS and IES outcomes, generally speaking in

the expected direction (Table 2). Distrust was significantly associated with stress reactions for the refugees, such as intrusions and avoidances. For the veterans, there was a comparable association between ideas of distrust and lack of optimism on the one hand and stress reactions on the other. The association between religion and stress reactions was stronger for refugees than for veterans. The greater the level of intrusion and avoidance, the greater the significance of religion turned out to be. An association between the subscales of the *MWS* and the other measures of self-belief and the world was predicted (*World Assumption Scale*: Benevolence scale and *Life Orientation Test*: Optimism). These measures were used for the Bosnian refugees. The LOT was also completed by the group of veterans. Product-moment correlations demonstrated a significant correlation in the direction predicted (Table 2), where a greater level of distrust was correlated with a lower level of optimism (resp. LOT:  $r=-.42$  and  $r=-.48$ ,  $p<.01$  for refugees and veterans) and a negative assessment of the benevolence of fellow humans (WAS:  $r=-.31$ ,  $p<.001$ ). Growth, or the experience of having learnt something, is associated with a greater level of optimism (respectively LOT:  $r=.28$ ,  $p<.001$ ;  $r=.39$ ,  $p<.01$  for refugees and veterans) and positive assessment of the benevolence of fellow humans ( $r=.24$ ,  $p<.001$ ). The importance of religion was not associated with optimism or perceived benevolence of others.

## Discussion

Although the search for and discovery of meaning after being confronted with a traumatic experience is considered in various theories of trauma as an important phenomenon, little empirical research has been conducted in this area. It appears that interpretations and explanations are difficult to operationalize, despite the fact that modern theories emphasize on cognitive processing. This article introduces a questionnaire that has been developed for measuring (changes in) cognitive assumptions associated with experiences of adverse events during times of war as well as violence. The psychometric data were derived from two samples: Bosnian refugees in The Netherlands and army veterans exposed to war and deployment in Indonesia, New Guinea, Korea, Cambodia or former Yugoslavia. The *Meaning of War Scale (MWS)* provided greater insight into the cognitive processing after adverse events.

The study demonstrated sufficient homogeneity and reasonable stability for three scales. The correlations between these scales and the other instruments included in the study (*Impact of Event Scale, IES* or *SVL*), *World Assumption Scale (WAS)* and the *Life Orientation Test (LOT)*) provided an initial indication of the validity of the recently developed *MWS*. The first subscale concerned

trust or lack of trust in fellow human beings. This subscale measured cognitions about trust associated with experiences of war and violence. A traumatic experience contains a break in trust with an individual's environment. In these circumstances it is no longer obvious that others can be trusted. The belief in the benevolence of others is, at least partially, lost. This trust therefore needs to be re-established (Herman, 1992). This subscale adds weight to the Janoff-Bulman (1992) theory regarding the importance of basal assumptions and a sense of security and trust in the world. Earlier research with refugees has shown that exposure to war was associated with greater levels of distrust, intrusion and avoidance (Mooren & Kleber, 2001). For veterans, distrust appeared to have a mediating effect between experiencing threats as a result of the conditions of war and the level of stress reactions demonstrated (Schok, Kleber, Lensvelt-Mulder, Elands & Weerts, 2006). These findings are supported by research with Israeli veterans, which demonstrated that those experiencing a post-traumatic stress disorder viewed the world as being less benevolent than those with none of these symptoms (Dekel, Solomon, Elklit & Ginzburg, 2004). Fundamental beliefs appear to be influenced by threats resulting from exposure to war.

The second cluster of items measured cognitions about personal growth. This relates to the idea of learning from circumstances. The scientific literature about trauma has a strong focus on negative consequences, even though more research has been carried out in recent years into personal growth and resilience (Bonanno, 2004; Kleber, 2000). Regardless of how unpleasant and terrible violent crimes are, they do also have a positive effect. These consequences are referenced by the concepts of post-traumatic growth or *benefit finding* (Helgeson et al., 2006). More than half of the people who have experienced intense crises in their lives indicate that they had received some benefit from this once events have passed (Schaefer & Moos, 1998). They evaluated certain aspects of their lives more positively. Dutch studies assessing the consequences of train hijacks and other hostage situations which took place in the 1970s have shown that this positive effect was evident in 15% of hostages (e.g. Jaspers, 1980). In retrospect people realised they had become stronger, learnt to enjoy more and put things into perspective. Certain aspects of one's own existence which had been important up to that point, now appeared as futile, whilst other aspects – in particular family life and friendships – acquired more importance. These items on our list relate to having an awareness of (cognitive) control.

The third subscale reflects the importance of religion. This concerns the search for order in existence based on religion. It is a supernatural authority distinguishing between good and evil, providing structure and justice to human suffering. On the one hand experiences of war (particularly amongst the Bosnian refugees who have experienced war fought along ethnic/religious

lines) may create a distance from religious certainties, yet on the other the bond with religion could be expected to become stronger.

Two other subscales from both studies demonstrated too little homogeneity and internal consistency and will need revising. This is particularly the case for the subscale relating to causal explanations. Several well-known studies have been published by the American psychologist Taylor (Taylor, 1983; Updegraff & Taylor, 2000) of women who had undergone surgery for breast cancer. All the women studied were searching in their own way for an explanation for their disease. Most managed to do so, although pinpointing what causes breast cancer is often difficult from a medical perspective. It appeared that finding an explanation ensured better functioning. The type of explanation was not as important as the fact that the women had found a satisfactory explanation, whatever that happened to be. The women had found an answer to the question: "Why did this happen?"

Although initially an equal number of items were allocated to each subscale, the resulting exploratory factor analysis demonstrated an unequal distribution of the number of items across the four subscales for both samples. As the item factor loadings are predominantly equal in both groups, this leads to the obvious conclusion that participants interpreted the questions in the same way. Future research will need to explore strengthening the remaining scales by adding items.

An option for further revision of the *Meaning of War Scale* is to extend the list with other dimensions considered important in the process of attributing meaning, such as, for instance, bonds with others. According to Herman (1992), recovery from trauma is only possible within the context of personal relationships. Contacts with supportive others may help in maintaining or rediscovering a positive world view (Janoff-Bulman, 1992) and a positive self-image (Lepore, 2001). Furthermore, a supportive network may provide new and positive perspectives on the traumatic experience, contribute to new ways of coping with the situation or encourage acceptance of the situation (Clark, 1993). Additionally, a link could also be made to instruments focused on cognitive predispositions which contribute to more symptoms after traumatic experiences (Van Emmerik, School, Emmelkamp & Kamphuis, 2006). Whereas search for meaning mainly relates to changes in beliefs ("I don't trust other people anymore since the war"), these negative cognitions relate to pre-existing ways of thinking ("I never succeed in changing things in my life"), which stand in the way of recovery.

To what extent are responses to the *MWS* scale subject to change, for instance, through psychotherapy or the passage of time? The subscales appear to be relatively stable over a short period of time. However, are different results

produced following interventions or changes in circumstances? People have been found to be still wrestling with questions regarding the sense of their war time experiences even 50 or 60 years after the end of World War Two; they were still looking for the meanings of and in their experiences (Mooren & Kleber, 1996). It would be useful to determine the changeability in the search for and finding of meaning after experiences of war and violence, and to do this in relation to other characteristics of human functioning (including life-span developments and the development of psychopathology).

What is the relationship with the characteristic responses following traumatic experiences: avoidance and intrusion? The association between these reactions and the MWS subscales was explored in both groups with war time experiences. The strongest correlation was demonstrated for intrusion, avoidance and distrust among all respondents. The correlation between intrusion and avoidance on the one hand and religion and growth on the other hand was more modest. The latter confirms the finding that positive and negative consequences are two fairly independent dimensions in the aftermath of traumatic experiences (Schok et al., 2008).

Distrust is therefore primarily closely associated with stress reactions in the short and long term. This scale was also associated (negatively) with optimism (LOT) and the belief in the benevolence of the world (WAS). This can be explained by the fact that it involves people who have all experienced interpersonal violence of one form or another. The growth subscale was associated with outcomes on the LOT (and the WAS). This means that this subscale more or less exclusively reflects a type of positive perspective. The religion subscale demonstrated a (positive) association with stress reactions, but little or no association with optimism. One interpretation of this is that the importance of religion increases in proportion to the level of stress. This therefore reflects a coping mechanism, which serves to make stress manageable by looking for explanations and/or finding explanations for what has happened. In conclusion, there are differential relationships between the three subscales in respect of other instruments.

Attributing meaning to adverse events contributes to creating a narrative link and a congruent self-image. Providing traumatic experiences with context in time and place, as well as in relation to other autobiographical memories, enables memories to be fitted into someone's life story (Ehlers & Clark, 2000; Van der Hart, 2003). Making traumatic experiences understandable promotes recovery of control over the emotional impact. The recovery process after a trauma consists of organising overwhelming and often detailed memories of events. The many images, thoughts and feelings are ordered into a coherent whole (Ne-

imeyer, 2006). Creating sense of events allows all the bits of the puzzle to come together, enabling fundamental beliefs to offer a sense of security again.

## Appendix

Item descriptions for the Meaning of War Scale (MWS) and factor loadings for the two samples (refugees N =365; veterans N =1561)

Item	Theme	Refugees (N=365) Factor				Veterans (N=1561) <sup>a</sup> Factor			
		1	2	3	4	1	2	3	4
1	Only trust oneself	.58				.57			
2	Only understood by people with similar experiences	.54				.47			
4	No belief in justice	.57				.66			
12	No hope of peace in BiH	.49				.40			
17	Lack of trust in authorities	.60				.58			
18	Difficulties talking about the war	.38				.47			
22	Fellow humans are warlike and unreliable	.69				.54			
24	Loss in trust in human kindness	.66				.59			
25	Everybody's on their own	.64				.63			
29	Confrontation with "true nature"	.36				.35			
32	Solidarity has gone	.52				.56			
3	Having a grip on life		.27				.30		
5	Seeing sense in life		.43				.51		
11	Not valuing things in life anymore		.49				.47		
19	Having become stronger		.56				.60		
26	Living more consciously		.56				.48		
27	Having learned from experiences		.59				.49		
33	Being self-sufficient		.51				.44		
34	Seeing a better future		.54				.34		
8	Belief has grown stronger			.45				.72	
16	Being able to forgive			.31				.73	
23	Praying more			.55				.70	
7	The war could have been prevented				.51				.31
10	Feel a bond with fellow sufferers				.42				.07
13	Want to contribute to preventing war				.64				.29
20	Indifferent to world events				.36				.14
21	To want to inform others				.26				.01

<sup>a</sup>Deployment experiences were used as a reference point for veterans instead of war.

Factors 1 to 4 refer to the subscales distrust, growth, religion and explanations, respectively. Criterion employed  $r > .30$ .

The item contents have been provided as a summary. The questionnaire (and item wording) is available on request from the authors.

# 4

## The Significance of Positive Appraisals on Psychological Adaptation and Quality of Life after Military Deployment



Schok, M.L., Kleber, R.J., & Elands, M. (submitted). The significance of positive appraisals on psychological adaptation and quality of life after military deployment.

## **Abstract**

Aim of this study was to examine if positive appraisals are adaptive in the psychological processing of military deployment experiences. Data were collected by questionnaires of 1.561 Dutch veterans who participated in various war and peacekeeping operations. Multivariate analysis was used to examine differences among appraisal subgroups. Thematic analysis was conducted to explore positive and negative appraisals. Results showed that most veterans had positive appraisals of their military deployment experiences long after their service despite exposure to war zone stressors. Moreover, they reported less posttraumatic stress, assigned more positive meaning and benefits to their deployment and reported higher quality of life compared to veterans with negative appraisals. Findings of this study indicate that a positive perception of military deployment experiences is most beneficial for veterans over the long term. Overcoming the negative emotional impact of military deployment by emphasizing positive personal gains may prove to be an adaptive cognitive strategy.

## Introduction

Research on cognitive processing in research in stress and trauma is broadening its horizon and the subjective perception gains more territory. A minority of people develop symptoms in the aftermath of potential trauma (Bonnano, 2004; Kleber & Brom, 1992), and positive psychological changes have been reported (Affleck & Tennen, 1996; Calhoun & Tedeschi, 2001; Collins, Taylor & Skokan, 1990; Helgeson, Reynolds & Tomich, 2006; Joseph & Linley, 2006; Zoellner & Maercker, 2006). However, the relationship of positive psychological changes with adaptation to trauma is not yet clear and the scientific debate on this issue is very much alive (Butler, 2007; Hobfoll, Hall, Canetti-Nisim, Galea, Johnson & Palmieri, 2007; Pat-Horenczyk & Brom, 2007; Stasko & Ickovics, 2007; Tedeschi & Calhoun, 2004). Findings from our review on cognitive appraisals of war and peacekeeping experiences (Schok, Kleber, Elands & Weerts, 2008) showed that veterans reported more positive than negative effects from their military deployment reflecting independent dimensions of meaning of military deployment. The present study explores the significance of positive appraisals on cognitive adaptation and quality of life after military deployment.

Although Dohrenwend et al. (2004) found mainly positive appraisals of postwar readjustment among male veterans of the Vietnam War, they suggested that the balance between negative and positive appraisals is likely to be critical for veterans who had been exposed to war zone stressors. They argued that concurrent negative and positive appraisals reflect the reality of the military experience and will therefore provide a cognitive context for growth. According to their line of reasoning, wholly negative appraisals would foreclose a context for growth, whereas wholly positive appraisals would indicate the presence of defensive denial. Research findings showed that posttraumatic stress disorder is characterized by excessively negative appraisals of the event. These negative appraisals produce a sense of current threat and prompt dysfunctional cognitive responses regarding world view and self image (Beck, 1967/1972; Ehlers & Clark, 2000; Foa, Ehlers, Clark, Tolin & Orsillo, 1999). On the other hand, positive illusions help people adjust successfully to threatening events. A self-enhancing bias was found to buffer against threats and future setbacks by helping to restore self-esteem, to develop an optimistic outlook and to regain a sense of mastery over the event (McFarland & Alvaro, 2000; Taylor, 1983; Taylor & Brown, 1988/1994). In addition, evidence suggests that people's recollections of the past are often positively biased (Walker, Skowronski & Thompson, 2003). Based on these latter findings we expect a positive perception of military deployment experiences to be most adaptive on the long term.

In construing meaning, both making sense of the event and finding benefit in the experience are found to play independent parts (Davis, Nolen-Hoeksema & Larson, 1998; Taylor, 1983). Cancer patients who were able to derive a positive meaning from their diagnosis reported better psychological adjustment. Davis et al. (1998) showed that making sense of the death of a loved one was associated with less distress only in the first year after the event, whereas finding benefit was most strongly associated with adjustment at 13 and 18 months post loss. Therefore, we expect in our study that veterans with positive appraisals will report fewer posttraumatic stress responses, were more able to make sense of their military deployment experiences and derived more personal benefits from their military deployment.

Several studies have shown that the presence of posttraumatic stress disorder among veterans significantly impaired their daily functioning and quality of life (Barrett et al., 2002; Schnurr, Hayes, Lunney, McFall & Uddo, 2006; Zatzick et al., 1997). However, no research to date has been conducted on the influence of cognitive appraisals on functioning and quality of life among veterans after deployment. It is expected that if veterans have a positive outlook on their military deployment experiences this will improve overall quality of life as well as specific domains of quality of life. For example, if veterans are able to process their experiences into autobiographical memory successfully, intrusions will not have a negative impact on their quality of sleep or social interactions with others. Therefore, veterans with positive appraisals of their military deployment will be expected to experience a higher quality of life than their counterparts who have negative appraisals of their deployment. Overall, being positive about military deployment is expected to support psychological adaptation and quality of life after military deployment.

To extend scientific knowledge on the subjective perception of deployment the content of positive and negative appraisals will also be explored. This broadens the scope on psychological changes after military deployment which improves our understanding of cognitive adaptation after exposure to the war zone. When exploring meaning and emphasizing the subjective perspective there is no objective reality (Guba & Lincoln, 1994). To capture parts of this process of meaning emphasis should be on qualitative methods.

## **Methods**

### ***Participants***

A cross-sectional study was carried out between September 2004 and December 2004 among Dutch veterans who were registered at the Dutch Veterans Institute. This national institute promotes social recognition and provides services and

care to improve the psychological, social, and physical well-being of Dutch veterans and their families. A sample of 3000 veterans was drawn, consisting of former military personnel that were deployed during the following war and peacekeeping operations: (1) the (Dutch)-Indonesian Decolonisation War (1945-1949), (2) the Korean War (1950-1953), (3) the Dutch-Indonesian conflict on Irian Jaya (New-Guinea, 1950-1962), (4) UNTAC/UNAMIC (United Nations Transitional Authority in Cambodia/United Nations Advance Mission In Cambodia, 1992-1993), (5) UNPROFOR/UNPF (United Nations Protection Force in former Yugoslavia/United Nations Peace Forces, 1992-1995) and (6) IFOR/SFOR (Implementation Force/Stabilization Force in former Yugoslavia, 1995-present). For each military operation 500 veterans were approached. The response rate was 52% ( $n=1.561$ ) for the total group and ranged from 46% to 56% per military operation.

For the purpose of this study, veterans were divided into three subgroups based on their own appraisals of deployment: (very) positive (POS), both positive and negative (POSNEG), and (very) negative (NEG). Most veterans were positive to very positive about their deployment experiences (51.9%; 810). Approximately one-third of the veterans had both positive and negative appraisals about their deployment experiences (33.9%; 529). A minority of veterans was negative to very negative about their deployment (8%; 130). The cases with missing data were excluded from the study (5.9%; 92). The total sample consisted of 1.469 veterans. Data analysis was carried out by comparing these subgroups on the dependent variables.

### **Measures**

*Appraisals of military deployment.* A self-constructed question measured appraisals of military deployment experiences. Respondents could answer the question “How would you appraise your deployment experiences in general?” with the following answers ranging from “very negative”, “negative”, “positive and negative”, to “positive” and “very positive”. This question was included to find out how veterans looked back on their military experiences. The 5-point answering scale was chosen because earlier studies showed positive and negative dimensions of meaning among military samples (see Schok, Kleber, Elands & Weerts, 2008). To explore positive and negative appraisals open questions were added such as “What did you find positive about your deployment experiences?” and “What did you find negative about your deployment experiences?”.

*War-zone stressors and perceived threat.* War-zone stressors were measured using a subscale of the comprehensive Aftercare Questionnaire of the Royal Army in the Netherlands (Royal Netherlands Army, 2003). This scale assessed

threatening events experienced during deployment. For example, items included “Shootings (not aimed)”, “Held under gun point (weapon aimed)”, “Hostage of colleagues within the unit”, “Wounded person within the unit”, “Being wounded”, “Shot at someone”, “Rejected by local people”, “Seeing children getting killed or being wounded”, “Clearing dead bodies”, and “Presence of landmines”. The final instrument consisted of 23 items of which the respondents were asked to mark the threatening events they had experienced during deployment and the extent to which they perceived these events to be threatening on a Likert-type rating scale from 1 “not at all” to 5 “very much”. A sum score was calculated to measure perceived threat related to war zone stressors. Internal reliability of this scale was high ( $\alpha = .90$ ).

*Impact of Event Scale – Revised (IES-R).* The Impact of Event Scale – Revised (Weiss & Marmar, 1997) is a revised version of the 15-item IES (Horowitz, Wilner, & Alvarez, 1979; Dutch version Brom and Kleber, 1985). The IES assesses the emotional impact of traumatic event on a person by looking at intrusive thoughts, emotional numbing and avoidance. The IES-R contains seven additional items related to the hyperarousal symptoms of PTSD, which were not included in the original IES. Respondents were asked to think about their deployment experiences and then indicate how much they were distressed or bothered during the past seven days by each item from 1 (not at all) to 4 (often). The IES-R yields a total score (ranging from 0 to 88) and subscale scores can also be calculated for the Intrusion, Avoidance, and Hyperarousal subscales. Reliability for the total scale was .96 and .94 for the IES-15, and for the subscales subsequently .90, .89 and .89.

*Meaning of War Scale (MoWS).* The Meaning of War Scale (Mooren & Kleber, 2001; Mooren, Schok & Kleber, 2009) consisted of 22 items with explicit reference to war and was adjusted to the experience of military deployment. Subscales were a) viewing the people and surrounding world in terms of trust and distrust, and detachment, b) growing or learning from what happened, expressed by feelings of hope and lack of hope and life-goals, c) adhering to a religion. Examples of items of the subscale “distrust” included “Since my deployment I only trust myself” and “Since my deployment I don’t believe in justice anymore.” Examples of items of the subscale “growing” included “My deployment experiences have made me a stronger person” and “My deployment experiences gave my life more sense.” Examples of items of the subscale “adhering religion” included “My deployment experiences have made my belief in God stronger” and “Since I have been deployed I pray more.” Respondents are asked to indicate the extent of their agreement with the items on a 4-point scale ranging from 1 “strongly disagree” to 4 “strongly agree”. The three subscales showed good reliability (.85, .76 and .85 respectively).

*Benefit Finding Scale (BFS).* The Benefit Finding Scale (Antoni et al., 2001) has 17 items and each item expresses some potential benefit that might be derived from the experience. Responses were made on Likert-type rating scale from 1 “not at all” to 5 “extremely”. The items assessed benefits in a variety of domains, including acceptance of life’s imperfections, becoming more cognizant of the role of other people in one’s life, and developing a sense of purpose in life. Internal reliability of this scale was high ( $\alpha = .92$ ).

*Quality of Life (WHOQOL-Bref).* Participants completed the World Health Organization Quality of Life assessment instrument-Bref (WHOQOL-Bref Dutch version; De Vries & Van Heck, 1996), a cross-culturally developed, generic, multidimensional QOL measure (WHOQOL group, 1994). It consists of 26 questions assessing four domains (physical health and level of independence, psychological health, social relationships, and features of the environment) and a general evaluative facet (overall QOL and general health; WHOQOL group, 1998). The response scale is a 5-point Likert scale. Scores on each facet and domain range from 4 to 20. Findings from an earlier study showed low reliability for the domains “overall QOL and general health” and “social relationships” (not published). To improve reliability we created an extended version of the WHOQOL-Bref using the domains “overall QOL and general health” and “social relationships” from the WHOQOL-100 (De Vries & Van Heck, 1995) that resulted in a total of 37 items. Reliability of the domains and the general evaluative facet were good and showed a Cronbach’s alpha of .86 for physical health, .81 for psychological health, .82 for social relationships, .82 for features of the environment, and .86 for overall QOL and general health.

### ***Procedure***

The comprehensive questionnaire was sent using an extensive procedure to increase response rates (Eaker, Bergström, Bergström, Adami & Nyren, 1998; Wentz and Kwan, 2002). First, a letter of introduction was sent, informing the veterans of the purpose of this study and preparing them for the questionnaire that would be sent by mail. A week later, the questionnaire was mailed to them along with a letter. Three weeks later, an announcement was sent which reminded the veterans to participate in this study. Finally, two months later, a second reminder was sent to the non-responders.

### ***Data analyses***

Differences among subgroups were analysed with ANOVA with post-hoc tests correction Bonferroni and chi-square tests for descriptive variables, war zone stressors and perceived threat related to war zone stressors. The Bonferroni correction was applied to control for the Type I error rate. Missing data were

imputed in SPSS 14.0 by the EM (expectation-maximisation) algorithm. To examine differences on measures of meaning and subscales of the WHOQOL-Bref, a MANCOVA model was constructed using the appraisal subgroups as the fixed factor (NEG vs. POSNEG vs. POS) and the four subscales of meaning and the five subscales of quality of life as the dependent variables, adjusting for a confounding effect by perceived threat. Post-hoc tests corrections were performed with Bonferroni. Differences on posttraumatic stress reactions were analysed with Kruskal-Wallis one-way analysis of variance because assumptions for multivariate analysis were not met. Effect sizes were calculated with Cohen's  $d$  using pooled standard deviations where  $d=.2$  indicates a small effect,  $d=.5$  a medium effect and  $d=.8$  a large effect (Cohen, 1988).

Thematic analysis was conducted to explore positive and negative appraisals of military deployment experiences. The first and last author coded the answers to the open questions. After analyzing the content of positive and negative appraisals 11 themes emerged in both dimensions. Cohen's kappa for coding the qualitative items was 0.5 (Cohen, 1960).

## Results

### *Descriptive statistics*

Veterans with negative appraisals were significantly older than the other two subgroups (63.99 vs. 56.88 vs. 55.75 years),  $F(2, 1.466) = 10.51, p < .001$ , were more often deployed during military war operations, (57.7% vs. 42.3% vs. 43.2%),  $\chi^2(2, N = 1.460) = 9.73, p < .01$ , were less frequently deployed (24.2% vs. 36.0% vs. 39.8%),  $\chi^2(2, N = 1.440) = 11.82, p < .01$ , included more land forces and less marines  $\chi^2(14, N = 1.414) = 24.28, p < .05$ , were more often conscript and (40.7% vs. 30.8% vs. 25.3%), less often professional (38.2% vs. 40.8% vs. 44.1%), less often deployed on a voluntary basis (10.6% vs. 16.0% vs. 15.4%) or had less a combination of status (10.6% vs. 12.5% vs. 15.2%)  $\chi^2(6, N = 1.437) = 16.16, p < .05$ . Post hoc comparisons with Bonferroni on age revealed significant effects between the negative and mixed appraisal subgroups,  $t(206) = 7.11, p = .000$ , and between the negative and positive appraisal subgroups,  $t(179) = 8.24, p = .000$ .

### *Positive and negative appraisals*

Respondents reported more positive than negative appraisals confirming the results of the quantitative question on appraisals (67.8% vs. 51.3%). As shown in table 1 the most frequent mentioned positive appraisals were POS 1 "life experience and broadening horizon", POS 2 "comradeship and bonding", POS 3 "personal growth", POS 4 "work experience and career", and POS 5 "providing

aid to local people". The following quotations will illustrate these positive appraisals:

*POS 1 "The world unfolded. I discovered that the world was bigger than the Netherlands. Learned to know new people, Sudanese, especially Papoea's. Happy and genuine. Taking things as they come."*

*POS 2 "The beautiful comradeship that develops if you have to make the most of difficult circumstances."*

*POS 3 "I realise now how fortunate we live in our country. I learned to put things in perspective."*

*POS 4 "I was exposed to the reality of life in a harsh way that changed my attitude and behaviour in a positive way. Also the idea that you have helped people and countries. As a former serviceman I now support victims."*

*POS 5 "Helping people in need. Contributing to rebuilding a safe nation."*

The most frequent mentioned negative appraisals were NEG 1 "preparation, circumstances and duration deployment", NEG 2 "working relations within the unit", NEG 3 "meaninglessness of the mission", NEG 4 "politics and authorities", and NEG 5 "care and support after deployment". The following quotations will illustrate these positive appraisals:

*NEG 1 "That we were sent without weapons. Don't ask me why. "*

*NEG 2 "The macho behaviour of colleges made it impossible to talk about threatening situations. There was always someone who experienced more, exciting, and dangerous events where others would shut down. Then problems will come along."*

*NEG 3 "I was convinced after three months that we fought a lost cause, as history turned out to be."*

*NEG 4 "That the Dutch government and the military organisation have to invent the wheel over and over again."*

*NEG 5 “We went straight home after deployment. I wish we had met each others again after a while. Just sharing stories and to hear how everybody is doing.”*

**Table 1** *Positive and negative appraisals related to military deployment experiences*

Themes positive appraisals			Themes negative appraisals		
	<i>n</i>	%		<i>n</i>	%
1. life experience and broadening horizon	482	30.9	1. preparation, circumstances and duration deployment	194	12.4
2. comradeship and bonding	265	17.0	2. working relations within the unit	124	7.9
3. personal growth	202	12.9	3. meaninglessness of the mission	122	7.8
4. work experience and career	179	11.5	4. politics and authorities	120	7.7
5. providing aid to local people	175	11.2	5. care and support after deployment	78	5.0
6. contribution to peace and security	179	11.5	6. exposure war zone	77	4.9
7. international cooperation	39	2.5	7. powerlessness	71	4.5
8. financial benefits	14	0.9	8. appreciation and recognition	71	4.5
9. rewarding efforts	14	0.9	9. effects homefront	57	3.7
10. effects homefront	6	0.4	10. personal change and health	45	2.9
11. serving the country	5	0.3	11. attitude local people	20	1.3
<b>Total</b>	<b>1023</b>	<b>67.8</b>	<b>Total</b>	<b>774</b>	<b>51.3</b>

**War-zone stressors and perceived threat**

Veterans reported no significant differences on frequency of war zone stressors during deployment,  $F(2, 1.469) = 1.56, ns$ , but perceived threat related to war zone stressors differed significantly,  $F(2, N = 1.469) = 6.77, p < .01$ , among subgroups. Post hoc Bonferonni corrected pairwise comparisons revealed significant effects between the negative and positive appraisal subgroups,  $t(287) = 6.17, p < .01$ , and between the positive and mixed appraisal subgroups,  $t(1.277) = 2.75, p < .05$ . Veterans with negative appraisals reported the highest mean score on perceived threat related to war zone stressors. Few differences were found among the three subgroups on reported war zone stressors. Veterans with negative appraisals reported more being wounded during deployment,  $\chi^2(2, N = 1.469) = 9.36, p < .01$  and being intimidated by supervisors,  $\chi^2(2, N = 1.469) = 15.93, p < .001$ .

**Posttraumatic stress reactions**

Differences among subgroups of appraisals for the subscales intrusion, avoidance and hyperarousal were analysed using Kruskal Wallis Test because the assumptions of normality and homogeneity of variance were not met. As shown in Table 2, mean scores for the subgroups significantly differed on intrusion,  $\chi^2(2, N = 1.469) = 70.19, p < .001$ , avoidance  $\chi^2(2, N = 1.469) = 117.84,$

$p < .001$  and hyperarousal  $\chi^2(2, N = 1.469) = 81.80, p < .001$ . Veterans with positive appraisals consequently scored lower than did those in the other two subgroups. Effect sizes were small for differences between veterans with positive or negative appraisals versus veterans with mixed appraisals, but effect sizes were higher (medium to large) for differences between the positive and negative appraisal group.

*Table 2 Comparison of mean differences on posttraumatic stress reactions related to military deployment by subgroups of appraisals on military deployment (n=1.469)*

Variables	POS (n=810)		POSNEG (n=529)		NEG (n=130)		$\chi^2$	D		
	M	SD	M	SD	M	SD		$d^1$	$d^2$	$d^3$
Intrusion (IES-R)	5.32	6.54	8.22	7.84	10.27	8.91	70.19**	.40	.24	.63
Avoidance (IES-R)	3.04	5.60	6.26	8.11	9.34	9.39	117.84***	.46	.35	.81
Hyperarousal (IES-R)	3.87	6.06	7.36	8.82	10.25	10.83	80.48***	.46	.29	.73
	n	%	N	%	n	%				
Indication Posttraumatic Stress Disorder (IES)	84	10.4	135	25.5	49	37.7	107.32***			

<sup>1</sup> POS-POSNEG <sup>2</sup> POSNEG-NEG <sup>3</sup> POS-NEG\*\*\*  $p < .001$ .

Furthermore, veterans with positive appraisals showed lower percentages of a possible diagnosis of Posttraumatic Stress Disorder (PTSD) (based on a cut-off score of > 26 using total score IES-15 (Van der Ploeg, Mooren, Kleber, Velden, van den & Brom, 2004)) compared to the subgroups with positive/negative and negative appraisals (10.5% vs. 25.9% vs. 37.2%),  $\chi^2(2, N = 1.469) = 107.32, p < .001$ .

### *Meaning making and finding benefits*

The MANCOVA showed a significant main effect for subgroups of appraisals on measures of meaning, Pillai's Trace= 0.19,  $F(8, 1.469) = 38.83, p < .001$ , with a significant confounding effect for perceived threat related to war zone stressors, Pillai's Trace= 0.07,  $F(4, 1.469) = 26.35, p < .001$ . Two dependent variables showed significant between-group differences (see Table 3). Post hoc Bonferonni-corrected pairwise comparisons also revealed significant effects on three dependent variables. Veterans with positive appraisals showed significantly higher scores on growth,  $t(161)=2.59, p=.000$ , personal benefits  $t(174)=6.39, p=.000$ , but lower scores on distrust  $t(187)=-5.40, p=.000$ , than veterans with negative appraisals. Effect sizes were medium to large between these two subgroups. Veterans with mixed appraisals showed also significantly higher scores on growth,  $t(178)=1.67, p=.000$ , personal benefits  $t(196)=4.08, p=.001$ , but also lower scores on distrust  $t(190)=-2.76, p=.000$ , than veterans with negative appraisals.

**Table 3** Comparison of mean differences on measures of meaning and finding benefits related to military deployment by subgroups of appraisals on military deployment (n=1.469)

Variables	POS (n=810)		POSNEG (n=529)		NEG (n=130)		F	D		
	M	SD	M	SD	M	SD		d <sup>1</sup>	d <sup>2</sup>	d <sup>3</sup>
Distrust (MoWS)	24.32	4.87	27.10	4.84	30.03	5.38	96.30***	.57	.57	1.11
Growth (MoWS)	23.07	2.33	22.16	2.34	20.52	3.18	72.88***	.39	.59	.91
Religion adherence (MoWS)	5.84	2.16	5.88	2.12	5.83	2.10	.07	.02	.02	.00
Personal Benefits (BFS)	49.99	12.99	47.96	12.52	44.23	12.77	16.30***	.16	.29	.45

<sup>1</sup> POS-POSNEG <sup>2</sup> POSNEG-NEG <sup>3</sup> POS-NEG \*\*\* p<.001.

However, effect sizes were small to medium between these two subgroups. Veterans with mixed appraisals showed significantly lower scores on growth,  $t(1.125)=-.93, p=.000$ , personal benefits  $t(1.143)=-2.31, p=.003$ , but higher scores on distrust  $t(1.131)=2.64, p=.000$ , than did veterans with positive appraisals. These effect sizes were also small to medium between these two subgroups. No differences were found between subgroups for adhering to religion.

### Quality of Life

The MANCOVA showed an overall group effect on subscales of quality of life Pillai's Trace= 0.08,  $F(10, 1.469) = 12.86, p<.001$ , with a significant confounding effect for perceived threat related to war zone stressors, Pillai's Trace= 0.02,  $F(5, 1.469) = 6.85, p<.000$ . All dependent variables showed significant between-group differences (see Table 4). Post hoc Bonferonni-corrected pairwise comparisons revealed significant effects on all dependent variables among subgroups. Veterans with positive appraisals showed significantly higher scores on overall quality of life and general health,  $t(161)=2.21, p=.000$ , physical health  $t(162)=2.20, p=.000$ , psychological health  $t(163)=1.84, p=.000$ , social relations  $t(166)=1.32, p=.000$ , environment  $t(169)=1.50, p=.000$ , than veterans with negative appraisals. Effect sizes were medium to large between these two subgroups. Veterans with mixed appraisals showed significantly higher scores on overall quality of life and general health,  $t(184)=1.16, p=.000$ , physical health  $t(185)=1.16, p=.000$ , psychological health  $t(187)=.89, p=.000$ , social relations  $t(187)=.65, p=.006$ , environment  $t(194)=.71, p=.003$ , than veterans with negative appraisals.

**Table 4** Comparison of mean differences on quality of life by subgroups of appraisals on military deployment (n=1.469)

Variables	POS (n=810)		POSNEG (n=529)		NEG (n=130)		F	D		
	M	SD	M	SD	M	SD		d <sup>1</sup>	d <sup>2</sup>	d <sup>3</sup>
Overall quality of life and general health	16.08	2.44	14.99	2.65	13.78	3.27	54.49***	.42	.40	.80
Physical health	16.46	2.45	15.37	2.72	14.14	3.26	52.94***	.42	.41	.80
Psychological health	15.53	2.08	14.55	2.25	13.62	2.64	55.94***	.45	.38	.81
Social relations	14.34	2.09	13.65	2.12	12.97	2.46	29.92***	.33	.30	.60
Environment	15.94	2.14	15.13	2.22	14.38	2.34	38.33***	.37	.33	.70

<sup>1</sup> POS-POSNEG <sup>2</sup> POSNEG-NEG <sup>3</sup> POS-NEG \*\*\* p<.001.

However, effect sizes were small between these two subgroups. Veterans with mixed appraisals showed significantly lower scores on overall quality of life and general health,  $t(1.095)=-1.05, p=.000$ , physical health  $t(1.085)=-1.04, p=.000$ , psychological health  $t(1.096)=-.94, p=.000$ , social relations  $t(1.120)=-.67, p=.000$ , environment  $t(1.112)=-.79, p=.000$ , than veterans with positive appraisals. Effect sizes were also small between these two subgroups.

## Discussion

Findings from this study showed that the majority of veterans had positive appraisals about their military deployment experiences long after their service, despite exposure to war zone stressors. Moreover, veterans who were positive about their military experiences reported less posttraumatic stress, assigned more positive meaning and benefits to their deployment and experienced higher quality of life than did their counterparts and veterans with mixed appraisals. These findings indicate that a positive perception of military deployment experiences is likely to be most beneficial for veterans over the long term. Exploration of the content of appraisals revealed that lasting personal changes were more positively evaluated and uncontrollable situations were more negatively labelled. Therefore, self enhancement seems more beneficial on the long term whereas perceiving no control over situations that happened during deployment seem to have adversial effects for mental health and quality of life after the mission.

Military deployment happened on average more than 15 years ago for the veterans in this sample. They are now civilian who have picked up their lives after military service and were faced with new turning points. For the majority of veterans in this sample this generally positive perception may well be an outcome of the process of making sense of their war and peacekeeping experiences (Butler, 2007; Helgeson, Reynolds & Tomich, 2006). Furthermore, veterans

with positive appraisals reported highest growth and benefit finding, referring to positive psychological changes as a result of their deployment experiences. Advantages of assigning positive meaning are that they make the world more meaningful after being exposed to threatening events (Janoff-Bulman, 1992) and support the psychological benefits of positive illusions regarding self, personal control and future in relation to psychological adaptation (Taylor & Brown, 1988). In addition, experimental research also shows that people's recollections of the past are often positively biased (Walker, Skowronski & Thompson, 2003). Therefore, looking back with positive feelings on stressful life events seems most beneficial and serves self enhancement in supporting our self-actualising tendency (Rogers, 1959). For each person has the potential for positive healthy growth and change.

Veterans who have concurrent positive and negative appraisals may still be in the process of working through their military deployment experiences. Within this group the balance may be critical, as Dohrenwend and his colleagues (2004) suggested. These veterans might still be working through the emotional impact of deployment and are conscious or unconsciously making up the balance on how these emotional memories will be stored as either positive or negative in autobiographical memory. Overcoming the negative by using positive appraisals may well be an adaptive cognitive strategy. Positive emotions have been shown to broaden an individual's thought-action repertoire, which in turn help to build that individual's personal resources (Tugade & Frederickson, 2004). The ability to maintain a differentiated view of both positive and negative information may promote resiliency because it fosters feelings of mastery, competence, commitment, and other aspects of positive self-perceptions that maintain or restore self-esteem after potentially threatening experiences (Cheng, 2001; Westphal & Bonanno, 2007). It may also be true that some veterans are not capable of seeing positive aspects because of the overwhelming negative impact of their deployment experiences which narrows their focus resulting in a sense of current threat (Ehlers & Clark, 2000).

Veterans with generally negative appraisals reported the highest perceived threat and the highest level of distrust related to war zone stressors. Veterans with a negative perception of their deployment may be less able to solve their tendency to integrate new experiences into prior beliefs of the world in order to create a meaningful world again (Festinger, 1979; Horowitz, 1986; Janoff-Bulman, 1992). Negative appraisals of deployment may prohibit integration and maintain posttraumatic stress reactions resulting in a sense of current threat (Beck, 1967/1972, Ehlers & Clark, 2000; Foa, Ehlers, Clark, Tolin & Orsillo, 1999). To decrease this sense of current threat, the veteran has to change his appraisal of the events (assimilation) or he has to change his basic beliefs

about the world (accommodation) (Janoff-Bulman, 1992; Piaget, 1952). For some veterans it may be difficult to change their fundamental beliefs because this creates existential anxiety and old schemas are rather maintained than changed (Dalgliesh, 2004). In order to work through the emotional impact of experiences veterans have to bear the positive and negative emotions associated with the trauma. Not all veterans have this inner strength of regulating their emotions, especially when limited by a narrowed focus as result of their sense of current threat.

Meaning-making in terms of distrust was highest among veterans with negative appraisals, as was the level of posttraumatic stress reactions related to their war and peacekeeping experiences. This has important implications for the use and effects of health care. Veterans who have negative perceptions about the world and other people may find it difficult to seek treatment for posttraumatic stress. They will approach social workers and therapists with caution and distrust (Hoge, Auchterlonie & Milliken, 2006). Treatment will fail when there is no trust. Moreover, being distrustful increases the risk of social isolation. Research has already shown that without adequate social support it is more difficult for veterans to adjust after deployment (Bolton, Litz, Glenn, Orsilli & Roemer, 2002; Bolton, Glenn, Orsilli, Roemer & Litz, 2003; Johnson et al., 1997). For clinical practice it is important to detect as early as possible negative perceptions towards military deployment and to address distrustful beliefs about the world and other people. Furthermore, to prevent negative appraisals of becoming excessive and maintaining posttraumatic stress reactions (e.g. Ehlers & Clark, 2000) it would help to monitor soldiers who return home after deployment and to involve the family system, especially the partner, who is one of the first to notice when adjustment becomes problematic.

Overall, the most frequently mentioned positive appraisals reflected self enhancement whereas negative appraisals emphasized less personal control over military situations. Moreover, exploration of positive and negative appraisals related to deployment showed that exposure to the war zone was not rated as the most negative aspect. Social issues involving the military organisation itself, working relations, authorities and politics were more frequently appraised as negative. This shows that perceived threat related to the war zone is not per se the greatest issue in the minds of veterans in the aftermath of deployment. In contrast, aspects of personal development such as personal growth, life experience, contributing to a better world, and comradeship are far more important to veterans than may be expected. Deployment experiences appear to contribute a great deal to the identity formation in the eyes of the beholder emphasising positive psychological change (Schok et al., 2008).

Some methodological limitations have to be considered before final conclusions can be drawn. It remains uncertain if the results of this study are representative for all male veterans. Although the sample size was large, the response rate was not extremely high. It is possible that veterans in this sample are more likely to be in need of social recognition and care. Findings from a study among veterans deployed as part of the United Nations Interim Force in Lebanon (UNIFIL) showed that veterans who were not registered reported fewer health problems and a higher quality of life (Mouthaan et al., 2005). However, it could also be possible that veterans in need of mental care are underrepresented, because they avoid seeking help (Hoge, Auchterlonie & Milliken, 2006). Another critical note for consideration is the significant overlap between the subscale growth from the Meaning of War Scale and the Benefit Finding Scale ( $r=.44$ ,  $p=.000$ ). In their review article, Helgeson, Reynolds & Tomich (2006) made no distinction between growth and benefit finding, indicating that the two constructs are measuring the same thing. However, if this was true the correlation should be higher. Another limitation is the confounding effect for perceived threat in this study. Perceived threat was found to differ among subgroups of appraisals. Therefore, we controlled for perceived threat when analysing the dependent variables in order to decrease the risk at Type I errors or so-called false positives. Future studies on appraisals of military deployment have to take this confounding effect into account. A final point for consideration is that data was collected by means of self-report instruments. It may be argued that psychopathology influences the way people remember events, although Brewin and colleagues concluded in their review that there is little reason to link psychiatric status with a less reliable or a less valid recall of earlier experiences (Brewin, Andrews & Gotlib, 1993). However, it is possible that changes in reporting by participants with PTSD are related to meaning-making processes (Koenen, Stellman, Dohrenwend, Sommer & Stellman, 2007). Therefore, changes in meaning may reflect the process of cognitive adaptation.

Future research should examine how cognitive appraisals develop in time and relate to cognitive adaptation after military deployment. Since accommodation of new experiences requires more effort, risk factors that interfere with the search of congruity or the construction of a meaningful world view have to be identified. By identifying risk factors support or treatment can be better attuned to the needs of veterans to prevent negative appraisals from becoming persistent. Of equal importance is to find out what resilient factors makes processing deployment experiences successful. For example, recent research indicates that positive emotions help to regulate negative emotions (Tugade & Frederickson, 2004). During times of stress positive emotions prompt individuals to pursue novel and creative thoughts and actions, therefore, broaden-

ing their mindsets and helping them to build effective resources to cope with negative life events. Research on how veterans use positive emotions to process their war experiences helps to unravel the resilient side of adjustment to threatening events.

In sum, having a positive perception of military deployment experiences showed better cognitive adaptation and higher quality of life post-deployment compared to a negative perception. As discussed, maintaining concurrent positive and negative appraisals may be critical in the processing of threatening experiences to prevent the outcome of resulting in a negative perception of military deployment. Overcoming the negative emotional impact of trauma by focusing attention to positive personal gains may prove to be an adaptive cognitive strategy.



# 5

## Suspicious Minds at Risk? The role of Meaning in Processing War and Peacekeeping Experiences



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## **Abstract**

The purpose of this study was to examine meaning as a mediator between perceived threat and posttraumatic stress responses among a sample of 1,561 veterans who participated in war or peacekeeping operations. Data were collected by questionnaire. Path analysis was performed to assess the expected relationships between the observed variables. Meaning in terms of distrust and personal benefits partially mediated the relation between perceived threat and posttraumatic stress responses. Distrustful beliefs about others and the world were strongly associated with perceived threat as well as intrusive and avoidant thoughts. Creating meaning in terms of a positive world view appears to be an important mission after military deployment.

## Introduction

Since World War II the Dutch armed forces have participated in military operations world wide, including the Indonesian War of Decolonisation, the Korean War, and a growing number of international peacekeeping operations (Klep & Gils, 2005). Many veterans have encountered dangerous and threatening events during their military deployment. The psychological impact of war and peacekeeping experiences on Dutch veterans have been mainly investigated from a psychopathological perspective focusing on mental disturbances, in particular posttraumatic stress disorder (Bramsen, Dirkzwager & Van der Ploeg, 1997/2000; Bramsen, Klaarenbeek & Van der Ploeg, 1995; Dirkzwager, 2002; Jongedijk, Carlier, Schreuder & Gersons, 1996; Van Esch, Bramsen & Van der Ploeg, 2001). However, findings from our review of studies on cognitive appraisals of war and peacekeeping experiences (Schok, Kleber, Elands & Weerts, 2008) showed that veterans reported more positive than negative effects from their military deployment. To expand the scope from a psychopathological perspective to a more positive psychological orientation we will explore the role of meaning in the processing of war and peacekeeping experiences among Dutch veterans.

Threatening experiences can shatter basic assumptions about self, others and the world, as is emphasized by cognitive perspectives on trauma (e.g. Brewin & Holmes, 2003; Dalgliesh, 2004; Janoff-Bulman, 1992). When confronted with a threatening event, the individual becomes intensely aware that bad things can happen and the external world is perceived as a frightening place. The world no longer makes sense and this realization may be devastating (Janoff-Bulman & Frantz, 1997; Kleber & Brom, 1992). Successful processing occurs if new information is assimilated into existing structures, or if existing models of the world are accommodated to this new information. On the other hand, when individuals are incapable of integrating trauma-related information into existing beliefs about self, others and the world or are incapable to change their view of the world, posttraumatic stress disorder will most likely be the outcome.

Research has found that meaning in terms of comprehensibility and meaning in terms of personal significance play independent roles in the adjustment process (Davis, Nolen-Hoeksema & Larson, 1998). According to Taylor (1983), the attempt to find meaning reveals itself in two ways: a causal explanation that answers the question of why it happened, and a rethinking of one's attitudes and priorities to restructure one's life along more satisfying lines. Both changes are prompted by and attributed to the event. When cancer patients were able to derive positive meaning from the threatening experience, Taylor (1983) found that it produced significantly better psychological adjustment. A

prospective and longitudinal study by Davis et al. (1998) showed that making sense of the death of a loved one was associated with less distress only in the first year after the event, whereas benefit finding was most strongly associated with adjustment at 13 and 18 months post loss.

These findings point to two independent pathways following each other in the construction of meaning as part of the psychological adjustment process to threatening experiences. First, one has to make sense of the event by figuring out what happened, how it happened and why it happened. This means that people seek to understand the event retrospectively and try to achieve *comprehensibility* of what has happened to them (Janoff-Bulman & Frantz, 1997; Joseph & Linley, 2005; Wong & Weiner, 1981). Beliefs about self, others and the world that are related to inner trust and safety are expected to facilitate successful integration of threatening events (Janoff-Bulman, 1992). Second, one has to find *personal significance* in the event or gain from the experience for one's present life. This implies that people evaluate and interpret what the experience has brought them in terms of personal skills, relationships, life philosophy and world view (Antoni et al., 2001; Helgeson, Reynolds & Tomich, 2006; Joseph & Linley, 2005; Tedeschi & Calhoun, 1996).

As indicated before, veterans reported more positive than negative effects of war and peacekeeping experiences (Dohrenwend et al., 2004; Elder & Clipp, 1989; Mehlum, 1995). Moreover, veterans who were exposed to higher perceived threat, reported more positive outcomes (Aldwin, Levenson & Spiro, 1994; Britt, Adler & Bartone, 2001; Dohrenwend et al., 2004; Elder & Clipp, 1989; Fontana & Rosenheck, 1998). Findings also indicated a mediating effect of perceived benefits from (highly) stressful experiences on psychological adjustment long after deployment (Aldwin et al., 1994; Fontana & Rosenheck, 1998; Spiro, Schnurr & Aldwin, 1999). In addition to this, construing positive meaning out of military deployment may also improve quality of life. Research has demonstrated that the presence of posttraumatic stress disorder significantly impaired quality of life among veterans (Barrett et al., 2002; Schnurr, Hayes, Lunney, McFall & Uddo, 2006; Zatzick et al., 1997). By finding positive meaning posttraumatic stress reactions may decrease and in turn, satisfaction with daily functioning improves. Moreover, positive meaning is also expected to have a direct positive effect on quality of life. For example, understanding the experiences in retrospect and having learned from the experience will improve overall satisfaction of life.

Based on the above we expect that veterans, who perceive high threat, will be more inclined to make sense and find personal significance in their experiences. Since the tendency to reflect on the past increases with age we controlled for the influence of age on meaning-making and processing deployment

experiences (Butler, 1963). Second, it is expected that if veterans make sense in a positive way and find personal benefits in their war and peacekeeping experiences they will succeed in processing their experiences, as is reflected in the absence of having posttraumatic stress reactions (e.g. intrusion and avoidance). Third, we expect that meaning as comprehensibility and meaning as personal significance mediate the relation between perceived threat and the extent of posttraumatic responses as a result of being exposed to threatening events during military deployment. Fourth, we hypothesize that positive meaning (comprehensibility and personal significance) predicts higher quality of life, whereas the presence of intrusion and avoidance will predict lower quality of life. Figure 1 shows the model that visualizes these four hypotheses.

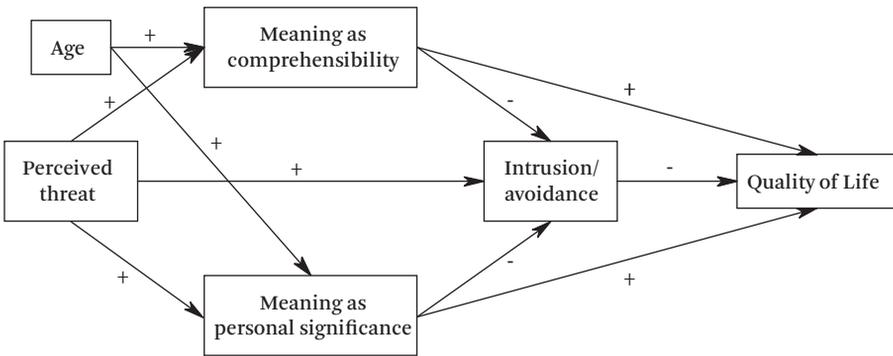


Figure 1 Hypothesised model of meaning and benefits as mediators between perceived threat and intrusion/avoidance

## Method

### Participants

A cross-sectional study was carried out between September 2004 and December 2004 among Dutch veterans who were registered at the Dutch Veterans Institute. This national institute promotes social recognition and provides services to improve psychological, social, and physical well-being among Dutch veterans and their families. A sample of 3000 male veterans was drawn, consisting of former military personnel who had been deployed during the following war and peacekeeping operations: (1) the (Dutch)-Indonesian Decolonisation War (1945-1949), (2) the Korean War (1950-1953), (3) the Dutch-Indonesian conflict on Irian Jaya (New-Guinea, 1950-1962), (4) UNTAC/UNAMIC (United Nations Transitional Authority in Cambodia/United Nations Advance Mission In Cambodia, 1992-1993), (5) UNPROFOR/UNPF (United Nations Protection

Force in former Yugoslavia/United Nations Peace Forces, 1992-1995) and (6) IFOR/SFOR (Implementation Force/Stabilization Force in former Yugoslavia, 1995-present). From each military operation 500 veterans were invited to participate in this study. The response rate was 52% ( $n=1.561$ ) for the total sample and ranged from 46% to 56% per military operation.

### **Measures**

*War-zone stressors and perceived threat.* War-zone stressors were measured using the comprehensive Aftercare Questionnaire of the Royal Army in the Netherlands (Royal Netherlands Army, 2003). This scale of the frequently used instrument assessed threatening events experienced during deployment. The items included, for example, “fired (upon),” “being hostage,” “being wounded,” “witnessing dead bodies,” “hearing wounded scream.” Eight items were added: “I shot someone,” “I killed someone (with a weapon),” “I have wounded someone (with a weapon),” “clearing dead bodies,” “presence of landmines,” “explosions (bombardments, missile attacks etc),” “intimidations by supervisor” and “not authorized to intervene between civilians and conflicting parties.” The final instrument consisted of 24 items of which the respondents were asked to mark the threatening events they experienced during deployment and the extent in which they perceived these events to be threatening on a Likert-type rating scale from 1 “not at all” to 5 “very much.” A sum score was calculated to measure perceived threat during deployment. Internal reliability of this scale was high ( $\alpha = .91$ ).

*Impact of Event Scale (IES).* The Impact of Event Scale (Horowitz, Wilner & Alvarez, 1979; Dutch version Brom & Kleber, 1985; Van der Ploeg, Mooren, Kleber, Van der Velden & Brom, 2004) assessed the emotional impact of traumatic events on a person by looking at intrusive thoughts and behaviours (subscale intrusion) and emotional numbing and avoidance (subscale avoidance). Respondents were asked to indicate the frequency of each of 15 symptoms, related to their deployment experiences, in the last week ranging from 0 to 5 (0=not at all, 1=rarely, 3=sometimes, 5=often). Reliability for this scale was high ( $\alpha = .94$ ).

*Meaning of War Scale (MoWS).* The Meaning of War Scale (Mooren & Kleber, 2001) consisted of 34 items with explicit reference to war and was adjusted to the experience of military deployment. Subscales were a) finding causal explanations for what happened, b) viewing the people and surrounding world in terms of trust and distrust, c) growing or learning from what happened, expressed by feelings of hope and lack of hope and life-goals, d) attitudes towards deployment, in specific as well as in general and e) adhering to a religion. The subscales “causal explanations”, “distrust”, “attitudes towards deployment” and “adhering religion” are operationalisations of meaning in terms of *com-*

*prehensibility*. They all reflect aspects of understanding the events in retrospect to create a cognitive framework to explain the experience. The subscale “growth” reflects meaning in terms of *personal significance* which emphasizes personal gain from the experience.

Examples of items of the subscale “causal explanations” were “Since my deployment I couldn’t care less about what is going on in the world” and “The military deployment shouldn’t have taken place.” Examples of items of the subscale “distrust” included “Since my deployment I only trust myself”, “Since my deployment I don’t believe in justice anymore”, “Since my deployment I don’t have trust in authorities anymore” and “Since my deployment I don’t believe in the benevolence of people anymore”. Examples of items of the subscale “growth” included “My deployment experiences have made me a stronger person” and “My deployment experiences gave my life more sense.” Examples of items of the subscale “attitudes toward deployment” were “The military mission has been senseless” and “I try not to expect much from other people.” Examples of items of the subscale “adhering religion” included “My deployment experiences have made my belief in God stronger” and “Since I have been deployed I pray more.” The answering categories were presented on a Likert-type rating scale (1-4). The subscales a) “causal explanations” and d) “attitudes towards deployment” were excluded from this study because reliability was low ( $\alpha < .50$ ). The other three scales showed good reliability (.85, .76 and .85 respectively).

*Benefit Finding Scale (BFS)*. The Benefit Finding Scale (Antoni et al., 2001) has 17 items and each item expresses some potential benefit that might be derived from the experience and was made specific by referring to deployment experiences. This scale assesses meaning in terms of *personal significance*. Responses were made on a Likert-type scale from 1 “not at all” to 5 “extremely.” The items assessed benefits in a variety of domains, including acceptance of life’s imperfections, becoming more cognizant of the role of other people in one’s life, and developing a sense of purpose in life. Internal reliability of this scale was high ( $\alpha = .92$ ).

*Quality of Life (WHOQOL-Bref)*. Participants completed the World Health Organization Quality of Life assessment instrument-Bref (WHOQOL-Bref Dutch version; De Vries & Van Heck, 1996), a cross-culturally developed, generic, multidimensional QOL measure (WHOQOL group, 1994). It consists of 26 questions assessing four domains (physical health and level of independence, psychological health, social relationships, and features of the environment) and a general evaluative facet (overall QOL and general health; WHOQOL group, 1998). The response scale is a 5-point Likert scale. Scores on each facet and do-

main range from 4 to 20. For the purpose of this study we only used the general evaluative facet which showed high reliability (Cronbach's alpha of .86).

### ***Procedure***

A comprehensive questionnaire was sent to the samples using an extensive procedure to increase response rates (Eaker, Bergström, Bergström, Adami & Nyren, 1998; Wentz & Kwan, 2002). First, an introduction letter was sent that informed the veterans of the purpose of this study and prepared them for the questionnaire that would be sent by mail. A week later, the questionnaire was sent with an accompanying letter. Three weeks later, an announcement was sent that "reminded" the veteran to return the questionnaire or "thanked" the veterans for his participation. Finally, two months later, a second reminder was sent to the veterans who still had not responded.

### ***Data analyses***

First, descriptive statistics and bivariate correlations were calculated. Second, the hypothesized model (Figure 1) was translated into a statistical model and tested using Structural Equation Modelling (SEM) by AMOS 5.0.1 (Arbuckle, 2003). Path analysis was performed to assess the expected relationships between the observed variables for the complete sample. Support for mediation was found in case that the association between perceived threat during deployment and intrusion and avoidance (dose-response relation) was significantly reduced when meaning and benefits were included in the model.

In all model analyses, maximum-likelihood was used as the method of estimation. Fit measures used were chi-square ( $\chi^2$ ), Goodness of Fit Index (GFI; Joreskog & Sorbom, 1996), the Bentler-Bonett Normed Fit Index (NFI; Bentler, 1990) and the root means square error of approximation (RMSEA; Steiger, 1990).  $\chi^2$  evaluates the fixed rather than the free parameters in a structural model and is non-significant when the model fits; GFI indicates the relative amount of the observed variances and covariances accounted for by the model; CFI presents the relative reduction in lack of fit as estimated by the noncentral  $\chi^2$  of a target model versus a baseline model. RMSEA is a measure of the model's parsimoniousness. Adequate fit of the model to the data is indicated by values of .95 or greater for GFI and CFI, and .05 or smaller for the RMSEA (Byrne, 2001).

Missing data were imputed in SPSS 15.0 by EM (expectation-maximization) method before analysing the data in AMOS. This was necessary because the maximum likelihood estimator needs a full matrix to provide the researcher with modification indices (MI). These indices were used to build the model. After the model fit was established, the original data file, including missing data, was used to estimate the model in AMOS, where missing data were imputed

using Full Information Maximum Likelihood (FIML) a method that is superior to the EM algorithm (Kline, 2005).

Guidelines by Cohen (1988) were followed to interpret standardised path coefficients with absolute values less than .10 indicating a “small” effect, values around .30 indicate a “medium” effect and coefficients with absolute values of .50 suggesting a “large” effect.

## Results

### *Descriptive statistics*

Table 1 shows descriptive information on the total sample. Participants had an average age of 57.66 years ( $SD=18.49$ , range 24-90). On average veterans served 18.08 months during deployment ( $SD=17.47$ , range 1-275). Veterans reported on average 7.55 war zone stressors ( $SD=18.49$ , range 0-24). Veterans were equally deployed during war and peacekeeping operations and most of them were married or living together (80.8%; 1262). Most veterans had low or middle level of education (72.9%; 1138). More than half of the veterans served with the Land Forces (65.2%; 1018), most veterans were working either as a professional (40.3%; 629) or were deployed as conscript (27.7%; 432) and when leaving the service most of them had a low rank (51.1%; 797) such as private or corporal. War zone stressors that were most reported by participants were shootings (70.9%; 1107), witnessing human suffering (70.5%; 1100), presence of landmines (61.9%; 967), witnessing death bodies (51.2%; 799) and witnessing severely wounded persons (50.5%; 788).

Table 2 displays the intercorrelations among the variables that were included in the model, along with the means and standard deviations of the measures. Correlations ranged from -.01 to 0.49 and were almost all significant. Highest associations were found between intrusion/avoidance and distrust, personal benefits and growth and intrusion/avoidance and perceived threat. No associations were found between age and perceived threat, age and growth, perceived threat and growth and perceived threat and religion. Because growth and religion showed no significant correlation with perceived threat these variables were excluded from the model. Furthermore, growth and personal benefits showed some significant overlap. All significant associations were in the expected direction, except for personal benefits versus intrusion/avoidance.

*Table 1 Descriptives of total sample (N=1.561)*

Descriptives	Total sample (N=1.561)	
	M	SD
Age (years)	57.66	18.49
Duration of deployment (months)	18.08	17.47
Time since leaving the military service (years)	24.50	20.71
Frequency of war zone stressors	7.55	5.44
	<i>n</i>	%
Deployment		
War	731	46.8
Peacekeeping	808	51.8
Married/living together	1262	80.8
Education		
Low	660	42.3
Middle	478	30.6
High	295	18.9
Other	109	7.0
Frequency of deployment		
1	954	61.1
> 1	558	35.7
Service		
Land Forces	1018	65.2
Navy (incl. marines)	237	15.2
Air Force	44	2.8
Military Police	29	1.9
Combination	182	12.1
Status		
Conscripts	432	27.7
Professional	629	40.3
Voluntary	238	15.2
Combination	212	13.6
Rank leaving the service		
Low	797	51.1
High	640	41.0
War zone stressors (most reported)		
Shootings (not aimed)	1107	70.9
Witnessing human suffering	1100	70.5
Presence of landmines	967	61.9
Witnessing death bodies	799	51.2
Witnessing severely wounded persons	788	50.5

Note. Due to missing data, sample sizes for descriptives vary.

**Table 2** *Bivariate correlations (n=1.561)*

Variables	1	2	3	4	5	6	7	8	
1. Age	-								
2. Perceived threat	-.02	-							
3. Distrust (MWS)	.14**	.22**	-						
4. Growth (MWS)	-.03	.03	-.09**	-					
5. Religion (MWS)	.30**	-.01	.11**	.13**	-				
6. Personal Benefits (BFS)	.16**	.14**	.07**	.44**	.34**	-			
7. Intrusion/avoidance (IES)	.07**	.40**	.49**	-.08**	.13**	.14**	-		
8. Quality of Life (WHOQOL-Bref)	-.07**	-.12**	-.43	.37**	-.03	.12**	-.35**	-	
	M	57.66	23.91	25.85	22.52	5.88	48.85	12.78	15.47
	SD	18.03	20.33	5.19	2.50	2.12	12.77	15.45	2.68

\*\* p<.01

**Results of path analysis**

First, the model as depicted in figure 1 was tested with the total sample. After removal of nonsignificant paths (between perceived threat and quality of life, age and intrusion/avoidance and age and quality of life) the model fitted the data very well,  $\chi^2(1, N = 1.561) = 3.8, p = .43, GFI = 1.0, NFI = 1.0, RMSEA = .00$ . Overall, the model explained 33% and 24% of the variance for intrusion/avoidance and quality of life respectively. The direct and indirect effects are presented in Table 3 and provide support for the notion that direct effects were small to medium and indirect effects were rather small in the model. Figure 2 shows the final model.

**Table 3** *Standardized direct and indirect effects between variables (N=1.561)*

Outcome	Predictor	Effects		
		Direct	Indirect	Total
Distrust	Age	.14***	-	.14***
	Perceived Threat	.23***	-	.23***
Personal Benefits	Age	.17***	-	.17***
	Perceived Threat	.15***	-	.15***
Intrusion/avoidance	Age	-	.08***	.08***
	Perceived Threat	.29***	.11***	.40***
	Distrust	.42***	-	.42***
	Personal Benefits	.08	-	.08***
Quality of Life	Age	-	-.03***	-.03***
	Perceived Threat	-	-.14***	-.14***
	Distrust	-.32***	-.09***	-.41***
	Personal Benefits	.18***	-.02'	.16***
	Intrusion/Avoidance	-.23***	-	-.23***

\*\* p<.01. \*\*\* p<.001

Results showed medium effect sizes between perceived threat and intrusion/avoidance and between perceived threat and distrust, but a small effect size

between perceived threat and personal benefits. Higher perceived threat predicted higher levels of intrusion/avoidance and distrust, and to some lesser extent personal benefits. The effect sizes between distrust and intrusion/avoidance versus quality of life was medium indicating that more negative perceptions about the world and other people predicted higher levels of intrusion/avoidance and lower quality of life. Personal benefits showed a small effect size with intrusion/avoidance and quality of life indicating that finding personal benefits predicted higher levels of intrusion/avoidance and higher quality of life. The effect size of intrusion/avoidance with quality of life was medium. Higher levels of intrusion/avoidance predicted lower quality of life. The effect size of age with distrust and with personal benefits was small indicating that when veterans become older they tend to become more distrustful and perceive more personal benefits as a result of deployment.

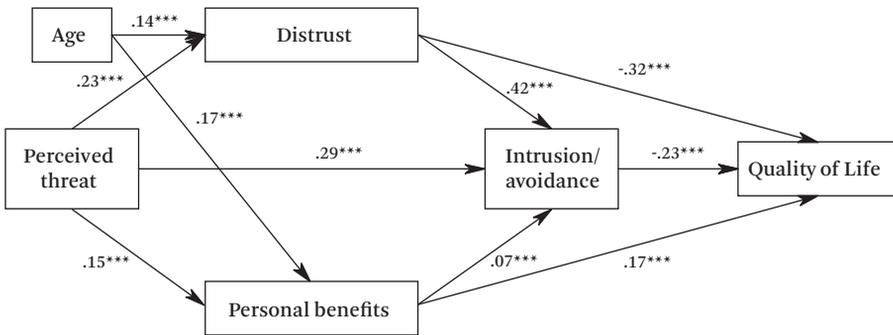


Figure 2 Final model of meaning: distrust and personal benefits as partial mediators between perceived threat and intrusion/avoidance (n=1.561). Model:  $\chi^2(1, N=1.561)=3.82, p=.43, GFI= 1.0, NFI=1.0, RMSEA=.00. *** p<.001.$

**Mediation Analysis**

The model predicted direct effects of perceived threat to intrusion and avoidance, as well as indirect or mediated effects, via personal benefits and distrust. These mediations were tested in a three-step procedure. First, a ‘direct path only’-model was fitted, then a model for a full mediation model was fitted (no direct path from perceived threat to intrusion and avoidance) and finally a model with partial mediation was fitted (all paths open). The difference among the models was tested using the delta-chi square test (Kline, 2005).

The first indication of direct effects was a model that fitted with a significant regression weight for the direct path from perceived threat to intrusion and avoidance. In the first step, the indirect paths were therefore constrained

to zero ( $\chi^2(1, N = 1.561) = 453.65, p = .000, GFI = .61, NFI = .61, RMSEA = .19$ ). In the second step, the indirect paths were freed, and estimated. When the regression weight between perceived threat and intrusion/avoidance becomes non-significant, and the regression weights of the indirect paths become significant, this is an indication for full mediation. When the regression weight of the direct path becomes smaller, but is still significant and both indirect paths have significant weights, this is an indication of partial mediation. For the total group the ‘direct path only’- model did not fit. A full mediation model fitted significantly better, but still not well enough (delta chi square = 281.40, df = 3). The partial mediation model fitted significantly better than the full mediation model (delta chi = 277.58.01, df = 1) and also the overall fit became most acceptable ( $\chi^2(1, N = 1.561) = 3.82, p = .43, GFI = 1.0, NFI = 1.0, RMSEA = .00$ ). Figure 2 shows the best fitting model: the partial mediation model. Table 4 shows the summary of results for this model.

*Table 4 Summarizing the results of the mediation analysis*

Model	total sample (n=1.561)	$\chi^2$	df	Delta chi	Delta df	GFI	NFI	RMSEA
1	Direct path only	453.65	8			.611	.611	.189
1a	Full mediation	172.25	5	281.40	3*	.854	.852	.146
1b	Partial mediation	3.82	4	277.58	1*	1.000	.997	.000
<b>Results best model</b>								
<b>Partial mediation</b>		<b>Path</b>			<b>B</b>	<b>s.e.</b>	<b>Beta</b>	
		Perceived threat-intrusion/avoidance			.220	.017	.29***	
		Perceived threat-personal benefits			.099	.017	.15***	
		Personal benefits- intrusion/avoidance			.086	.026	.08**	
		Perceived threat – Distrust			.060	.007	.23***	
		Distrust – intrusion/avoidance			1.204	.063	.42***	

\* p<.05 \*\*\* p<.001

## Discussion

Aim of the present study was to examine the role of meaning in processing war and peacekeeping experiences. Four hypotheses were tested using a large sample of veterans who were deployed during various military operations. First, perceived threat related to war zone stressors was found to be associated with more distrustful beliefs and more personal benefits. As predicted, age was related to meaning as distrust and personal benefits. Second, findings partially supported that positive meaning was related to less posttraumatic stress responses. Third, findings from this study showed that pathways of meaning in terms of distrust and personal benefits mediated the relation between perceived threat and intrusion and avoidance. Fourth, distrustful

beliefs were a strong predictor of intrusive and avoidant thoughts and of lower quality of life whereas personal benefits predicted higher intrusive and avoidant thoughts and higher quality of life. The implications of these findings are discussed in the following paragraphs.

Perceiving high threat associated with war zone stressors predicted distrustful beliefs about the world and other people which were in turn strongly associated with high levels of intrusive and avoidant thoughts. This finding fits into the notion that successful integration of threatening experiences is accomplished when beliefs about self, others and the world are related to inner safety and trust (Janoff-Bulman, 1992) and facilitate connectedness with others and the world (Herman, 1992). Among the veterans in our sample negative perceptions about the benevolence of the world and other people may be a serious risk of unsuccessful integration of their threatening experiences. Similar findings were found among Bosnian refugees in the Netherlands who had been exposed to war and showed higher levels of distrust associated with intrusion and avoidance (Mooren & Kleber, 2001). A study of Israeli veterans revealed that the ones who had developed posttraumatic stress disorder perceived the world as less benevolent than the ones without symptoms (Dekel, Solomon, Elklit & Ginzburg, 2004). Therefore, we may conclude that the findings in this study are supported by other empirical studies and indicate that fundamental beliefs in others and the world are affected by perceiving high threat as a result of exposure to war-zone stressors.

Although the effect was small, finding personal benefits predicted higher levels of intrusion and avoidance, in contrast to what we expected. This finding may be explained by Zoellner and Maercker (2006) who stated that posttraumatic growth has a constructive side, but also an illusory side. Whereas the constructive side is correlated with healthy adjustment, the illusory or self-deceptive side of posttraumatic growth is associated with self-consolidation or even with short-term or long-term denial. On the one hand, personal benefits may serve as a short-term adaptive palliative coping strategy and might help veterans to counterbalance emotional distress. On the other hand intrusive and avoidant thoughts also reflect cognitive processing as cognitive theories on trauma (Horowitz, 1986; Kleber & Brom, 1992) have stated. They may be considered as attempts to understand traumatic events rather than markers of mental health (Helgeson, Reynolds & Tomich, 2006). This implies that veterans in our sample are working through the implications of their deployment experiences for their lives, and those implications are disturbing, but they may facilitate cognitive growth at the same time.

The association of both aspects of meaning with quality of life was in the expected direction in our final model. Distrustful beliefs about others and the world were strongly associated with lower quality of life in our model. This finding supports the importance of basic assumptions in creating a meaningful life and being satisfied with quality of life and health (Janoff-Bulman, 1992). If veterans are able to re-establish positive perceptions about others and the world after being deployed, in case that these assumptions were shattered, then their quality of life should improve. In addition, finding personal benefits predicted higher quality of life, although this was not confirmed by other studies (see for a review Helgeson, Reynolds & Tomich, 2006). Creating a meaningful experience by finding personal benefits appears to improve overall satisfaction with life. Personal benefits appear to have more effect on quality of life than on the amount of intrusive and avoidant thoughts in this sample, although this has to be confirmed by longitudinal research.

As predicted, age showed to be associated with distrust and personal benefits. This indicates that as veterans become older distrustful beliefs will increase as will their personal benefits related to deployment. This may be explained by the tendency to reflect on the past which increases with age (Butler, 1963). This reflection on the past can bring positive and negative meaning when looking back on major life events. Moreover, recent research showed that benevolent beliefs become more important for well-being with increasing age (Poulin & Cohen Silver, 2008). Distrustful beliefs in older veterans may therefore have a more negative impact on their quality of life than for younger veterans. As Poulin and Cohen Silver (2008) concluded, believing in a benevolent world may be more prevalent and adaptive as veteran's age and their values and motivations change. And as they come to terms with the reality that their lives and those of loved ones are finite.

Some methodological limitations have to be considered. Due to the cross-sectional nature of this study no statement can be made on the causal nature of the relationships found between meaning in terms of distrust or personal benefits and perceived threat or intrusion and avoidance. It could also be true that negative beliefs about the world and other people or personal benefits are predicted by high levels of intrusion and avoidance. Longitudinal research must confirm the nature of these relationships. Another methodological issue concerns the chance of Type I errors because of the large sample size in this study. The final model was confirmed within smaller samples, therefore, we may conclude that the results of this study were not affected by Type I errors. A final point for consideration is the retrospective nature of this study. It has been shown that self-report measurement of exposure is inconsistent over time (Bramsen, Dirkzwager, Van Esch & Van der Ploeg, 2001). Especially shortly

after deployment the presence of posttraumatic stress responses may alter a person's interpretation of the events experienced during deployment. At the same time intrusion and avoidance indicate that a person is trying to integrate the experience into existing fundamental beliefs. Furthermore, other major life events may have altered the perception on deployment over time and memories have somewhat faded. Moreover, experimental research showed that people's recollections of the past are often positively biased (Walker, Swkoronski & Thompson, 2003) because people perceive events in their lives more often to be pleasant than unpleasant, and affect associated with unpleasant events fades faster than the affect associated with pleasant events. From this point of view the appraisal of perceived threat in our study is probably more underestimated than overestimated by the respondents.

Veterans who have distrustful beliefs about the world and other people who had been exposed to war zone stressors may find it difficult to seek treatment for posttraumatic stress disturbances. They will approach social workers and therapists with wariness and distrust. This could be an important reason why some veterans with posttraumatic stress reactions do not seek help. An essential element in treatment is the establishment of a relationship of trust. Without such a relationship, treatment will fail. Another consequence of becoming distrustful to the world and other people is social isolation. Research findings show that social support after deployment is important in coping with stress and trauma (Bolton, Litz, Glenn, Orsilli & Roemer, 2002; Bolton, Glenn, Orsilli, Roemer & Litz, 2003). If veterans are distrustful after deployment they could have problems with receiving social support and therefore, have more difficulty with processing their experiences. Veterans who have the same experiences without being suspicious may prove to be very helpful in overcoming these distrustful beliefs and preventing social isolation.

In conclusion, veterans who perceive high threat associated with war zone stressors during their military mission may be at risk of becoming suspicious minds. Moreover, distrustful beliefs about others and the world are strongly associated with intrusive and avoidant thoughts as well as lower quality of life. Creating meaning in terms of a positive world view appears to be an important mission for veterans upon returning home.

# 6

## Men with a Mission: Veterans' Meanings on Peacekeeping in Cambodia



Schok, M.L. & Kleber, R.J. (accepted). Men with a mission: Veterans' meanings on peacekeeping in Cambodia. *Journal of Loss and Trauma*.

## **Abstract**

This qualitative study examines veterans' meanings of peacekeeping in Cambodia. In-depth interviews were conducted among 19 veterans. Purposive sampling distinguished between veterans with and without stress responses. Thematic analysis showed that peacekeeping reflected a different reality in which military performance and comradeship provided clear sense and direction. A sense of fulfilment and appreciation by the local people was perceived as rewarding. Professional skills and life experience created new opportunities in the veterans' future careers and personal life. Comparison of subsamples reflected different perceptions of threat, witnessing an unjust world in Cambodia, and coming to terms with different realities.

## Introduction

Many soldiers currently are being deployed to conflict areas worldwide, including Afghanistan and Iraq. After returning home, these men and women have to make sense of the experiences they gained by going to war. Especially, when soldiers feared for their own lives or those of their comrades, the need to search for meaning is set in motion.

Two important and influential social-cognitive theories emphasize this search for meaning in processing threatening events: Horowitz's theory of stress responses (Horowitz, 2001) and Janoff-Bulman's theory of assumptive worlds (Janoff-Bulman, 1992). Both approaches are based on the idea that individuals have mental models, or schemas, of the world and of themselves for interpreting incoming information. These schemas were built on prior experiences. When confronted with a threatening event, the individual becomes intensely aware that bad things can happen and the external world is perceived as a frightening place. The world no longer makes sense and this realization may be devastating (Janoff-Bulman & Frantz, 1997; Kleber & Brom, 1992).

A traumatic event presents information that is incompatible with existing schemas. This incompatibility gives rise to reappraisal and revision of the schema. The drive to make our mental models coherent with current information encourages assimilation and accommodation processes whereby schemas are updated continually to fit current reality. The attempt to make sense of the experience and to reestablish a meaningful worldview is reflected by extensive mental rumination and cognitive processing (Janoff-Bulman, 1992). Cognitive integration succeeds when the negative impact of this new information is reappraised to fit mental models (assimilation), or if existing models of the world are revised to fit this new information (accommodation). On the other hand, when individuals are incapable of integrating trauma-related information into existing beliefs about themselves, others, and the world, or are incapable to change their view of the world, posttraumatic stress disorder or related disturbances most likely will be the outcome.

In this search for meaning, two construals of meaning making play independent roles in the adjustment process over time (Davis, Nolen-Hoeksema, & Larson, 1998; Taylor, 1983). First, one has to make sense of the event by determining what happened, how it happened, and why it happened. This means that people seek to understand the event retrospectively and try to achieve *comprehensibility* of what has happened to them (Janoff-Bulman & Frantz, 1997; Joseph & Linley, 2005; Wong & Weiner, 1981). Second, one has to find *personal significance* in the event or gain from the experience for one's present life. This implies that people evaluate and interpret what the experience has

brought them in terms of personal skills, relationships, life philosophy, and worldview, also referred to as benefit finding or posttraumatic growth (Antoni et al., 2001; Helgeson, Reynolds & Tomich, 2006; Joseph & Linley, 2005; Tedeschi & Calhoun, 1996). Construing positive meaning from war and peacekeeping experiences, especially related to combat exposure or high perceived threat, was associated with better psychological adjustment (Aldwin, Levenson & Spiro, 1994; Fontana & Rosenheck, 1998; Schok, Kleber, Elands, & Weerts, 2008; Spiro, Schnurr & Aldwin, 1999). This can be explained by the fact that high perceived threat results in a need to attribute meaning to the experience in order to master the situation (Baumeister, 1991; Rothbaum, Weisz & Snyder, 1982; Taylor, 1983).

Previous studies on cognitive appraisals of war and peacekeeping experiences showed that veterans reported more positive than negative effects (for a review, see Schok, Kleber, Elands & Weerts, 2008). Finding meaning in terms of personal significance was found to be important. Veterans reported what the military experiences had brought them regarding their self-concept, social relationships, and personal growth and priorities in life (see also Updegraff & Taylor, 2000). Furthermore, there appeared to be a positive and negative dimension of meaning reflecting independent positive and negative psychological changes as a result of deployment (Aldwin, Levenson, & Spiro, 1994; Dohrenwend et al., 2004; Elder & Clipp, 1989; Mehlum, 1995; Spiro, Schnurr, & Aldwin, 1999).

Qualitative studies have focused mostly on the reconciliation of traumatic memories and psychological sufferings resulting from war (Burnell, Coleman, & Hunt, 2006; Harvey, 1996; Hunt & Robbins, 2001; Kilshaw, 2004). Much emphasis has been placed on the negative aftermath of exposure to the war zone, the construction of a narrative, and perceptions of social support in coping with trauma. For example, Harvey (1996) paid attention to the losses and grief resulting from combat in the Vietnam War and World War II. He described stories of veterans who recalled highly vivid memories of events involving death and great fear. Kilshaw (2004) described the construction of Gulf War Syndrome (GWS) narratives among UK veterans emphasizing that contact with other sufferers provided a template to make sense of life events and illness. The role of social support was highlighted in the reconciliation of traumatic memories by two studies (Burnell et al., 2006; Hunt & Robbins, 2001). Comradeship emerged as a common theme and was found to be important in the creation of a meaningful narrative among World War II veterans. This was in contrast to Falklands War veterans who avoided sharing traumatic memories with their comrades and, therefore, reconciliation was not supported. Burnell et al. (2006) attributed this finding to factors such as still being in the service, being

part of an elite unit, and veteran status while serving. Furthermore, wives and families provided ongoing practical and emotional support but not in favor of the reconciliation of traumatic memories. Telling the story would threaten the security of the supportive safe environment (Hunt & Robbins, 2001).

The current study aims to explore personal meanings that veterans assign to their deployment experiences long after they have left the service and to what extent these meanings remain significant in their lives. As only a minority of Dutch veterans develop problems with the reconciliation of their war memories (Dirkzwager, 2002; Engelhard, Van den Hout, Weerts, Arntz, Hox, & McNally, 2007; Schok, Mouthaan, & Weerts, 2003), the present study also will describe how veterans with and without posttraumatic stress reactions differ in their personal meanings regarding military deployment. Qualitative research examining the veterans' points of view has been chosen to examine these issues. Qualitative methods are suited to explore the search for meaning, since they enable one to find out that the same events, like being under fire or seeing dead bodies, can lead to different appraisals in people experiencing these kinds of war zone stressors.

The principle of maximalization led us to choose one peacekeeping operation in which veterans clearly were at risk of being exposed to threatening events (Morse & Field, 1996). As mentioned before, perceived threat is important to set in motion a search for meaning and, therefore, this should be studied best in an operation in which this occurs. Choosing one military mission, peacekeeping operation in Cambodia, has as an additional advantage that the sample is more homogeneous, which is beneficial for an explorative descriptive study. For a better understanding of the veterans who were interviewed, the following paragraph gives some background information on the peacekeeping mission to Cambodia.

### *Peacekeeping in Cambodia*

The peacekeeping mission to Cambodia was called United Nations Transitional Authority in Cambodia (UNTAC) and took place from March 1992 until November 1993. It was aimed at stabilizing the security situation in Cambodia and building confidence among the parties involved in the conflict. From 1975 until 1979, Cambodia suffered a vastly destructive regime under Pol Pot. More than one million people died in a brutal process of "social reconstruction." This regime was ended by the intervention of Vietnamese troops in late 1978 and the installation of a new government.

Among many other countries, the Dutch contribution to UNTAC consisted of 2,609 military men and women, mainly Marines and some supporting personnel and staff members (Klep & Gils, 2005). During UNTAC, three battalions

were deployed, each for six months. From March 1992, the mission focused mainly on the repatriation and resettlement of the Cambodian refugees and displaced persons. During the second phase of the mission, starting in June 1992, UNTAC concentrated on disarmament of the conflicting parties. The third and last phase of the mission was focused mainly on the organization and conduct of free and fair general elections that took part in May 1993.

## **Method**

### *Procedure*

This study is part of a mixed-method research project aimed at exploring the attribution of meaning to military deployment. Participants were veterans registered at the Veterans Institute (Schok, Kleber, Elands, Lensvelt-Mulder, & Weerts, accepted). First, a questionnaire study was carried out among a sample of 1,561 veterans who participated in various war and peacekeeping operations. Second, in-depth interviews were conducted among a subsample of veterans who were deployed during the military operation in Cambodia (UNTAC). From the 272 veteran who were deployed during UNTAC and filled out the questionnaire, 75 percent (n=205) also gave consent to participate in the qualitative study.

### *Sample comparison*

To explore differences between veterans with and without posttraumatic stress reactions, participants were eligible for inclusion on two criteria. First, the extent of posttraumatic stress reactions was measured using the Impact of Event Scale (Horowitz, Wilner, & Alvarez, 1979; Van der Ploeg, Mooren, Kleber, Van der Velden, & Brom, 2004). This instrument assesses the emotional impact of traumatic events by looking at intrusive thoughts and behaviors (subscale intrusion) and emotional numbing and avoidance (subscale avoidance). Respondents were asked to indicate the frequency of each of 15 symptoms, related to their deployment experiences, in the last week ranging from 0 to 5 (0 = not at all, 1 = rarely, 3 = sometimes, 5 = often). Reliability for this scale was high ( $\alpha = .94$ ) for the UNTAC veterans. A cutoff score of 26 and higher was used to indicate that someone has posttraumatic stress disorder (PTSD: APA, 1994). A cutoff score below 8 was indicative of no stress responses. Table 1 shows the mean score of the veterans with and without an indication for PTSD who participated in the qualitative study.

*Table 1 Descriptives of UNTAC veterans with and without posttraumatic stress reactions*

Variable	Total sample (n=19)		Without posttraumatic stress reactions (n=9)		With posttraumatic stress reactions (n=10)		F
	M	SD	M	SD	M	SD	
Age (years)	42.47	8.78	43.44	11.02	41.60	6.65	0.66
Mean age during deployment (years)	27.53	8.00	28.00	8.76	27.10	7.72	0.82
Time since leaving the service (years)	6.13	3.39	6.33	3.24	5.96	4.68	0.82
Impact of Event Scale	23.95	22.23	3.22	2.64	42.60	12.89	80.56***
Frequency of war zone stressors	13.21	1.87	13.56	1.74	12.90	2.02	0.46
Perceived threat of war zone stressors	44.21	13.02	44.89	11.40	44.00	14.94	0.02
	n	%	n	%	n	%	X <sup>2</sup>
Married/living together % (n)	19	100.0	9	100.0	10	100.0	-
Education % (n)							
Low	7	36.8	2	22.2	5	50.0	3.39
Middle	7	36.8	4	44.4	3	30.0	
High	4	21.0	3	33.3	1	10.0	
Other	1	5.3	-	-	1	10.0	
Frequency of deployment % (n)							
1	7	36.8	5	55.6	2	20.0	2.57
> 1	12	63.2	4	44.4	8	80.0	
Rank % (n)							
Low	10	52.6	5	55.6	5	50.0	-
High	8	42.1	4	44.4	4	40.0	
Military task % (n)							
Operational	8	42.1	5	55.6	3	30.0	1.32
Logistics	6	31.6	2	22.2	4	40.0	
Medical	5	26.3	2	22.2	3	30.0	

Note. Due to missing data, sample sizes for descriptives vary. \*\*\* p<..001

A second criterion for inclusion was being exposed to war zone stressors. This was measured with a subscale of the comprehensive Aftercare Questionnaire of the Royal Army in the Netherlands (Royal Netherlands Army, 2003). This scale assessed threatening events experienced during deployment as well as the degree of threat they experienced from them. The items included, for example, “fired (upon),” “being wounded,” and “witnessing dead bodies.” Eight items were added, including “I shot someone,” “clearing dead bodies,” and “presence of landmines.” The final instrument consisted of 24 items. Participants also were selected based on the highest amount of exposure to war zone stressors that was reported. Table 1 shows the mean frequency of reported war-zone stressors and the mean perceived threat related to the war zone stressors by the participants.

After selection, forty veterans who were prepared to participate were approached. Twenty-one made an appointment for the interview. One veteran cancelled off because he was moving and one veteran went abroad, which made the response rate for this study 48 percent, consisting of nineteen inter-

views. All nineteen interviewees were male veterans living in the Netherlands (see Table 1 for the descriptives of the participants). No differences in descriptives were found between subgroups, except for the mean score on the Impact of Event Scale.

### ***Data collection***

Interviews were conducted between April 2006 and February 2007 by the first author. A semi-structured topic list was used to guide the interview. The first part of the interview focused on the time during deployment in Cambodia and the events the veterans experienced. The second part concentrated on returning home after deployment and adjustment to civilian life. The third and last part of the interview focused on how veterans looked back on their peacekeeping experiences and the significance of deployment to the rest of their lives. All nineteen interviews were digitally recorded and transcribed. Personal information of the participants was deleted to protect participants' confidentiality.

### ***Data analysis***

The data were analyzed using fragmenting and connecting (Dey, 1993). Fragmenting was carried out through line-by-line analysis and labelling fragments of text with codes (Boeije, 2005; Strauss, & Corbin, 1998). The process of code-and-retrieve was conducted using the software program MAXqda2 (Kuckartz, 2004). The coding system was created by moving back and forth between the interviews, the preliminary findings, and the theoretical framework.

First, the interviews of the veterans without posttraumatic stress reactions were analyzed. Then, the interviews of the veterans with posttraumatic stress reactions were analyzed to explore differences in perceptions on meaning. For example, themes such as "comradeship", "military performance" and "personal gain" emerged from the interviews. Later on, these categories were further specified and connected to higher order categories.

## **Results**

When examining the personal meanings veterans attribute to their peacekeeping experiences in Cambodia, several themes emerged. Figure 1 shows a model reflecting the major themes. During deployment in Cambodia the major themes are no ordinary world, military performance, comradeship, and rewarding efforts. After returning home, major themes also included comradeship and professional skills, knowledge of life and self-confidence,

and increased value for life. These themes are illustrated with quotations from interviewees, who were assigned numbers V1 to V9 for veterans without posttraumatic stress reactions and VW1 to VW10 for veterans with posttraumatic stress reactions. First, we will describe the themes from the interviews with veterans without posttraumatic stress reactions. Then, differences in processing the new experiences between veterans with and without posttraumatic stress reactions are described.

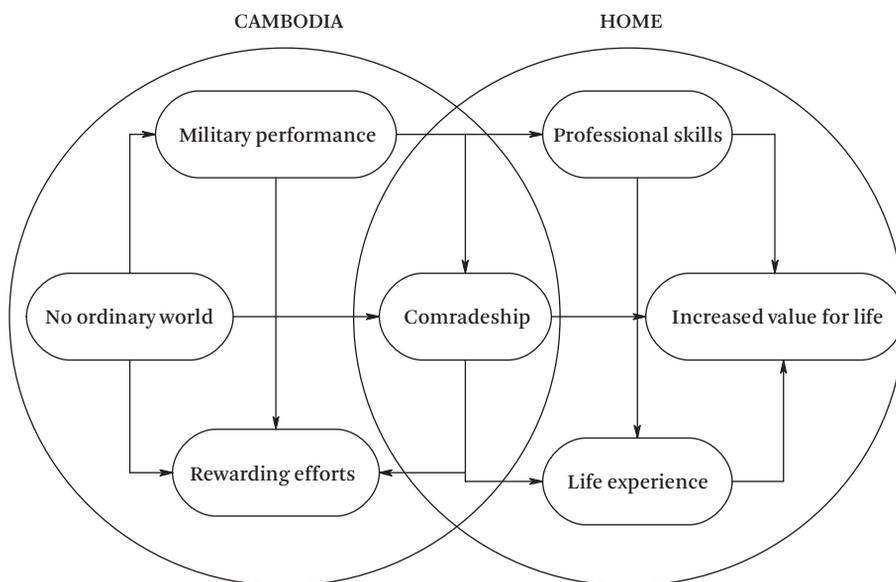


Figure 1 Model of veterans meanings of peacekeeping in Cambodia

**No ordinary world**

Veterans without posttraumatic stress reactions were very anxious to go to Cambodia and had a strong belief in the purpose of the mission. Although they were trained for the job, especially the ones with a Marine background, it was not possible to be prepared completely for this kind of reality. Smells and sounds were uncommon. The beauty of the country was quite astonishing and the Cambodian culture had many treasures to offer, for example Angkor Wat. Besides these positive impressions of Cambodia, the country was perceived as primitive and different from home. After crossing the border, these men faced “culture shock” by entering a strange new world: primitive living arrangements, different natural surroundings, and strange people. One of the participants stressed the differences with home:

*“You drove into the Middle Ages. We crossed the border at Poi Pet and there the asphalt and infrastructure just stopped. Everything ends at the border. You entered that country, and it smells, and you can’t imagine how different it is over there.” (V8)*

The first battalion experienced these differences most strongly, since these men had to build their camps in the middle of the jungle. After a while, living in Cambodia became more of a routine, for example, when daily routine involved carrying out patrols on a regular basis or when medical tasks were performed during specific hours. Furthermore, there were strict rules to leave the camp only when on duty. During spare time, participants also mentioned that it was possible to watch a movie or relax by doing sports.

A significant daily stressor was the constant presence of danger created by the conflicting parties in Cambodia. For example, shootings and killings around the camp frequently were mentioned. Especially, the veterans who performed military operational tasks were faced with life-threatening situations, such as being ambushed or held at gunpoint at checkpoints by the conflicting parties. The interviewees without posttraumatic stress reactions did not talk in large words about dangerous events, and sometimes even referred to them as “incidents,” doubting whether they really felt threatened back then:

*“Did I feel threatened? No, you were trained for the job, you knew the drill, and you know what is going to happen.” (V2)*

Veterans often mentioned seeing local people wounded or dying because of land mines. Especially, when children were victim of these incidents, memories still were very vivid. As one interviewee described, *“Most distressing were children who missed body parts, like a hand.”* Participants also had to confront other values about life and dead. They got the impression that human life in Cambodia was not worth as much as in Western society. Participants described that dead people were burned and left on the side of the road instead of being buried.

On the other hand, participants were quite impressed by the friendly spirits of the Cambodian people after being oppressed so long by the Pol Pot regime. Children were very pleased when participants gave them a bottle of cold drink. Locals even invited them into their homes to share their meals. Some participants developed close relationships with local people by working closely together and sharing knowledge on how to build water pumps.

In facing this dangerous, but at the same time adventurous, world, participants emphasized that mental preparation was important in dealing with these unpredictable circumstances. Most importantly, they were trained within a team, especially the ones with a Marine background, and were prepared to operate in a team during the mission. Deployment was perceived as part of their job because this is what they were trained to do:

*“Well, it was my duty. To be honest. It was a trick, everytime in a different country. Yes, ready. What I said in the beginning, if it pleases the Queen.” (V9)*

These interviewees strongly believed in the goal of the mission of supporting the Cambodian people and experienced a sense of mastery by focusing on their tasks. This focus gave them a clear sense of purpose for handling extreme situations. In their stories, participants described lots of actions and incidents they encountered during their time in Cambodia that clearly demonstrated this focus. When looking back, their military effort became a driving force in making sense of peacekeeping in Cambodia, which we will elaborate on in the next section.

### ***Military performance***

An important aspect of military performance at the Marines Corps is operating within a team. The participants' stories revealed that the social identity of the group in performing the job was emphasized much more than the individual identity. In addition, each Marine had a personal bud for protection in case of emergencies during patrols or incidents, and for support in personal issues during the mission. Participants felt part of a bigger picture in which everybody had his own significant duty to fulfil.

*“Well, if you are driving a patrol at night, and you see the enemy, and you have to fire and the rest is watching my trace, watching where I am going to shoot and everybody fires over there because they don't see anything, then I am their eyes. Well, in that way you have a big responsibility.” (V8)*

This interviewee emphasizes how they all watched each other's backs and how closely the group had to cooperate during patrols. But also he portrays the significance of his own contribution, as he sees himself as *“the eyes of the group.”* Without him, the rest of the group would be very vulnerable.

The attention interviewees paid to the morale of the group and the trust they had in each other as professionals was most striking. There was good-fellowship involved when colleagues shared responsibility, respected each other's efforts and tried to learn from each other. Older and more experienced soldiers tried to support the less experienced ones; stronger ones helped the weaker ones; and medics taught non-medics to assist them with medical operations.

As soldiers, participants were trained to fixate on spotting danger. As one veteran decried, *"You were fixated. That is why I will never ever forget the sound of a mortar which was thrown next to me on the ground."* At the same time, to handle these extreme circumstances, participants had to distance themselves from the emotional impact. For example, this participant said, after referring to a horrible incident in which a child was run over in front of his eyes:

*"Keeping distance. Yes. Just to protect yourself from becoming to vulnerable. That you won't take in too much, because if you do that, yes then you can't perform the task that you were sent out to do. I mean, we were there for these people. It's as simple as that. That is the reason you are there." (V5)*

Besides keeping emotional distance in order to do the job, it was clear that participants were anxious to make a difference by their performance. Statements such as, *"If I do something I go for the best"* or *"I made myself very useful over there"* frequently were made during the interviews. Some veterans mentioned feeling the need to intervene in escalating situations during deployment but they were not allowed to because of the restrictive Rules of Engagement. Therefore, standing by and witnessing horrific acts against the local people and being challenged by the conflicting parties made them feel very frustrated and powerless.

Their performance was characterized by an orientation toward solutions. When meeting a difficult situation, they assessed the situation and made a decision how best to act upon it. One example happened during Cambo 3 when radios were handed out to the local population so they could learn about the results of the elections. But when the radios were being handed out, there was so much pushing that people got crushed and even killed. Then the Marine in charge dug a large hole and buried all the radios. He commented: *"It was over, that problem was solved"* (V9).

Facing these difficult situations together, trusting and relying on each other to handle these extreme circumstances, created a very special bond among them.

### ***Comradeship***

Most striking was the comradeship that developed during the mission among soldiers and officers of the unit, as was emphasized by most participants. These men had a strong bond through believing in the purpose of the mission, relying on each other, and sharing the good and the bad as a professional team.

Comradeship reflected a strong bond among members of the team that provided much comfort and support during their stay in a strange new world. The intensity of this bond is expressed by the following citation:

*“Yes, we went through fire for each other. We said, if something happens, we come back with all of us. How, it doesn’t matter, but we support each other as a group. That was an unspoken law.” (V6)*

Whatever happened, they would stick together. This unspoken pact created strong positive feelings among soldiers during the mission. Solidarity and responsibility were very effective in performing military tasks in Cambodia, but also were missed strongly when soldiers were outside the “brotherhood” or were reminisced about later on in their lives. Some participants went back home for a period of rest and recreation during the mission. But, during their short stay at home, they found it very difficult to get along with friends and family and wanted to get straight back to their “brothers.” Even years after deployment, participants reminisced about and missed this band of brotherhood.

In facing this strange new world, their military performance and the positive feelings of comradeship gave participants a clear sense and direction in facing difficult situations. But why did they keep on doing their job? And what motivated them to finish the job?

### ***Rewarding their efforts***

As the soldiers left Cambodia, they saw with their own eyes that they made a difference. The country revived, villages popped up, trade and commerce emerged. The local people felt safe enough to pick up their lives. Participants saw locals start building houses, women got pregnant, and children playing. Taking home these images when leaving the country made participants feel satisfied with what they had accomplished. Participants mostly felt rewarded by being able to do something good for the local people, especially when they made themselves very useful:

*“I have never regretted that I went over there, absolutely not. But I have had a good time, despite the things we saw and experienced.”*

*I mean, we have done a lot of good things, helped many people and made them happy. Those things.” (V5)*

Being able to help the local people by providing schools and hospitals made their contribution very valuable in a practical sense. The soldiers felt appreciated by the Cambodian people for their effort. Moreover, participants who carried out medical tasks experienced this kind of gratitude and appreciation more closely when taking care of local people wounded by mine explosions and preventing them from dying of malaria by giving medicines. Feelings of fulfilment and appreciation gave participants something to look back on with proud feelings, and they acknowledged that they had made a difference by their performance.

A few participants received a token of gratitude for their exceptional performance during the mission by their employer. But most interviewees were not very impressed by getting medals for their performance. They felt most rewarded for their efforts by feeling fulfilment about what they had accomplished, both as part of a team and because of their own personal contribution. These feelings of fulfilment were supported by gratitude from the local people and seeing how the country revived.

### ***Personal gain***

By facing difficult circumstances together as a professional team, stabilizing the country and providing humanitarian aid to the Cambodian people, the interviewees developed professional skills and perspectives they otherwise would not have had. The life experiences that interviewees gained created opportunities in their future careers in or outside the military force.

Most participants emphasized how they developed their military skills during their mission in Cambodia. By facing another reality in Cambodia, they learned how to handle difficult situations, but they also realized how difficult it was to prepare for the real thing. Preparation consisted, among other things, of lessons in shooting, lectures about culture and religion in the host country, treatment of tropical diseases and casualties, rehearsals in curbing riots, team building, dealing with the Rules of Engagement, coping with stress, and “after action reviews” to evaluate the training components. While in Cambodia, they still met surprises and they realized that reality always will be different from exercises.

A couple of interviewees benefited from their military skills in their profession or used them in their spare time. One participant wanted to introduce the basics of training rehearsals to improve efficiency in commercial business by starting his own business as a coach. Another interviewee worked at an inter-

national organization in which he otherwise would not be working. Due to his experience with logistic tasks, another interviewee organised large events on a regular basis in his spare time.

Participants frequently mentioned having gained more life experience. As one interviewee put it:

*“I gained a lot of life experience which I can take with me in a backpack as extra luggage. Peacekeeping was a positive experience which increased my knowledge of man. It is an extreme situation you have experienced, which is not experienced by everyone.” (V8)*

For some interviewees, this extra luggage was perceived as more personal strength and increased independence. As their military effort gave a sense of fulfilment, it also made them proud of what they had accomplished far from home. When he returned home from Cambodia, one interviewee said, he understood what values were. He recognized the affluence of our society. Other participants recounted that they are less condemning toward others. They have gained knowledge about life and used this knowledge to inform others and raise their children with the wisdom that there is poverty as well as affluence. Most importantly, they also benefited from this increased appreciation for life that enabled them to distinguish between major and minor personal issues in life. For example, as one participant expressed:

*“Being happy with the small things in life, instead of chasing things other people have. If you can be satisfied with what you have, and not thinking about what you don't have, you will have a happier life.” (V2)*

Eight of the nine interviewees without posttraumatic stress reactions referred in some way to this increased value for life after peacekeeping in Cambodia. This change of mind by “appreciating more what you have” was especially present after homecoming. They reported that family and friends were sometimes surprised by this “other person” who came back with still one leg in the other world. In time, this increased value for life faded somewhat, but memories of the misery and misfortune in Cambodia kept reminding them of how fortunate they were in Western life.

## Differences in processing the new experiences

Differences between veterans with and without posttraumatic stress reactions were concentrated mainly in perceptions during deployment regarding the impact of danger, witnessing an unjust world in Cambodia, and coming to terms with the different worlds.

### *Perceived threat*

Compared to their more resilient counterparts, the interviewees with posttraumatic stress reactions described more life-threat in their stories. They made remarks like “*now it is over*” or “*I hope I will live through this*”, and therefore realized their vulnerability. Surrounded by the unpredictable nature of the enemy and also being restricted by the Rules of Engagement, they felt more helpless and fearful during attacks or shootings. For example, the unpredictability of the enemy was expressed by the following comment:

*“We drove in a truck when passing another pickup truck. I was seated in the front when he suddenly drove in front of us. He pointed a weapon at me. What is happening? Yeah, then you do nothing. Everything is going through your mind. Thinking now it is over. And then he pointed the weapon down, starts to laugh, and the pickup truck moves on.” (VW9)*

It appeared that veterans with posttraumatic stress reactions were less able to keep emotional distance: danger came closer and they feared more for their lives. In many of the incidents seen as life-threatening, an if-then thinking was found, like “*If the mortar shell had hit the camp, then we would all have been killed (VW4).*” This phenomenon is referred to as overgeneralizing (Ehlers & Clark, 2000). Fate thinking also is involved. “*I have escaped so often, one day it must be my time (VW6).*”

Some of these interviewees admit that only afterward did they realize the danger. At the moment itself, they thought it to be adventurous. Seven interviewees reported that adventure, in particular seeing the world, was part of their motivation to be deployed. But the word adventure was not used anymore when they perceived a high risk of losing their lives. As one interviewee explained:

*“As a young man I did not realize. Are you talking nonsense, you go; we have to do our job. That is why I became a Marine. Now that I am older, I think differently about things – about the danger of being*

*deployed to such an area as young marines. It can be dangerous and you go there with other thoughts. You could think "I am a marine" and you go there as a tough guy or you go there realizing the danger you are in but that you have to do your duty. Do you understand? If you are young, you do things easier." (VW7)*

### **Unjust world**

Interviewees with posttraumatic stress reactions were shocked by cultural differences in dealing with the dead. They were not able to come to terms with the worthlessness of a human life. As one interviewee pointed out:

*"They just threw them on a wagon and then they burned them on the square." (VW6)*

They also emphasized the disastrous effects of land mines, especially for children. They were impressed by the many casualties and stressed this injustice and misery:

*"Wounded children by mine accidents. Yes, that makes a deep impression. If people are wounded or killed, they do not notice themselves, but if children are torn to pieces, yes that touches you." (VW3)*

Moreover, veterans with posttraumatic stress reactions felt more helpless because they were not able to reduce the poverty that resulted from what they perceived as a corrupt regime. They had the impression that everyone was trying to save his own skin. And when trying to help, they were confronted with the official policy:

*"If you see poverty, you can't do anything. We were forbidden to give the children anything. No candy, no biscuits and then you see those hungry faces. Then you think f... you and you feel powerless." (VW9)*

In contrast, veterans without posttraumatic stress reactions were more able to put these cultural differences and horrible mine accidents of children in perspective. They empathized with the victims of mines, but they did not feel guilty of causing the accidents. They noted that the Netherlands is prosperous and that Cambodia is poor, but they did not feel guilty about the injustice because it was perceived as beyond their scope to do something about it. Veterans without stress reactions were able to put their own performance in perspective.

They knew that they could relieve some of the poverty, but could not take it away. They realized that they could help the wounded but that they could not heal everyone. They could take away some of the corruption, but not restore all injustice. In short, they perceived their performance as doing professionally what they could.

### *Caught between worlds*

Veterans returning home are persons who have seen more than others. They witnessed humans being dangerous, cruel, unreliable, egoistic, cowardice, and merciless. After homecoming the “old” world is astonishing by having so much wealth and comfort:

*“You come home, in a nice street. You step out of the airplane, and everything is nice and green, people in beautiful clothes and expensive cars. You take a shower in your home, a nice shower. You pull open the fridge and there is all that food. Yes, really childish actually. What a fortune do I have here. Hup, and there you are out of the movie, back with both feet on the ground and picking up were we left.” (VW7)*

Most veterans with posttraumatic stress reactions felt lost between two worlds and disconnected from the world at home. They felt not understood by family and friends (eight out of ten interviews). More than half were capable of relating to their partners, but some could not even talk to them. When talking to others, they discovered that the audience gets bored after a while.

*“I made a video they could look at and after five minutes they were bored. Then I think I turn it off because it is nonsense.” (VW6)*

Veterans without stress reactions also felt a strong bond with their comrades, but they accept that others cannot relate to these deployment experiences. They are also more willing to talk about their experiences with others who seriously are interested.

Furthermore, veterans with posttraumatic stress reactions are irritated with the ignorant people around them. They appeared to be angry with them because they do not realize the prosperity they live in. Veterans felt offended when other people act ignorant, do not eat the food, spoil water, bathe in luxury, or make a fuss about nothing worthwhile:

*“Water from the tap. People can afford to discuss certain things, just as in the hospital. There is a patient who has dementia who is 102 years old suffering from kidney failure but we are going to operate for a new hip. Yes, in Holland, this is possible, which is nice. But over there, there are children, three or four years old, who are dying due to a lack of drinking water. What are we talking about? At the beginning, I felt this way very often. Then, when you return home you wonder how these people can whine about things you are not allowed to whine about.” (VW10)*

These veterans have the impression that no one can understand them. The participants without posttraumatic stress reactions also share the feeling that Western people don't realize how fortunate they are. But they are better able to keep things in perspective and are not so agitated about spoiled behavior of other people. They use their new perspective for their own benefit, for example, to reduce stress during daily life or appreciating things they have in life.

Furthermore, veterans with posttraumatic stress reactions felt less appreciated for their effort by their employer. They talked about being disappointed for not getting the support and care they needed after deployment and felt unappreciated for the risks they took. Some experienced mental health problems for years after their deployment, which changed their planned careers and future perspective. Table 2 shows the differences in sub-themes between veterans with and without posttraumatic stress reactions.

Figure 1 illustrates the two worlds veterans face as a result of military deployment and the meanings they attribute to peacekeeping in Cambodia. The narratives from veterans with posttraumatic stress reactions suggest that they could not live in the “new” world, and that now they cannot live in the “old” world, either. So they are lost in between. This is expressed in their fascination and admiration of how the local people in Cambodia survived and existed. They are occupied with ruminations how they could be happy after all this misery and people in their own country do not seem to be happy despite the prosperity:

*“They don't have anything, they do not want things and they feel it is fine like that. People are satisfied with what they have. They 'aren't upset about that. Material things and such, they are familiar with and they are not in need.” (VW5)*

*Table 2 Themes related to peacekeeping in Cambodia*

Themes	Sub themes	All veterans	Veterans without posttraumatic stress reactions	Veterans with posttraumatic stress reactions
No ordinary world	Primitive circumstances	X		
	Danger	X		
	Feeling powerless	X		
	Different culture	X		
	Different values	X		
	Seeing people wounded and dying	X		
	Friendly spirits	X		
	Mental preparation		X	
	Life threat			X
	Human life is worthless			X
	Injust world			X
Military performance	Part of a team	X		
	Fellowship	X		
	Fixated on danger	X		
	Distancing		X	
	Ambitious	X		
	Solution-focused	X		
	Felt helplessness during attacks and shootings			X
Comradeship	Strong bond	X		
	Believing in purpose of mission		X	
	Comfort and support	X		
	Solidarity and responsibility		X	
Rewarding efforts	Fulfilment	X		
	Appreciation by local people	X		
	Appreciation by employer		X	
	Not appreciated by employer			X
Personal gain	Professional skills	X		
	Life experience	X		
	Self-confidence		X	
	Increased value for life	X		
Processing new experiences	In perspective		X	
	Part of the job		X	
	Sense of mastery		X	
	Caught between worlds			X
	Agitation			X
	Existential questions			X

Besides searching for an answer explaining these different worlds that coexist in their minds, they also struggle with unfinished emotional business that keeps their minds occupied, reminded about Cambodia by watching the news or by certain smells. For example, this participant was triggered by smells while working:

*“As part of my job, I replaced a boiler. When I came to the homes of foreigners, certain smells reminded me of Cambodia. Often when I entered these houses, I felt not well; I felt threatened.” (VW2)*

Or they get emotional when thinking back about traumatic experiences in Cambodia. Another interviewee deliberately tries to avoid thinking about Cambodia because he wants closure. Unfortunately, images keep haunting him when he gets triggered by environmental cues:

*"I don't want to be reminded of Cambodia. I want closure....A lot of things with other veterans. I want out, I don't want to talk with people. Every time these images keep coming back stronger. Things keep coming back bigger than I want them to be. Because it was already gone, I discussed it with nobody, and every time because of these reminders it keeps coming back. That is my impression. And I don't want that. That is finished, I want to turn it off. I'm ready."*  
(VW7)

For veterans without stress reactions, there were no existential questions unanswered that relate to their time in Cambodia. Their experiences had not shattered basic assumptions about the benevolence of the world, the meaning of life, or the value of their own lives. Behavior that they witnessed is put into perspective, as they acknowledge that it is only human to behave like that in a certain condition. Events, like cruelty and misery, are constructed in terms of belonging to human behavior. They argued that when a nation has been terrorized for years, the worth of human life diminishes. Taking bribes is a normal thing to do when you have nothing to lose. The interviewees find it quite normal that cultures differ and that it is not like home in Cambodia.

A couple of these veterans admit to being afflicted for a time. When they first returned home, they were irritated by the people around them complaining about what seemed to be trivialities. Some of them had a confidant to talk to, but none of them felt the urge to talk over and over again about their experiences or personal problems. One veteran noticed emotional numbness: he could not feel love anymore, not for his girlfriend, not for his parents, not for God, for no one. The feeling of love had gone. Over time, he recovered and his feelings came back, although he never became the same person as before the mission. Two interviewees said that they have more distrust and are somewhat reserved toward others. But overall, veterans without stress reactions have a positive view on their deployment experiences and are strengthened in their idea that they can master these situations:

*"I have had a good time and I think that you make that time. You can create a lot of opportunities within your work. I feel that I have made the most of it."* (V9)

## Discussion

Findings of this qualitative study show that former peacekeepers had meaningful memories about their military service in Cambodia. Interviewees without stress responses had found meaning in their peacekeeping experiences, whereas interviewees with stress responses were in search of meaning. In particular, the latter perceived more life threat during their mission; they questioned the injustice in the world and felt caught between worlds.

All veterans without stress responses assigned positive meaning to their deployment to Cambodia. These veterans clearly achieved comprehensibility over what had happened to them and found personal gain from the experience for their present lives. Their stories reflected a greater sense of personal strength, self-reliance, and self-respect by feeling fulfilment for their effort and appreciated for a successful job compared to the stories of veterans with stress responses. They had put their experiences in perspective and realized that the world is not completely controllable or predictable. Their narratives reflected a coherent story of images, thoughts and feelings (Neimeyer, 2006). They had positive memories of their peacekeeping in Cambodia which were part of their identity. The acknowledgment of different worlds that coexist and accepting the limitations of their military performance allowed the generation of personal gains in their present lives (Janoff-Bulman & Topyk, 2004; Taylor, 1983). Moreover, they felt that their military efforts had been rewarded and evoked positive emotions that promoted esteem and well-being (Siegrist, 1996; Vegchel, Jonge, Bosma & Schaufeli, 2004).

The stories of the veterans with stress reactions reflected loss of a basic security as a result of exposure to a world beyond imagination with respect to suffering and poverty: a world in which good people die either by accidents or by violent acts of other people (Janoff-Bulman, 1992). These participants were searching for answers to existential questions that kept occupying their minds because life loses value and predictability. However, maladaptive coping styles (Ehlers & Clark, 2000) like overgeneralizing, or intentionally not thinking about the experiences, prevented them from reappraising threatening incidents that they experienced during deployment. Or they struggled with changing expectations about reality they had prior to deployment. Therefore, they remained caught between two worlds as reflected in the need to understand and accept the new experiences. According to Payne, Joseph and Tudway (2007) this demonstrates a motivation toward accommodation. This search for meaning can be considered as gaining secondary control over the events (Rothbaum et al., 1982).

Comradeship provided much comfort and support during as well as after deployment. During deployment it gave participants a sense of trust and safety to perform their job and a place to turn to for emotional support in the absence of their families. After deployment comradeship made adjustment to home easier because they could share their experiences with “brothers”. For participants with stress reactions these ties seemed more important because they felt not understood by non-veterans. They felt alienated from others who had not shared the experience and the emotions. Recent research by Laffaye, Cavella, Drescher and Rosen (2008) confirmed these findings. They found that veteran peers provided important and highly valued support for veterans treated for chronic PTSD. At the same time, this may provide a risk of social isolation (e.g. Hunt & Robbins, 2001). Only sharing deployment experiences with other veterans may prevent the reconciliation of traumatic memories. Sharing their experience with others helps them to elaborate on the traumatic memories and integrate their experiences with other autobiographical memories (Ehlers & Clark, 2000). In the act of sharing their experiences with others they also may overcome their distrust of the world and create a meaningful world again (Mooren & Kleber, 2001).

According to Bonanno (2004) the majority of people exposed to potential trauma will recover after a short period or do not have to recover at all. Does this mean that a subgroup of veterans may never be involved in a search for meaning? Resilient veterans may use coping strategies more flexibly; by varying perceptual and behavioral patterns across situations, having a good fit between the nature of coping strategies and the characteristics of stressful situations, and perceiving effectiveness in attaining their goals (Cheng, 2001). Overall, their perception of controllability may be optimal attuned across threatening situations.

For those in need of meaning, it may be necessary to resolve meaning as comprehensibility before they can create meaning in the sense of significance (Davis et al., 1998; Janoff-Bulman & Yopyk, 2004; Joseph & Linley, 2005). In the literature much emphasis has been placed on the positive changes after adversity or so-called benefit finding, posttraumatic growth or stress related growth, although the question remains if self reports of positive changes are beneficial for psychological adjustment (Helgeson, Reynolds & Tomich, 2006; Zoellner & Maercker, 2006). According to Janoff-Bulman & Yopyk (2004), before personal benefits can be generated, randomness and future vulnerability has to be encoded in a new constructed assumptive world. Only then is a change in focus possible from more existential questions about the meaning *of* life to more personal issues related to meaning *in* life.

Resilience, or the recovery from posttraumatic stress reactions, appears to be fostered by having a strong belief in the purpose of the mission and by being able to keep emotional distance. Afterward, a sense of fulfilment and feeling appreciated for their efforts gave veterans meaningful memories to look back on. These resilient factors deserve further investigation in longitudinal research on the psychological adaptation after deployment. Furthermore, keeping emotional distance during extreme situations can be trained and optimises mental preparation for soldiers. For example, exposure to wounded and dead people prior to deployment prevents overwhelming reactions when soldiers are faced with comparable circumstances during deployment. Moreover, veterans who adapted well after peacekeeping operations may serve as role models for the new coming generation of soldiers. Their expertise can inform future veterans about realistic expectations, handling difficult situations, and provide instrumental and emotional support on mental adaptation.

Some limitations of our research have to be discussed. First, the purposive sampling procedure decreases the generalizability of findings. The veterans who experienced less extreme events and reported medium levels of posttraumatic stress reactions were excluded. However, purposive sampling allowed us to compare groups of veterans with and without posttraumatic stress reactions, and to explore in more depth meaning processes related to stress responses. Second, the findings could be subject to other interpretations. However, a validity check was conducted to enhance validity by the second author to ensure that interpretations were grounded in the text (Glaser & Strauss, 1967). The second author and a methodological expert critically examined the first author's interpretations of links between transcripts and the developing of recurring themes.

Future research should replicate the findings of this study in order to increase reliability of the results. Moreover, less successful military operations may show different relationships between themes of meaning among resilient veterans. For example, the military operation to former Yugoslavia in Srebrenica ended with an enormous tragedy. Veterans received little social recognition for their military effort and were blamed for their lack of military performance to protect the local people. An important part of creating meaning in these difficult circumstances may come from comradeship instead of feeling rewarded for their effort. Moreover, to find out more about the psychological adaptiveness of meaning as comprehensibility versus meaning as personal significance longitudinal research is recommended. As mentioned earlier it is not known whether some of the veterans without stress responses also had to come to terms with meaning making as comprehensibility and if they have recovered from shattering deployment experiences. Following veterans in their

meaning-making processes over time also can shed more light on the use of assimilation versus accommodation to integrate their military experiences successfully. If accommodation requires more psychological effort (Dalglish, 2004), it is important to find out more about how changing existing beliefs can best be supported and facilitated.



# 7

## A Model of Resilience and Meaning after Military Deployment: Personal Resources in Making Sense of War and Peacekeeping Experiences



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A model of resilience and meaning after military deployment:  
Personal resources in making sense of war and peacekeeping  
experiences. *Aging & Mental Health*.

## **Abstract**

The aim of the present study was to examine whether the specific personal resources of self-esteem, optimism and perceived control, combined in the latent variable called 'resilience', were associated with cognitive processing of war zone experiences. Data were collected by questionnaire from a sample of 1.561 veterans who had participated in various war or peacekeeping operations. Structural Equation Modelling was performed to assess the expected relationships between the observed and latent variables. The construct of resilience was well defined and proved to be strongly associated with both construals of meaning, comprehensibility versus personal significance, after military deployment. According to our model, higher resilience predicted less distrust in others and the world, more personal growth and less intrusions and avoidance after military deployment.

## Introduction

In research on stress and trauma there is a growing interest in the capacity to bounce back from adversity strengthened and more resourceful. As Walsh (2006) describes, resilience “...enables people to heal painful wounds, take charge of their lives, and to go on to live fully and love well” (p.5). Moreover, resilience among adults represents a distinct and empirically separable outcome trajectory from that normally associated with recovery from trauma (Bonanno, 2004). It is the capability of maintaining a stable trajectory of healthy functioning across time and in the face of adversity (Bonanno, 2004). What is more, resilience appears to be a common phenomenon arising from ordinary human adaptive processes which has been overlooked in general (Masten, 2001). To understand the human potential to thrive under adverse circumstances a more positive view of normative human capabilities is necessary.

A growing body of empirical studies recognizes that processing threatening events results in personal growth or psychological benefits (Helgeson, Reynolds & Tomich, 2006; Zoellner & Maercker, 2006). Moreover, veterans reported more positive than negative effects of their war and peacekeeping experiences, especially when they perceived high threat (see for a review Schok, Kleber, Elands & Weerts, 2008). They gained more self-confidence, valued family and friends more, and believed that the experience had expanded their horizons. Personal resources such as self-esteem, optimism and perceived control are expected to support the processing of threatening experiences. The present study examined these expectations among a sample of veterans that faced adversity by being in a war zone. Self-esteem, optimism and perceived control may be thought of as core resources that contribute to a resilient personality (Major, Richards, Cooper, Cozzarelli & Zubek, 1998). They are expected to minimize the perception of threat related to war zone stressors and the need to make meaning of the experience.

Taylor's theory of cognitive adaptation (1983) assumes that self-enhancing biases can buffer current threats and possible future setbacks by increasing self-esteem, developing an optimistic outlook, and regaining a sense of mastery over the event. Self-enhancement refers to the efforts to improve self image and restore self-esteem. These biases has been shown to result in better adjustment among Bosnian civilians in the immediate aftermath of the Balkan civil war and among survivors of the 11 September 2001 attack in New York City (Bonanno, Field, Kovacevic & Kaltman, 2002; Bonanno, Rennie & Dekel, 2005). Furthermore, the adaptive benefits of self-enhancement were most pronounced for those who had suffered the most severe and violent losses, suggesting a buffering role for self-enhancement (Westphal & Bonanno, 2007).

Moreover, O'Donnell, Elliott, Jones Wolfgang and Creamer (2007) suggest that self-schemas are dominant in the development and maintenance of posttraumatic stress symptoms. More specifically, negative self-appraisals played the most influential role in determining later posttraumatic stress symptomatology. Based on these findings we expect that high self-esteem lowers perceived threat, therefore, minimizing the need to make sense of threatening experiences which in turn decreases posttraumatic stress reactions.

People who have a disposition to be optimistic and therefore have generally positive expectations for the future, reported less distress across a broad range of situations (Andersson, 1996) and coped more effectively with stress (Scheier & Carver, 1985; Taylor, 2003). Solberg Nes and Segerstrom (2006) pointed out that optimistic coping appears to be flexible with regard to the demands of the stressor and is responsive to the possibility of modifying either the stressor itself or one's response to it. Therefore, dispositional optimism is expected to lower perceived threat, decrease the need to derive meaning from deployment, and reduce posttraumatic stress reactions in veterans. Moreover, optimism is supposed to alleviate symptoms and improve adjustment to stressful events because it represents the opposite of negative affectivity. Negative affectivity or neuroticism has been correlated with PTSD symptoms in soldiers deployed to Iraq (Engelhard, Huijding, van den Hout & Jong, 2007).

The belief that one can determine one's own behavior, influence one's environment, and bring about desired outcomes is known to help people cope (Thompson, 1981). When people are able to perceive events in their environment as controllable, or regard their coping efforts as likely to be successful (Benight et al., 1997), their distress is lower, and their physiological responses are reduced (Taylor, 2003). Moreover, gaining a feeling of control over the threatening event has proven to be an important part of the adjustment process (Taylor, 1983). Therefore, the belief in personal control may be an advantage in restoring a sense of mastery after one has experienced threatening events. Those who are able to maintain or restore a sense of control cope better with the situation and experience less depression and anxiety (Affleck, Tennen & Gershman, 1985; Taylor, Helgeson, Reed & Skokan, 1991; Thompson, Sobolow-Shubin, Galbraith, Schwankovsky & Cruzen, 1993). A few studies among veterans demonstrated that an internal locus of control (perception of high personal control) was associated with fewer posttraumatic stress symptoms compared to an external of locus of control (Frye & Stockton, 1982; Solomon, Mikulincer & Benbenishty, 1989). This indicates that perceived control lowers perceived threat, decreases posttraumatic stress reactions and diminishes the need of meaning-making of the events veterans encountered during deployment.

We define resilience as *high degrees of self-esteem, optimism and perceived control*. Resilience is expected to lower perceived threat and decrease post-traumatic stress reactions. When perceived threat is low, the need to search for meaning diminishes. When perceived threat is high, attributing (positive) meaning facilitates mastery over the situation (Baumeister, 1991; Festinger, 1979; Kleber & Brom, 1992).

Two construals of meaning making play independent roles in the cognitive adaptation process when individuals perceive threat (Davis, Nolen-Hoeksema & Larson, 1998; Janoff-Bulman & Yopyk, 2004; Taylor, 1983). First, people seek to understand the event in retrospect and try to *comprehend* what has happened (Janoff-Bulman & Frantz, 1997; Joseph & Linley, 2005; Wong & Weiner, 1981). This means that they have to make sense of the event by understanding what happened, how it happened, and why it happened. Second, they have to find *personal significance* in the event or gain from the experience for their present life (Antoni et al., 2001; Helgeson, et al., 2006; Joseph & Linley, 2005; Tedeschi & Calhoun, 1996). This implies that people evaluate and interpret what the experience has brought them in terms of personal skills, relationships, life philosophy and world view, also referred to as benefit finding or posttraumatic growth. This study will take both construals of meaning into account in studying the cognitive processing of war and peacekeeping experiences. As negative appraisals have been shown to be associated with the development of posttraumatic stress pathology (Ali, Dunmore, Clark & Ehlers, 2002; Bryant & Guthrie, 2005; Ehlers & Clark, 2000; O'Donnell et al., 2007), this study focuses on personal resources of resilience in relation to these two construals of meaning after war and peacekeeping experiences.

### ***Objectives***

The aim of the present study was to examine whether personal resources, self-esteem, optimism and perceived control, as a latent variable called 'resilience' are correlated with meaning-making processes after war and peacekeeping experiences, and if they protect against posttraumatic stress reactions. Figure 1 shows the model that will be examined. We examined data from a large sample of Dutch veterans deployed during various war and peacekeeping operations who were surveyed as part of a larger mixed method study intended to explore meaning after military deployment (Schok, Kleber, Elands, Lensvelt-Mulder & Weerts, 2006). The following hypotheses were tested using this data.

1. Self-esteem, control and optimism (as personal resources of resilience) are predictive of lower perceived threat from war zone stressors and of lower levels of intrusion and avoidance.

2. Self-esteem, control and optimism (as personal resources of resilience) are not predictive of finding meaning in terms of comprehensibility and personal significance.
3. Perceived threat related to war zone stressors will be significantly and positively associated with intrusion and avoidance.
4. Perceived threat related to war zone stressors will be significantly associated with meaning in terms of comprehensibility and personal significance.
5. Positive meaning in terms of comprehensibility and personal significance is predictive of lower levels of intrusion and avoidance.

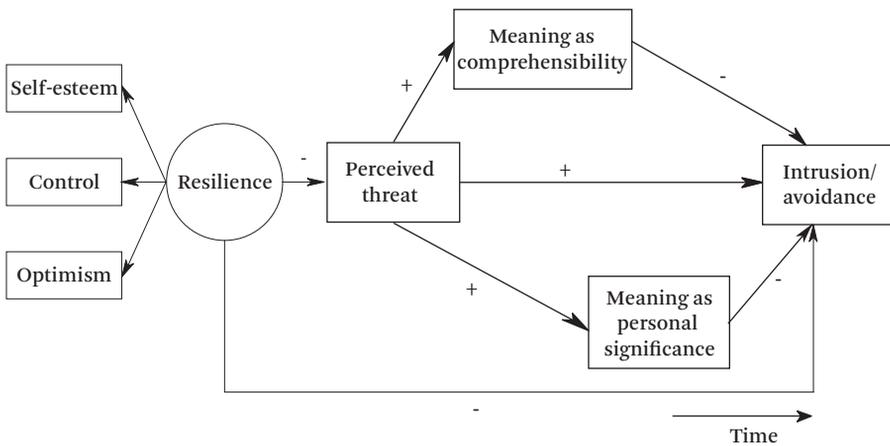


Figure 1 Hypothesised model of resilient resources in predicting meaning making and posttraumatic stress reactions after military deployment

## Method

### Participants

A cross-sectional study was carried out between September 2004 and December 2004 among Dutch veterans who were registered at the Dutch Veterans Institute. This national institute promotes social recognition and provides services to improve the psychological, social, and physical well-being of Dutch veterans and their families. A sample of 3000 male veterans was drawn, consisting of former military personnel who had been deployed during the following war and peacekeeping operations: (1) the (Dutch)-Indonesian Decolonisation War (1945-1949), (2) the Korean War (1950-1953), (3) the Dutch-Indonesian conflict on Irian Jaya (New-Guinea, 1950-1962), (4) UNTAC/UNAMIC (United Nations Transitional Authority in Cambodia/United Nations Advance Mission In Cambodia, 1992-1993), (5) UNPROFOR/UNPF (United Nations Protection

Force in former Yugoslavia/United Nations Peace Forces, 1992-1995) and (6) IFOR/SFOR (Implementation Force/Stabilization Force in former Yugoslavia, 1995-present). From each military operation 500 veterans were invited to participate in this study. The response rate was 52% ( $n=1.561$ ) for the total sample and ranged from 46% to 56% per military operation.

### *Measures*

*War-zone stressors and perceived threat.* War-zone stressors were measured using the comprehensive Aftercare Questionnaire of the Royal Army in the Netherlands (Royal Dutch Army, 2003). This scale of the frequently used instrument assessed threatening events experienced during deployment. The items included, for example, “being fired (upon),” “being taken hostage,” “being wounded,” “seeing dead bodies,” “hearing the wounded scream.” Eight items were added: “I shot someone,” “I killed someone (with a weapon),” “I wounded someone (with a weapon),” “removing dead bodies,” “presence of landmines,” “explosions (bombardments, missile attacks etc),” “intimidation by supervisor” and “not authorized to intervene between civilians and conflicting parties.”

The final instrument consisted of 24 items where the respondents were asked to mark the threatening events they experienced during deployment and the extent to which they perceived these events to be threatening on a Likert-type rating scale from 1 “not at all” to 5 “very much.” A sum score was calculated to measure perceived threat related to the assessed war zone stressors. Internal reliability of this scale was high ( $\alpha = .91$ ).

*Impact of Event Scale (IES).* The Impact of Event Scale (Horowitz, Wilner & Alvarez, 1979; Dutch version Brom & Kleber, 1985; Van der Ploeg, Mooren, Kleber, Van der Velden & Brom, 2004) assessed the emotional impact of traumatic events on a person by looking at intrusive thoughts and behaviors (subscale intrusion) and emotional numbing and avoidance (subscale avoidance). Respondents were asked to indicate the frequency of each of 15 symptoms, related to their deployment experiences, in the last week ranging from 0 to 5 (0=not at all, 1=rarely, 3=sometimes, 5=often). Reliability for this scale was high ( $\alpha = .94$ ).

*Meaning of War Scale (MWS).* The Meaning of War Scale (Mooren & Kleber, 2001; Mooren, Schok & Kleber, 2009) consisted of 22 items with explicit reference to war and was adjusted to the experience of military deployment. Subscales were a) viewing the people and the surrounding world in terms of trust and distrust, and detachment, b) growing or learning from what happened, expressed by feelings of hope and lack of hope and life-goals, c) adhering to a religion. The subscales distrust and adhering religion are operationalizations of meaning in terms of comprehensibility. They reflect aspects of understanding the events in retrospect to create a cognitive framework to explain the experi-

ence. The subscale growth reflects meaning in terms of personal significance which emphasizes personal gain from the experience.

Examples of items of the subscale distrust included “Since my deployment I only trust myself” and “Since my deployment I don’t believe in justice anymore.” Examples of items of the subscale growth included “My deployment experiences have made me a stronger person” and “My deployment experiences gave my life more sense.” Examples of items of the subscale adhering religion included “My deployment experiences have made my belief in God stronger,” and “Since I have been deployed I pray more.” Respondents are asked to indicate the extent of their agreement with the items on a 4-point scale ranging from 1 (strongly disagree) to 4 (strongly agree). The three sub scales showed good reliability (.85, .76 and .85 respectively).

*Benefit Finding Scale (BFS).* The Benefit Finding Scale (Antoni et al., 2001) has 17 items, each of which expresses some potential benefit that might be derived from the experience and was made specific by referring to deployment experiences. This scale assesses meaning in terms of personal significance. Responses were made on a Likert-type scale from 1 (not at all) to 5 (extremely). The items assessed benefits in a variety of domains, including acceptance of life’s imperfections, becoming more cognizant of the role of other people in one’s life, and developing a sense of purpose in life. Internal reliability of this scale was high ( $\alpha = .92$ ).

*The Rosenberg Self-Esteem List (RSE).* The Rosenberg Self-Esteem List (Rosenberg, 1965) was used to measure self-esteem. This well-known and validated questionnaire consists of 10 items which measures attitudes towards the self, such as self-acceptance and self-worth. For example, “I am positive about myself.” Respondents are asked to indicate the extent of their agreement with the items on a 4-point scale ranging from 1 (strongly agree) to 4 (strongly disagree). Five negatively phrased items were reversed scored and summed to an overall self-esteem score. Higher scores on the RSE indicate higher levels of self-esteem. Cronbach’s alpha for the RSE in the present study was .83.

*Mastery scale (MS).* The Pearlin and Schooler’s Mastery scale (Pearlin & Schooler, 1978) consists of seven items that are intended to assess global beliefs of perceived control or beliefs regarding one’s ability to control an event rather than being controlled by fate. Five items are phrased in a negative way and two items in a positive way (negative items were reversely scored). A sample item from this scale is: “I have little control over the things that happen to me.” Responses were given on 5-point scale ranging from 1 (strongly agree) to 5 (strongly disagree). A total sum score was calculated. Higher scores on the scale indicate higher levels of perceived control. Cronbach’s alpha for the Mastery scale in the present study was .81.

*Life Orientation Test (LOT)*. The Life Orientation Test was used to assess dispositional optimism, defined as generalized optimistic outcome expectancies (Scheier & Carver, 1985) and is a well-known and validated instrument. This version consists of eight items. Four items are worded optimistically and four are worded pessimistically. An example of an item is “I’m always optimistic about my future.” Respondents are asked to indicate the extent of their agreement with the items on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The negative items were reversed before scoring so that higher scores indicate higher levels of dispositional optimism. In the present study Cronbach’s alpha was .81.

### **Data analyses**

First, descriptive statistics and bivariate correlations were calculated. Second, the hypothesized model (Figure 1) was translated into a statistical model and tested using Structural Equation Modelling (SEM) by AMOS 16.0. Path analysis was performed to assess the expected relationships between the observed variables for the complete sample.

In all model analyses, maximum-likelihood was used as the method of estimation. Fit measures used were chi-square ( $\chi^2$ ), Goodness of Fit Index (GFI; Joreskog & Sorbom, 1996), the Bentler-Bonett Normed Fit Index (NFI; Bentler, 1990) and the root means square error of approximation (RMSEA; Steiger, 1990).  $\chi^2$  evaluates the fixed rather than the free parameters in a structural model and low and non-significant values are desired; GFI indicates the relative amount of the observed variances and covariances accounted for by the model; NFI presents the proportion in the improvement of the overall fit of the proposed model relative to a null model. RMSEA is a measure of the model’s parsimoniousness. Adequate fit of the model to the data is indicated by values of .95 or greater for GFI and NFI, and .05 or smaller for the RMSEA (Byrne, 2001).

Missing data were imputed in SPSS 15.0 by EM (expectation-maximization) method before analyzing the data in AMOS. This was necessary because the maximum likelihood estimator needs a full matrix to provide the researcher with modification indices (MI). These indices were used to build the model. After the model fit was established, the original data file, including missing data, was used to estimate the model in AMOS, where missing data were imputed using Full Information Maximum Likelihood (FIML) a method that is superior to the EM algorithm (Kline, 2005).

Guidelines by Cohen (1988) were followed to interpret standardised path coefficients with absolute values less than .10 indicating a small effect, values around .30 indicating a medium effect and coefficients with absolute values of .50 suggesting a large effect.

**Table 1** Descriptives of total sample (N=1.561)

Descriptives	Total sample (N=1.561)	
	M	SD
Age (years)	57.66	18.49
Duration of deployment (months)	18.08	17.47
Time since leaving the military service (years)	23.50	20.71
Frequency of war zone stressors	7.55	5.44
	n	%
Deployment		
War	731	46.8
Peacekeeping	808	51.8
Married/living together	1262	80.8
Education		
Low	660	42.3
Middle	478	30.6
High	295	18.9
Other	109	7.0
Frequency of deployment		
1	954	61.1
> 1	558	35.7
Service		
Land Forces	1018	65.2
Navy (incl. marines)	237	15.2
Air Force	44	2.8
Military Police	29	1.9
Combination	182	12.1
Status		
Conscripts	432	27.7
Professional	629	40.3
Voluntary	238	15.2
Combination	212	13.6
Rank leaving the service		
Low	797	51.1
High	640	41.0
War zone stressors (most reported)		
Shootings (not aimed)	1107	70.9
Witnessing human suffering	1100	70.5
Presence of landmines	967	61.9
Witnessing death bodies	799	51.2
Witnessing severely wounded persons	788	50.5

Note. Due to missing data, sample sizes for descriptives vary.

## Results

### *Descriptive statistics*

Table 1 shows descriptive information on the total sample. Participants had an average age of 57.66 years ( $SD=18.49$ , range 24-90). On average, veterans were deployed for 18.08 months ( $SD=17.47$ , range 1-275). The mean length of time since leaving the service was 23.50 years ( $SD=20.71$ ). Veterans were equally

deployed during war- and peacekeeping operations and most of them were married or living with a partner (80.8%; 1262).

Most veterans had a low or middle level of education (72.9%; 1138). More than half of the veterans served with the Land Forces (65.2%; 1018), most veterans were working either as a professional (40.3%; 629) or were deployed as conscript (27.7%; 432) and upon leaving the service most of them had a low rank (51.1%; 797) such as private or corporal.

Veterans reported on average 7.55 war zone stressors ( $SD=18.49$ , range 0-24). War zone stressors that were most reported by participants were shootings (70.9%; 1107), seeing human suffering (70.5%; 1100), presence of landmines (61.9%; 967), seeing dead bodies (51.2%; 799) and seeing severely wounded people (50.5%; 788).

Table 2 displays the correlations among the variables included in the model, along with means and standard deviations. Correlations ranged from .01 to .61 and almost all were significant. The highest associations were found between self-esteem and optimism, self-esteem and control, and control and optimism, intrusion/avoidance and distrust, personal benefits and growth and intrusion/avoidance and perceived threat.

*Table 2 Bivariate correlations (N=1.561)*

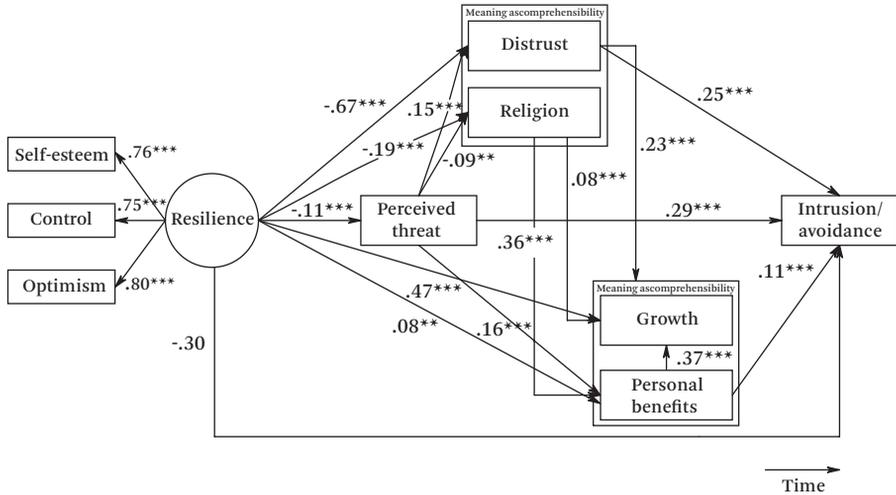
Variables	1	2	3	4	5	6	7	8	9	
1. Self-esteem (RSE)	-									
2. Control (MS)	.57**	-								
3. Optimism (LOT)	.61**	.59**	-							
4. Perceived threat	-.08**	-.10**	-.10**	-						
5. Distrust (MWS)	-.36**	-.46**	-.49**	.23**	-					
6. Growth (MWS)	.40**	.33**	.40**	.04	-.08**	-				
7. Religion (MWS)	-.14**	-.18**	-.07**	-.02	.10**	.13**	-			
8. Personal Benefits (BFS)	.03	.01	.10**	.15**	.07**	.43**	.33**	-		
9. Intrusion/avoidance (IES)	-.33**	-.39**	-.37**	.40**	.49**	-.08**	.13**	.15**		
	M	33.28	25.77	29.11	23.91	25.85	22.52	5.88	48.85	12.78
	SD	4.41	4.89	5.05	20.33	5.19	2.50	2.12	12.77	15.45

\*\* p<.01

No significant associations were found between self-esteem and personal benefits, control and personal benefits, perceived threat and growth, and perceived threat and religion. Furthermore, growth and personal benefits showed some significant overlap. All significant associations were in the expected direction, except for personal benefits versus intrusion/avoidance.

**Results of Structural Equation Modelling**

The model as depicted in Figure 1 was tested with the total sample. Figure 2 shows the final model. The measurement variables, self esteem, control and optimism loaded on the latent variable of resilience as modelled. The overall fit of the model was satisfactory,  $\chi^2(1, N = 1.561) = 81.13, p = .00, GFI = .98, NFI = .98, RMSEA = .05$ , with factor loadings ranging from .75 to .80 indicating that the construct of resilience was well defined.



*Figure 2 Final model of personal resources of resilience in predicting meaning making and posttraumatic stress reactions after military deployment n=1.561. Model:  $\chi^2(1, N=1.561)=81.13, p=.00, GFI=.98, NFI=.98, RMSEA=.05. **p<.01. ***p<.001.$*

In line with our hypothesis resilience, as measured by self esteem, optimism and control, predicted lower perceived threat from exposure to war zone stressors and lower levels of intrusions and avoidance. Effect sizes were small to medium. Surprisingly, resilience proved to be predictive of meaning in terms of comprehensibility as reflected in distrust ( $\beta=-.67$ ) and adhering religion ( $\beta=.19$ ). This indicates that high self esteem, personal control and optimism is associated with less distrust and alienation, as well as less adhering religion. Effect sizes were large to small for these associations. Resilience was also predictive of meaning in terms of personal significance as reflected in growth ( $\beta=.47$ ) and personal benefits ( $\beta=.09$ ). Higher self esteem, control and optimism were associated with more growth gained from military deployment and more personal benefits. Although growth and personal benefits correlated highly, indi-

cating overlap, the effect sizes differed. For resilience versus growth the effect size was large and for resilience versus personal benefits the effect size was small.

Perceived threat related to war zone stressors predicted higher levels of intrusion and avoidance ( $\beta=.29$ ). The effect size indicated a medium effect. Perceived threat was also predictive of meaning in terms of comprehensibility as reflected in distrust ( $\beta=.15$ ) and adhering religion ( $\beta=-.09$ ). This indicates that higher perceived threat relates to viewing people and the world more as distrustful, as well as less adherence of religion, although effect sizes were small. Furthermore, perceived threat was also predictive of meaning in terms of personal significance as reflected in personal benefits ( $\beta=.16$ ), but not for growth. Higher perceived threat was associated with more personal benefits, although the effect size was small.

Finally, meaning in terms of comprehensibility as reflected in distrust predicted higher levels of intrusions and avoidance ( $\beta=.25$ ). This effect size indicated a medium effect. Adhering to a religion was not associated with intrusive and avoidant thoughts and behaviors. Surprisingly, meaning as personal significance as reflected in finding personal benefits predicted higher levels of intrusions and avoidance ( $\beta=.11$ ), although the effect size was small. Growth was not predictive of posttraumatic stress responses.

Overall, the model explained 39% of the variance for intrusion/avoidance, 39% of the variance in distrust, 40% of the variance in growth, 15% of the variance in religion and 3% of the variance in personal benefits. The direct and indirect effects are presented in Table 3 and provide support for the notion that direct effects were small to large and indirect effects were rather small in the model.

*Table 3 Standardized direct and indirect effects between variables (N=1.561)*

Outcome	Predictor	Effects		
		Direct	Indirect	Total
Resilience	Self esteem	.76***	-	.76***
	Control	.75***	-	.75***
	Optimism	.80***	-	.80***
Perceived Threat	Resilience	-.11***	-	-.11***
Distrust	Resilience	-.67***	.10***	-.57***
	Perceived Threat	.15***	.01	.16***
	Growth	.23***	-	.23***
	Religion	-	-	.02
	Personal benefits	-	.09***	.09***
Growth	Resilience	.47***	.01	.49***
	Perceived Threat	-	.05**	.05**
	Distrust	-	-	-
	Religion	.08**	-	.08**
	Personal benefits	.37***	.03	.40***
Religion	Resilience	-.19***	.03	-.16***
	Perceived Threat	-.09**	.06	-.03
	Distrust	-	-	-
	Personal benefits	.36***	-	.36***
	Resilience	.08**	-.02	.07**
Personal benefits	Perceived Threat	.16***	-	.16***
	Distrust	-	-	-
	Growth	-	-	-
	Religion	-	-	-
	Resilience	-.30***	-.16***	-.46***
Intrusion/avoidance	Perceived Threat	.29***	.06	.35***
	Distrust	.25***	-	.25***
	Growth	-	.06**	.06**
	Religion	-	.01	.01
	Personal Benefits	.11***	.02	.14***

\*\* p<.01. \*\*\* p<.001

## Discussion

The present study draws attention to the need for a more comprehensive model of cognitive adaptation to threatening events including resilient resources and meaning-making processes. Resilience decreased the perception of threat, and more strongly, minimised intrusions and avoidance resulting from war zone experiences according to our model. More specifically, higher resilience predicted less distrust in others and the world and more personal growth. Personal resources diminished veterans' appraisals of danger in the war zone after deployment, although the nature of this relationship needs further investigation.

Although the association between resilience and perceived threat was rather low, it was in the expected direction. A stronger association was found between resilience and intrusions and avoidance, indicating that self esteem, control

and optimism lower stress responses resulting from deployment experiences. More specifically, higher resilience was strongly associated with perceiving a lower emotional impact of war and peacekeeping experiences. As intrusive and avoidant thoughts can be considered as attempts to understand traumatic events and as markers of cognitive processing, it appears that high self-esteem, personal control and optimism diminish this need to understand the experience. They may represent protective resources against intrusive thoughts and behaviours and emotional numbing and avoidance.

The strong association between resilience and the two construals of meaning (comprehensibility and personal significance) came as a surprise. High self-esteem, personal control and a positive outlook were shown to be negatively correlated to distrust, indicating that these personal resources lower the perception of a negative world view. Resilient resources appear to increase the perception of a meaningful world by enhancing feelings of trust and safety (Janoff-Bulman & Frantz, 1997). However, it may also be true that resilience prevents veterans from becoming distrustful after exposure to stressors in the war zone. Self-esteem, personal control and optimism foster emotional stability and may, therefore, decrease the need for comprehensibility for what happened and protect veterans against the shattering of their beliefs during stressful times (Bonanno, 2004). On the other hand, distrust may also lead to lower self-esteem, less personal control, and more pessimism. Due to the cross-sectional nature of the study, no conclusions can be drawn about the causal relations among variables.

Moreover, resilient resources also predicted finding personal significance as reflected in personal growth from military deployment. Higher self-esteem, personal control and optimism proved to be strongly associated with having learned from and feeling stronger through the military experiences they encountered. Therefore, higher resilience may support reflection and awareness of what the experience of deployment brought them in terms of personal skills, relationships and life philosophy. The final model showed that highly resilient veterans benefit most from military deployment. Britt, Adler and Bartone (2001) also found that personal resources were related to the tendency to find meaning in work during deployment among Bosnian peacekeepers. Soldiers, who were committed to life tasks, felt in control and saw events as challenging, identified more with their peacekeeper role, believed their contribution was important and were personally engaged in the mission.

Resilience as measured by self-esteem, personal control and optimism may be seen as the opposite of negative affectivity (Watson & Clark, 1984). Negative affectivity has been shown to have adverse effects on mental health (Engelhard et al., 2007; Taylor, 2003). In contrast, self esteem, optimism and control foster

the tendency to experience positive emotional states which prompt individuals to pursue novel and creative thoughts and actions (Frederickson, 2001). Positive emotions tend to broaden one's thoughts and action repertoire; negative emotions narrow them. Highly resilient people tend to experience positive emotions during times of stress (Tugade & Frederickson, 2004). Re-creating a meaningful world after trauma may well be served by using positive emotions in the regulation of overwhelming negative emotions (Folkman, 2008; Folkman & Moskowitz, 2000). This may explain how self-esteem, personal control and optimism lower stress responses and foster assigning positive meaning to threatening experiences.

Both construals of meaning have been included in the model based on the assumption that they present different phases in cognitive adjustment after military deployment. However, in the final model associations were found between the two constructs of meaning. For example, religion and personal benefits showed a medium effect size as well as distrust and growth. This indicates that both construals of meaning are not entirely distinct phases in time within the meaning-making process.

Furthermore, distrust and personal benefits were associated with intrusion and avoidance (see also Schok, Kleber, Lensvelt-Mulders, Elands & Weerts, accepted). This finding supports the notion that successful processing of threatening experiences is accomplished when beliefs about self, others and the world are related to inner safety and trust (Janoff-Bulman, 1992) and when they facilitate connectedness with others and the world (Herman, 1992). Moreover, although the effect was small, finding personal benefits predicted higher levels of intrusion and avoidance. Intrusive and avoidant thoughts may be considered as attempts to understand traumatic events and markers of cognitive processing (Helgeson et al., 2006; Horowitz, 1997; Kleber & Brom, 1992). This implies that veterans in our sample are working through the implications of their deployment experiences for their lives, and those implications are disturbing, but they may facilitate cognitive growth at the same time. These experiences have to be assimilated into a coherent narrative and become part of an internalized and evolving story of the self (McAdams, 2001; Neimeyer, 2006). As noted by Neimeyer (2006) this narrative "...offers a meaningful explanation for identity-transforming life events, capturing the richness of lived experience" (p.142).

The concept of resilience may also include social resources that support bouncing back from adversity strengthened and more resourceful. For example, lack of social support has been one of the strongest predictors of posttraumatic stress disorder (PTSD), especially in military samples (Brewin, Andrew & Valentine, 2000). Moreover, a negative homecoming reception was associated

with posttraumatic stress symptoms (Bolton, Litz, Glenn, Orsillo & Roemer, 2002; Frye & Stockton, 1982). Bolton and colleagues (2002) suggested that homecoming reception is relevant to a soldier's attempt to legitimize and validate his or her actions and sacrifices made during a mission. Veterans in our sample who were deployed during successful missions abroad may receive more societal approval for their effort, like for example the mission to Cambodia. In contrast, the military operation to former Yugoslavia in Srebrenica ended with an enormous tragedy. Veterans received little social recognition for their military effort and were blamed for their lack of military performance to protect the local people. Less societal approval will make the process of meaning-making more difficult after homecoming. Besides personal resources research on resilience should also focus on social resources that support cognitive adaptation to stressful events after military deployment.

Several limitations of the present study should be considered. First, the study was cross-sectional. This design limits the conclusions that can be drawn with regard to causality amongst the variables. For example, in the model we expected that high self-esteem, control and optimism leads to positive meaning-making. However, being able to make positive meaning out of adversity may also improve self-esteem, mastery and a positive outlook. In addition, effects may also occur in both directions indicating a feedback loop. The exact nature of causality between resilient resources and meaning-making has to be addressed by the use of a longitudinal design. Another point for consideration is the retrospective nature of this study. Self-report measurement of exposure has been shown to be inconsistent over time (Bramsen, Dirkzwager, Esch & Ploeg, 2001). This may be because posttraumatic stress responses may alter a person's interpretation of the events. Intrusions and avoidance are indicative of cognitive processing and a signal that a person is trying to integrate the experience into existing meaning structures of reality. Alterations in a person's appraisals of the events may therefore be normal in the process of mental adaptation.

If longitudinal research confirms the positive relations between resilience and meaning as measured in our model, personal resources such as self-esteem, personal control and optimism should be reinforced in people who will be exposed to threatening events. Veterans who are not functioning well after military deployment may benefit greatly from self enhancing interventions. By enhancing their self-esteem, optimistic outlook on life and increasing their personal control, they are better able to process and make sense of their war zone experiences. As most veterans adapt well after military deployment experiences and only a minority develops actual posttraumatic stress disorder (Engelhard, Van den Hout, Weerts, Arntz, Hox & McNally, 2007), resilient vet-

erans are an important avenue for future research and should serve as an example in clinical practice. Their stories can inform future veterans about what to expect of military deployment, how to handle difficult situations, and they can provide instrumental and emotional support on mental adaptation upon returning home.

# 8

## Summary and General Discussion



What research on stress and trauma has often overlooked is the search for meaning as a potential adaptive mechanism in processing threatening events. The objective of this thesis was to examine the significance of meaning in a sample of veterans who were deployed during various war- and peacekeeping operations. A cognitive perspective was chosen to explore how veterans make sense of their war zone experiences and find personal significance in these events by using a sequential explanatory design. More specifically, data were collected by questionnaires complemented by in-depth interviews. This concluding chapter will summarize the main findings and discuss their implications for future research and clinical practice.

## **8.1 Summary**

Chapter 2 presented a review of the scientific literature on making sense of war and peacekeeping experiences, and included an analysis of empirical studies that examined appraisals of military deployment experiences among veterans. Results showed that veterans reported more positive than negative effects in the empirical studies under review. Moreover, positive and negative meanings of war and peacekeeping experiences reflected independent dimensions and were found to co-exist. Furthermore, findings indicated a mediating effect of perceived benefits from (highly) stressful experiences on psychological adjustment. These findings illustrated the importance of the individual' perception of positive and negative changes related to the psychological processing of war and peacekeeping experiences. However, the directionality of this association has to be interpreted with caution because in all the reviewed studies the measurement of meaning was cross-sectional. Meaning in terms of personal significance was thoroughly addressed in the studies under review and reflected three important and consistent domains of change: (1) self-concept, (2) social relationships, and (3) personal growth and priorities in life. The finding that veterans exposed to higher perceived threat reported more positive outcomes was supported by several studies among former prisoners of war. By attributing meaning to a threat, in this case highly stressful war and peacekeeping experiences, veterans may regain a sense of cognitive control over the situation and thereby resolve cognitive dissonance.

Chapter 3 introduced a questionnaire that has been developed for measuring changes in cognitive assumptions associated with experiences of adverse events during times of war, as well as violence. Despite the emphasis placed on the concept of meaning after traumatic experiences in cognitive theories, there is little empirical research on this phenomenon. Psychometric qualities of the Meaning of War Scale were described based on two samples: Bosnian

refugees living in the Netherlands and veterans deployed during a cross-section of large military operations from 1945 until 2004. Three subscales showed good reliability and validity. The first subscale measured trust versus distrust, emphasizing cognitions about trust related to war and violence. The second subscale measured cognitions about personal growth, including learning from experiences. The third subscale measured the significance of religion, emphasizing the search for order in existence based on religion. Making sense of threatening experiences contributes to a narrative of life, and therefore, to a congruent self image. By framing the traumatic experience in a context of time and space, the event can be integrated into autobiographical memory (Ehlers & Clark, 2000). Moreover, by making traumatic experiences comprehensible through cognitions a person can regain a sense of mastery over the emotional impact. Recovering from trauma entails organizing many overwhelming and detailed memories about the events (Neimeyer, 2006). In that sense, meaning-making is like putting together the pieces of a puzzle whereby fundamental assumptions can restore a sense of inner safety.

Chapter 4 examined the kinds of appraisals that were most adaptive in the psychological processing of military deployment experiences. Questionnaire findings of a sample of 1,561 veterans who participated in various war and peacekeeping operations confirmed results from earlier studies that the majority of veterans evaluated their military deployment experiences as positive long after their service despite exposure to war zone stressors. Moreover, veterans who were positive about their military experiences reported less posttraumatic stress, assigned more positive meaning to and experienced more personal benefits from deployment and reported a higher quality of life than did their counterparts. Findings of this study indicate that a positive perception of military deployment experiences is most beneficial for veterans in the long term. It is expected that veterans with both positive and negative appraisals may still be working through the emotional impact of their experiences, reflecting their ability to maintain a differentiated view. In contrast, veterans with negative appraisals about military deployment experiences showed the worst psychological adjustment and the lowest quality of life. These negative appraisals may sustain a sense of current threat, increase the risk of social isolation and hinder the use of health care. As shown by the questionnaire findings, overcoming the negative emotional impact of military deployment by focusing on the positive personal gains may well be an adaptive cognitive strategy. In addition, exploration of qualitative findings showed that positive appraisals reflected more self enhancement whereas negative appraisals emphasized less personal control over difficult circumstances during deployment. Deployment experiences ap-

pear to contribute to a great extent to the identity formation in the eyes of the beholder, emphasizing positive psychological change.

Chapter 5 examined meaning as a mediator between perceived threat and posttraumatic stress responses in a cross sectional sample of 1,561 veterans who had participated in various war and peacekeeping operations. Meaning in terms of distrust and personal benefits partially mediated the relation between perceived threat and intrusion and avoidance. Distrust in others and the world were strongly associated with perceived threat and intrusive and avoidant thoughts. This finding supports the notion that successful integration of threatening experiences is accomplished when beliefs about self, others and the world was related to inner safety and trust and helps to establish meaningful relationships with other people. Moreover, distrustful beliefs about others and the world were strongly associated with lower quality of life in our model. Creating meaning in terms of a positive world view may be thought of as an important mission after military deployment to achieve mental adaptation and healthy functioning. As veterans grow older, the belief in a benevolent world becomes even more important for their well being. In addition, the tendency to reflect on the past becomes even more prominent and veterans realize that life is finite. Therefore, looking back with positive feelings on military deployment may also have positive consequences for healthy and successful aging.

Chapter 6 examined veterans' personal meanings of peacekeeping in Cambodia through in-depth interviews. Veterans without stress responses appraised their peacekeeping experiences in Cambodia as meaningful to their lives. Their deployment represented a different reality from home where they had to face unpredictable and dangerous situations in which military performance and comradeship gave a clear sense and direction. Veterans felt a sense of fulfilment by making a difference with their contribution and felt appreciated by the local people. The professional skills and life experience they gained in Cambodia created new opportunities in their future career and personal life. In comparison, veterans with posttraumatic stress reactions felt more life threat during dangerous situations after having been exposed to the unpredictable nature of the conflicting parties and were less able to keep their emotional distance. Moreover, the different realities were difficult to put into perspective for interviewees with stress reactions, such as facing the worthlessness of human life in Cambodia and seeing the injustice between worlds. Back home they had more difficulty with adjusting to normal life and they felt caught between two worlds. Existential questions that preoccupied their minds made it difficult for them to resume their lives. The reality in Cambodia left a lasting impression in their minds and shattered basic assumptions in which they had believed before going on their mission. Veterans without stress responses clearly achieved

comprehensibility over what had happened to them and derived some personal gain from the experience for their present lives. Their stories reflected a greater sense of personal strength, mastery, feelings of fulfilment and appreciation for their effort when looking back on their accomplishments.

Chapter 7 examined whether personal resources such as self-esteem, optimism and perceived control, as a latent variable called ‘resilience’ were associated with the meaning-making processes of war and peacekeeping experiences. Questionnaire findings showed that the construct of resilience was well defined and proved to be strongly associated with the construal of positive meaning after military deployment. According to our model, higher resilience predicted less distrust in others and the world, more personal growth and less intrusive and avoidant thoughts after military deployment. It appeared that these core resiliency resources support the creation of a meaningful world view by enhancing feelings of trust and safety. However, it may also be true that resilience prevents veterans from becoming distrustful after exposure to war zone stressors. Self-esteem, personal control and optimism foster emotional stability and may therefore decrease the need for comprehensibility for what happened and protect veterans against the shattering of their beliefs during stressful times. As most veterans adapt well after military deployment experiences and only a minority develops actual posttraumatic stress disorder, veterans with resilient pathways after deployment are an important avenue for future research and must serve as a standard in clinical practice. Their blueprint of mental adaptation provides guidelines for health promotion and interventions to support veterans in need of health care.

## **8.2 Methodological strengths and weaknesses**

A major strength of this study is the *sample size*. A large cross section of veterans who participated in various military operations was included in this study. The sample consisted of younger and older veterans, those who had participated in traditional war and peacekeeping missions in various services, and were ranked from high to low. The question remains whether the sample was or was not representative of all veterans in The Netherlands. At the time this sample was taken, a complete registration was absent. The registration at the Veterans Institute offered the best alternative. Moreover, traditional and peacekeeping operations with the highest number of registered veterans were included in the study. Prior psychological research on Dutch veterans included mostly specific populations of veterans addressing the negative consequences of military deployment. For example, Dirkzwager (2001) focused on the prevalence of PTSD in peacekeeping veterans since 1975, excluding more traditional veterans.

Furthermore, De Vries (2002) included veterans who had been deployed to Cambodia and emphasized the prevalence of specific health complaints related to this mission. For the purpose of our study a general sample of Dutch veterans was more appropriate, including traditional and peacekeeping veterans, who experienced high and low exposure to life threatening situations during deployment. This cross-section allowed a broader perspective on the significance of meaning in cognitive adaptation to threatening events in contrast to a narrowed focus on mental health issues (e.g. PTSD). Findings of this study provide insight into general processing of war zone stressors instead of pathologizing the response to potentially traumatic events. It shows that positive aspects of military deployment have been underestimated in cognitive processing and that they have an adaptive value in psychological adjustment after military deployment. Emphasizing these positive aspects may prove effective in promoting healthy mental adaptation after military deployment.

The use of *mixed methods* is a second major strength of this study. The paradigms used for quantitative and qualitative methods reflect a different view of reality. The quantitative paradigm is based on positivism, which states that an objective reality exists independently of human perception. The goal is to measure and analyze causal relationships between variables within a value-free framework (Denzin & Lincoln, 1994). Reality can be captured in models based on objective measurement, therefore rejecting speculation. In contrast, the qualitative paradigm is based on interpretivism and constructivism (Guba & Lincoln, 1994), which states that there are multiple truths. Reality is socially constructed and is constantly changing (Berger & Luckmann, 1966). The emphasis of qualitative research is on processes and meanings. For the purpose of this study, a combination of methods was used to examine statistical models on meaning followed by the exploration of veterans' personal meanings of military deployment. This sequential explanatory design allowed research to move beyond the traditional perspectives on cognitive adaptation to threatening events. For example, the model in Chapter 5 examined meaning as a mediator between perceived threat and posttraumatic stress responses, assuming that reality consists of these specific variables. The outcome of this analysis could be either true or false. In contrast, the qualitative analysis in Chapter 6 allowed a more open perspective on reality. This was reflected in new themes of meaning that emerged from interviewing the participants. The perception of deployment as a different reality from home makes it more understandable that these experiences are out of the ordinary and may exacerbate the development of stress. Although these veterans were trained for the military tasks in Cambodia, the actual experience was unfamiliar and for some overwhelming. Veterans also perceived reality differently. For example, interviewees with

posttraumatic stress reactions described more life-threat in their stories. In contrast, interviewees without stress reactions were able to put unpredictable and dangerous situations in perspective by providing the experiences with a professional context. The qualitative findings extended knowledge of the quantitative findings by showing that peacekeeping experiences were perceived differently through individual expectations and prior assumptions about the world and cultural values.

A serious limitation concerns the *cross-sectional and retrospective nature* of the questionnaire study. The cross-sectional design allows no definitive conclusions about the causal nature of the relationships found between the variables in the questionnaire study. For instance, the relations tested in the model of chapter 4 may also be reverse, indicating that posttraumatic stress reactions lead to a negative perception of the world and decrease personal growth as a result of high perceived threat. Therefore, a next step would be to study these models within a longitudinal design to confirm the expected nature of the relations. Furthermore, the questionnaire data were gathered retrospectively by means of self-report measures. It has been argued that psychopathology influences the way people remember events. However, Brewin and colleagues concluded in their review that there is little reason to link psychiatric status with a less reliable or a less valid recall of earlier experiences (Brewin, Andrews & Gotlib, 1993). In addition, Koenen, Stellman, Dohrenwend, Sommer and Stellman (2007) showed that combat exposure reports in Vietnam War veterans were highly reliable over a 14-year period. However, changes in exposure reporting were related to changes in PTSD symptoms, specifically intrusive memories, as confirmed by Wilson and colleagues (2008). Moreover, Dutch soldiers with PTSD symptoms tended to amplify recollections of stressors during deployment to Iraq (Engelhard, Van den Hout & McNally, 2008). It is possible that these changes reflect the search for meaning that involves constructing a coherent narrative of the experiences within the context of their autobiography (Koenen et al., 2007). Intrusive thoughts are indicators of cognitive processing and may exacerbate the emotional impact of events experienced in the war zone. It is the way in which negative events are processed and represented in memory that is of importance in meaning-making and not the objectivity of the event. Another concern regarding the reliability of retrospective self report measures is that people's recollections of the past are often positively biased (Walker, Swkoronski & Thompson, 2003) because people perceive events in their lives more often to be pleasant than unpleasant, and the affect that is associated with unpleasant events fades faster than the affect associated with pleasant events. From this perspective, the negative impact of deployment events would be underestimated in retrospect. On the other hand,

it has also been proposed that trauma may form a central component of identity and may serve as a cognitive reference point for the organization of other memories (Berntsen & Rubin, 2007). For veterans, deployment may be experienced as a turning point in their lives which structures their life story in events prior to and after their military service, especially when military deployment had a high emotional impact.

Another consideration concerns the *concept of meaning*, which is inherently circular because of its phenomenological character (Lazarus & Folkman, 1984). This issue was addressed by including antecedents and consequences in the models that were examined in chapters 5 and 7. The well-established association between perceived threat and stress responses provided a context to study construals of meaning as a mediator. Furthermore, intercorrelations among variables revealed overlap between constructs but were not strong enough to be equal. The use of mixed methods is also a way to break through the tautology. By combining quantitative and qualitative methods, some findings were confirmed, but others were disconfirmed or extended. For example, the two construals of meaning were partially confirmed in the quantitative data although they showed some significant overlap. In addition, qualitative analysis shed more light on the content of meaning as comprehensibility and personal significance. Nevertheless, the emphasis on the subjective perspective raises the risk of circular reasoning when studying a phenomenon as meaning.

### **8.3 Strengths of the concept of meaning**

A major strength of the construct of meaning is that it emphasizes the subjective perspective of the individual. The findings of the questionnaire study indicate that positive appraisals of military deployment show better cognitive adaptation and higher quality of life after military services compared to negative appraisals on the long term. Furthermore, distrustful beliefs were strongly associated with higher levels of stress responses. Long after veterans have left the service, it appears that positive and negative meanings related to war zone experiences influence mental health. In addition, the qualitative findings demonstrated the search for meaning in veterans with stress responses whereas the interviewees without stress response had found meaning in their peacekeeping experiences. Their stories about deployment reflected a greater sense of personal strength, self-reliance, and self-confidence as a result of their new gained experiences. The search for meaning can be seen as an adaptive mechanism to put experiences into perspective, to increase self-enhancement and to restore an emotional balance after perceptions of threat.

The construct of meaning emphasizes personal development in addition to finding causal explanations over what happened. Meaning is a broader construct than primarily attributing conscious explanations to events and behaviours. It also expresses personal gain from the experience. In the search for meaning, two independent constructions of meaning appear to contribute to cognitive adaptation after threatening events. Immediately after the event, people seek to understand the event retrospectively and try to comprehend what has happened to them. In a later stage, people evaluate and interpret what the experience has brought them in terms of personal skills, relationships, life philosophy and world view to reach some closure. This latter dimension of meaning reflects a more developmental level after processing major life events or transitions in life. Personal growth reflects the increasing cognitive awareness of achieving more knowledge about the world, others and the self. Learning from experiences during the course of life increases wisdom on the fundamental pragmatics of life (see Baltes & Staudinger, 2000). However, learning from the experience may also evolve into bitterness and despair.

Clarification over the cognitive process of achieving comprehensibility over what happened may also explain the lack of consistent empirical evidence between posttraumatic growth and psychological adaptation (Helgeson, Reynolds & Tomich, 2006; Zoellner & Maercker, 2006). According to Zoellner and Maercker (2006), posttraumatic growth has a functional and illusory side. Whereas the former is correlated with healthy adjustment, the illusory or self-deceptive side of posttraumatic growth is associated with self-consolidation or even with short-term or long-term denial. On the one hand, personal benefits may serve as a short-term adaptive palliative coping strategy and might help veterans to counterbalance emotional distress. On the other hand, intrusive and avoidant thoughts also reflect cognitive processing as cognitive theories on trauma (Horowitz, 1997; Kleber & Brom, 1992) have stated. They may be considered as attempts to understand traumatic events rather than as markers of mental health (Helgeson, Reynolds & Tomich, 2006). This implies that veterans in our sample are working through the implications of their deployment experiences for their personal lives, and although those implications are disturbing, they may facilitate cognitive growth at the same time. To regain a sense of control over the overwhelming emotional impact of certain deployment experiences it is necessary to make sense of the events and create comprehension over what happened.

A growing body of evidence emphasizes positive changes after adversity, referring to them as benefit finding, posttraumatic growth or stress-related growth (Affleck & Tennen, 1996; Calhoun & Tedeschi, 2001; Collins, Taylor & Skokan, 1990; Helgeson, Reynolds & Tomich, 2006; Joseph & Linley, 2006;

Zoellner & Maercker, 2006). However, personal growth also occurs without having experienced trauma. It also happens during the course of life as part of normal psychosocial development. Therefore, the term posttraumatic growth is not a new phenomenon. It is, however, important to emphasize psychological change as a result of an extraordinary experience. But this change can be either appraised as positive or negative, or both. Cognitive change resulting from accumulating life experiences facilitates balancing the demands of the environment and the available resources of the individual in order to remain psychologically healthy.

The concept of meaning provides a perspective to study adaptive mechanisms and psychological change after threatening experiences and to move beyond symptomatology. The uncertainty in the concept of PTSD may mistake a soldier's natural process of psychological adjustment after deployment for dysfunction. The search for meaning may well account for the postdeployment distress that should be seen as part of a normal adaptation process (McNally, 2003; Spitzer, First & Wakefield, 2007). In addition, the search for meaning after traumatic experiences may also form a turning point in a soldier's life that generates a cognitive reference point for the organization of other memories and expectations for the future (Berntsen & Rubin, 2007). From this point of view, military deployment can be seen as a transitional event in the life story of a soldier and as central to his personal identity.

#### **8.4 Theoretical implications and future research**

Results of this study showed that the majority of Dutch veterans reported more positive than negative appraisals of their military deployment, reflecting self enhancement when looking back on their war and peacekeeping experiences. Qualitative findings supported this in more detail by showing that former peacekeepers to Cambodia returned from the mission with meaningful memories of their service. However, most studies of the mental health impact after military service, including the more recent wars in Iraq and Afghanistan, keep emphasizing the negative consequences. Without a doubt this is of clinical importance since the wars in Iraq and Afghanistan may produce a new generation of veterans at risk for chronic mental health problems, as is indicated in recent reports from the United States (Litz, 2009). Naturally, increasing rates of PTSD, cognitive injuries such as traumatic brain injury and increasing incidence of suicide are of great concern (Tanielian & Jaycox, 2008); the valid health needs of these new veterans must be addressed. But high priority should also be given to the unfolding dynamic of normal psychological adaptation on the long term. As Litz (2009) noted, little is known

about different trajectories in response to war stressors. Ultimately, veterans would benefit most by making meaning of the negative impact of war to restore a sense of control and to find personal significance in the aftermath of war to create meaningful lives with family and friends. In support of this view, this paragraph proposes a general model of meaning-making in adapting to threat based on the findings of this study.

The search for meaning can be seen as an adaptive mechanism to restore a positive perception of the self, others and the world after facing threatening events. By making threatening experiences understandable within a cognitive framework, veterans can regain a sense of control over the emotional impact of the experience. Figure 1 shows a model including the variables from the questionnaire study that are proposed to contribute to cognitive adaptation after threatening events. In addition, findings of the interview study are used to illustrate the mechanisms.

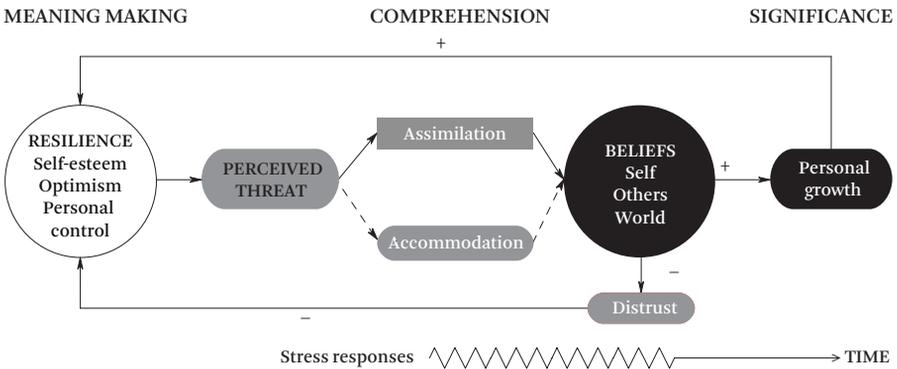


Figure 1 A cognitive model of meaning making processes

The model demonstrates the processes of meaning, comprehensibility and significance over time. It is assumed that if both processes are resolved by finding positive meaning in threatening experiences, resilience will be improved, manifested particularly in self-esteem, optimism and personal control. If achieving comprehensibility over what happened results in negative meaning, a negative perception of the world as reflected in feelings of distrust will be the outcome. This negative perception will lower self-esteem, decrease optimism and diminish personal control. In order to integrate the threatening experiences successfully, new information must be *assimilated* within existing models of the world, or existing models of the world must *accommodate* this information (Piaget, 1983). To illustrate, soldiers can blame themselves for events in an attempt to maintain their sense of justice in the world. This is an attempt to assimilate new

threatening information within existing models of the world as just. In contrast, soldiers who perceived their experience as a random occurrence would have to modify their existing models of the world to accommodate this new information that the world is not just but random. Accommodation requires people to change their world view (Janoff-Bulman, 1992). People prefer to maintain existing beliefs because changing beliefs requires more psychological effort (Dalgliesh, 2004). This resistance to changing beliefs was demonstrated in the stories of veterans with stress reactions in the qualitative study. They remained caught between two worlds and expressed the need to understand and accept their experiences. This demonstrates an intrinsic motivation toward accommodation. It is expected that these veterans failed to assimilate their experiences as deployment happened years ago and they were still in the process of accommodating their fundamental beliefs to fit the new information. Foa and Riggs (1993) suggested that people with extreme, rigid views (either positive or negative) are more vulnerable to developing chronic PTSD. To re-establish a sense of safety and predictability, revised assumptions have to include the legacy of trauma that recognises the randomness and uncontrollability of events. These inner changes are accompanied by feelings of loss, anxiety and terror similar to processes of bereavement (Stroebe & Schut, 2001).

After the need for comprehension is fulfilled, the process of finding personal significance starts to evolve. New constructed schema's have the advantage of being more prepared for future setbacks. This was illustrated by some interviewees who said: "this extra luggage in life is something to take with me the rest of my life." Especially when veterans have been deployed multiple times they gain a lot of extra knowledge which they can apply in subsequent missions and forthcoming transitions in life. The acknowledgment of randomness and future vulnerability as encoded in the new constructed assumptive world forms the basis for a process of existential re-evaluation that generates benefits and gains (Janoff-Bulman & Yopyk, 2004). According to these authors, this reflects a change in focus from more existential questions about the meaning *of* life to more personal issues related to meaning *in* life. Increased valuation of intrinsic life values (health and love) and decreased valuation of extrinsic life values (power, fame and attractiveness) have been associated with subsequent improvement in mental health (Chen, Kasen & Cohen, 2009). The meanings of responses from veterans without stress described also an increased valuation of intrinsic life values associated with their experiences. For example, they had meaningful memories of their military performance and of comradeship during deployment. They also felt intrinsically rewarded for their effort and described personal gains including military skills, life experiences and personal strength resulting from deployment they benefited from in later life. In con-

trast, veterans with stress responses concentrated more on external factors as the danger they were faced with, the injustice they witnessed in the world and the different cultural values they came in contact with, in telling their stories. It appears that they were still in the process of answering existential questions about the meaning of life instead of being focused on finding meaning in life.

Construing positive meaning after threat builds personal resources through enhancing personal strength and a sense of mastery. These personal resources foster the capacity to bounce back from adversity strengthened and more resourceful (Walsh, 2006). Personal strength and a sense of mastery were predominantly reflected in the stories of the interviewees who did not have stress reactions. For example, during their mission they were able to focus upon events that were controllable and accepted events that were beyond their control. This flexibility with regard to the situation made it easier to put experiences in perspective, into particular the perception of danger, facing the worthlessness of human life in Cambodia and seeing the injustice between worlds.

#### *The role of emotions and sharing experiences with others*

It is assumed in the model that the inability to make positive sense of the threatening events, by means of assimilation or accommodation, results in distrustful beliefs about others and the world. This potential for trauma to destroy trust has been emphasized by Herman (1992). Distrustful beliefs facilitate negative appraisals that sustain a sense of current threat as proposed by Ehlers and Clark (2000). Under stress, positive information processing is reduced in the service of enhancing negative reactivity to cope with the stressor (Reich, Zautra & Davis, 2003). People under stress will also move toward greater cognitive simplicity. This means that high stress tends to polarize positive and negative affect and reduces the capacity for cognitive complexity during information processing. Therefore, it may be that the ability to pursue novel and creative thoughts in order to create meaning appears to be restricted in persistent PTSD. This narrowed cognitive focus explains poor elaboration of traumatic memories and failure of integration in autobiography. *Positive emotions* broaden the mind and facilitate the search for meaning and help putting things in perspective (Tugade & Frederickson, 2004).

*Sharing experiences with others* can also support veterans to put traumatic experiences in perspective in creating new vantage points from which to look at their experiences. In this regard, it emerged from the interviews that comradeship appears to fulfil this need. During but also after deployment this sense of brotherhood provided much comfort and support; a safe haven when a veteran feels trapped between two worlds. If veterans develop a negative view on the

world they could have problems with accepting social support and therefore, have more difficulty with processing their experiences. Discussing threatening experiences with supportive others helps people maintain or re-establish a coherent worldview (Janoff-Bulman, 1992) and a positive self-image (Lepore, 2001). Furthermore, a supportive network provides new and positive perspectives on a traumatic experience, new ways of coping or encourages individuals to accept the situation (Clark, 1993; Lepore, Ragan & Jones, 1996). Comradeship helps to adapt to home after returning from deployment, but in time it is also adaptive to be able to share experiences with family and friends. Lafaye, Cavella, Drescher & Rosen (2008) found that veteran peers provided important and highly valued support in veterans treated for chronic PTSD. At the same time, this may provide a risk for social isolation when it prevents establishing relationships with other people (Hunt & Robbins, 2001). Only sharing with comrades may prevent the reconciliation of traumatic memories. Sharing the emotional impact of the experiences with others helps them to elaborate on the traumatic memories and link their experiences with their context in time, space, previous and subsequent information and other autobiographical memories (Ehlers & Clark, 2000). In the act of sharing their experiences with others they also may overcome their distrust in the world and regain a sense of control over what happened.

### ***Future research***

A further step in proving causality between variables in the proposed model is *the use of longitudinal designs* to gain more insight in the unfolding dynamic of meaning processes. In addition, different trajectories of psychological adaptation should be incorporated in future research as there are multiple pathways to recovery and resilience, as proposed by Bonnano (2004). A resilient trajectory exhibits a stable trajectory of healthy functioning across time. Recovery refers to a trajectory in which normal functioning is influenced by psychopathology and/or serious health problems for a period of at least several months and then returns to normal. A chronic trajectory is characterized by enduring psychopathology and a delayed trajectory shows late onset of psychopathology. Within these *different trajectories* the search for meaning should be measured at different points in time from the moment soldiers return home from deployment. The search for meaning in a resilient trajectory may be absent because threat was not perceived during deployment by these soldiers. At the same time, the search for meaning may unfold among the other trajectories. Furthermore, for research purposes it may be useful to make a distinction between comprehensibility and personal significance, although in reality they may show significant overlap. As pointed out by

Zoelner and Maercker (2006), personal benefits may also serve as a short-term adaptive palliative coping strategy and might help veterans to counterbalance emotional distress.

An important consideration in further research on fundamental beliefs is that these assumptions are difficult to capture with self-report measures. To illustrate, we know that bad things happen in the world. However, we tend not to believe they happen in *our* world. What we think at the conscious, rational level may differ from what we believe on a more implicit, non-conscious level of processing. These *two ways of knowing*, - experiential and rational - are important to assess in further research in the process of achieving comprehensibility in the search for meaning. By adopting a multimethod approach using both self-report and experimental methods to assess fundamental beliefs this methodological issue can be addressed.

Furthermore, measures of psychological processing are negatively biased. A positive psychological approach should account for both positive and negative aspects of human experience (Joseph & Linley, 2005). In broadening our perspectives on general models of adaptation we need to move *beyond the almost exclusive reliance on symptom measures*. The findings of this study clearly show that the majority of veterans adapt well and have positive appraisals after military deployment. Therefore, future research should include the assessment of positive aspects that facilitate recovery and resilience as well. For example, comradeship is perceived as a very positive aspect of military deployment and may facilitate the reconciliation of traumatic experiences. Another positive aspect that veterans emphasized in their stories during the interviewees, was the rewardance they felt for their military effort, especially by seeing the country revive and the gratitude from the local people. Feeling fulfillment for their military contribution improves making sense of the danger veterans faced during deployment. This effort reward balance promotes self-esteem and well-being (Siegrist, 1996; Vegchel, Jonge, Bosma & Schaufeli, 2004). It is expected that by emphasizing positive aspects and generating positive emotions, veteran's perspective on their experiences will broaden and help to create a meaningful understanding. Therefore, the assessment of both the positive and negative aspects of deployment will show more insight in underlying mechanisms of mental adaptation.

A final note on further research is that the need to search for meaning may be higher in veterans who participated in *high-risk operations*. High-risk operations involve more exposure to violence and combat during operational tasks for soldiers. This study was unable to address this issue because the distinction in samples of high versus low risk operations provided too many demographic differences between subgroups and possible confounding effects. However,

the difference in prevalence among PTSD in specific military samples, including the more recent military operations in Iraq and Afghanistan, may warrant attention.

## 8.5 Implications for policy and clinical practice

The findings of this thesis have several implications for policy and clinical practice in health care for veterans. First, the findings should generate awareness of *the positive consequences* of military deployment for veterans in the general public. Veterans will benefit from social recognition after returning home from deployment, and facilitates mental adaptation and social reintegration. In addition, policy makers and mental health care specialists should emphasize these positive psychological changes in addition to possible negative mental health consequences to facilitate psychological adaptation. Positive health is not primarily a medical question but includes psychological, social and spiritual insights (WHO, 1948). Along these lines, positive appraisals support the need to derive meaning from their military experiences, provide veterans with a broadened perspective to gain a sense of mastery that enhances self-esteem and to integrate the new experiences into a narrative (McAdams, 2001; Neimeyer, 2006).

*Appraisals and expectations* are instrumental in affecting psychological adaptation. More specifically, predeployment expectations about the purpose of the mission create a crucial mind set that influences meaning-making after deployment. Military preparation including training and rehearsals must aim at reducing uncertainty, and foster constructive appraisals and expectations that are tempered by realistic evaluation of the challenges and hardships soldiers may face. Problems in mental adaptation may rise when predeployment expectations differ from operational realities. For example, when cultural values are very different from traditions in the Netherlands, especially social interaction and dealing with the dead, role-playing would be very effective. Furthermore, learning to keep emotional distance by applying cognitive effective strategies in potentially threatening situations would prevent soldiers from being overwhelmed by the emotional impact. Former deployed soldiers or veterans, serving as mental coaches, can support young soldiers prior to deployment. Based on their expertise they can serve as role models. In sum, mental fitness as part of mental preparation prior to deployment is just as crucial as physical fitness to perform the military task effectively and to adapt healthfully after homecoming.

Prevention and intervention should *facilitate the search for meaning* in cognitive adaptation after military deployment to prevent psychopathology. For

example, the qualitative findings indicate that the appreciation for their military effort is perceived as significant. When veterans are in search of meaning, the purposelessness of the mission and the lack of appreciation are psychologically devastating in processing the threatening experiences. To prevent negative appraisals from becoming persistent and resulting in chronic PTSD, a positive focus should be emphasized. A broadened perspective can facilitate new ways of assimilating or accommodating the experiences. In addition, recovery should include a network that provides emotional support in processing the negative impact and the search for meaning (Bolton, Litz, Glenn, Orsillo, & Roemer, 2002; Koenen, Stellman, Stellman, & Sommer, 2003). Dutch soldiers returning home from Afghanistan may have to deal with comparable issues because of decreasing public support for this mission. Health care professionals should be aware of the negative impact of decreasing public support for veterans in search of meaning.

*Distrustful beliefs* associated with posttraumatic stress reactions are a major concern to clinical practice. The lack of trust in others may prove to be a significant barrier to seeking mental health care in addition to the problem of stigma (Hoge et al., 2004). Efforts in veterans' policy should take into consideration outreach, education, and changes in the models of mental health care such as informing primary care and developing guidelines to overcome distrust in contact with veterans. Another consequence of having distrustful beliefs towards the world and other people is social isolation. Distrustful veterans could have problems receiving adequate emotional support and therefore, have a more prolonged recovery trajectory while processing their threatening experiences. The use of outreaching preventive interventions may be effective in overcoming distrust in veterans in need of care. For example, stepped-care prevention of depression and anxiety has been shown to be effective in reducing the risk of onset of these disorders when targeting a high-risk group (Veer-Tazelaar et al., 2009).

Furthermore, promising results have also been shown by the use of *mindfulness-based stress reduction*, introduced by Kabat-Zinn (1990), in which acceptance of stress and negative cognitions plays a crucial role (Grossman, Niemann, Schmidt & Walach, 2004; Kleber, 2007). This relatively brief and cost effective intervention can be applied to a range of chronic illnesses and can effect a positive shift in fundamental perspectives toward health and disease. Mindfulness training appears to enhance general features of coping with distress and disability in everyday life, as well as under more extraordinary conditions of serious disorder or stress. For veterans with persistent negative appraisals of deployment, this intervention may help change their focus on positive aspects by accepting uncontrollability of intrusive memories and becoming more at-

tuned to inner needs. In addition, *internet-based interventions* for traumatic stress related mental health problems also show promising effects, comparable to traditional psychosocial treatment (see for a review Amstadter, Broman-Fulks, Zinzow, Ruggiero & Cercone, 2009). Effective mechanisms include cognitive reappraisal, social sharing, and self-confrontation. These mechanisms clearly facilitate processes of meaning-making.

A final clinical implication concerns the *crucial role of family* in the search for meaning. After deployment, veterans are challenged to talk about their experiences when reunited with their partners, children or parents. Family life is important in sharing beliefs. Problems may arise when a social world view is no longer shared. Veterans who have seen extraordinary things in the world without having shared them with a partner or children can have difficulty in relating to others. Children may feel estranged from their father, and partners perceive their spouse as a different person. Some veterans turn to comrades who share their world view and find a sense of belonging with them. As shown in the qualitative findings from this study, the feeling of being lost between two worlds may raise a risk for developing mental health problems. Loss of connection with the world creates social isolation and prevents recovery. A buddy support system may compensate for this loss of connection that is necessary to construe a meaningful world view. Sharing experiences with comrades can help build a new belief system to fit the newly gained knowledge of life. By re-establishing a meaningful world, veterans can relate to other people again without feeling alienated (Herman, 1992; Walsh, 2006). For veterans, family members may include their comrades, or even the military organization. Working and living abroad, absent from partner and children, and risking one's life are some of the immense sacrifices these people make, and which have been gratefully underestimated. These great sacrifices made by veterans and their families deserve great gratitude and appreciation.

# 9

## Samenvatting



Ervaringen die militairen opdoen tijdens oorlogs- en vredesoperaties laten onuitwisbare herinneringen achter. Ze beïnvloeden vaak de verdere levensloop, al naar gelang de betekenis die veteranen toekennen aan hun militaire uitzendervaringen. Het concept betekenisgeving biedt een wetenschappelijk interessant perspectief om positieve en negatieve gevolgen van militaire uitzending te bestuderen. Het benadrukt de subjectieve perceptie van het individu en biedt een brede oriëntatie op de psychologische aanpassing na de militaire uitzending. Alhoewel algemene theorieën over stress en trauma er vanuit gaan dat betekenisgeving een cruciale rol speelt bij de psychologische aanpassing na stressvolle en traumatische gebeurtenissen, heeft het concept weinig aandacht gekregen in verhouding tot de symptomatalogie van de posttraumatische stress-stoornis. De centrale doelstelling van deze studie is de relevantie na te gaan van betekenisgeving in termen van begrijpelijkheid en persoonlijk belang, als onderdeel van het cognitieve verwerkingsproces na een militaire uitzending. De volgende subdoelen werden gedefinieerd:

1. het evalueren van de wetenschappelijk literatuur op het gebied van gedachten en cognities over oorlogservaringen in relatie tot psychologische aanpassing;
2. het introduceren van een instrument dat cognitieve assumpties meet die gerelateerd zijn aan oorlogservaringen;
3. het onderzoeken of positieve cognities adaptief zijn in het psychologisch verwerken van militaire uitzendervaringen;
4. het onderzoeken of betekenisgeving fungeert als mediator tussen ervaren dreiging en stress reacties;
5. na te gaan welke betekenis veteranen geven aan hun uitzendervaringen en in welke mate de uitzendervaringen volgens hen invloed hebben op de rest van hun leven;
6. het onderzoeken of persoonlijke kwaliteiten, in het bijzonder zelfvertrouwen, optimisme en persoonlijke controle samenhangen met betekenisgeving.

Vanuit een cognitief theoretisch perspectief is bestudeerd hoe veteranen zin geven aan hun militaire uitzendervaringen en of zij persoonlijk belang hechten aan deze gebeurtenissen, gebruikmakend van een *sequential explanatory design*. De gegevens voor deze studie werden verzameld op basis van vragenlijstonderzoek aangevuld met diepte-interviews.

Hoofdstuk 2 beschrijft een literatuurstudie over betekenisgeving aan ervaringen die zijn opgedaan tijdens oorlogs- en/of vredesoperaties. Dit betreft een analyse van empirische studies waarin *appraisals* van militaire uitzendervaringen zijn bestudeerd. De resultaten toonden aan dat veteranen meer positieve

dan negatieve effecten rapporteerden. Tevens bleek dat positieve en negatieve betekenisgeving onafhankelijke dimensies weergaven. Voorbeelden van positieve aspecten: zijn het leren omgaan met tegenslag, meer zelfdiscipline, groeiende onafhankelijkheid en de ontwikkeling van een breder perspectief op het leven. Voorbeelden van negatieve aspecten zijn: een onderbreking van het gewone leven, gescheiden zijn van dierbaren en een vertraagde loopbaan. Verder lieten de bevindingen zien dat het ervaren van persoonlijke voordelen van bedreigende ervaringen een mediërend effect heeft op de psychologische aanpassing. Dat betekent dat een gevoel van succesvolle verwerking van de ervaringen de beste bescherming biedt tegen het ontwikkelen van posttraumatische stress-symptomen na blootstelling aan dreiging. Deze resultaten toonden het belang aan van de individuele perceptie van positieve en negatieve veranderingen in de psychologische verwerking van militaire uitzendervaringen. Er kunnen geen uitspraken worden gedaan over de causaliteit van deze relatie, aangezien het cross-sectionele metingen betrof. In de onderzochte studies was veel aandacht voor betekenisgeving in termen van persoonlijk belang. Drie belangrijke en consistente domeinen van veranderingen kwamen naar voren: (1) zelfbeeld, (2) sociale relaties en (3) persoonlijke groei en prioriteiten in het leven. De bevinding dat veteranen die een hoge mate van bedreiging ondervonden meer positieve uitkomsten rapporteerden, werd bevestigd door diverse andere studies onder voormalige krijgsgevangenen. Door het toekennen van betekenis aan de dreiging, in dit geval aan de zeer stressvolle oorlogs- en vredesmissie ervaringen, kunnen veteranen een gevoel van controle herkrijgen over de situatie, waardoor cognitieve dissonantie vermindert.

Hoofdstuk 3 beschrijft een vragenlijst die is ontwikkeld om veranderingen te meten in cognitieve assumpties, gerelateerd aan negatieve ervaringen van oorlog en geweld. Ondanks de nadruk die wordt gelegd op het begrip betekenisgeving na traumatische ervaringen in cognitieve theorieën, is er weinig empirisch onderzoek gedaan naar dit fenomeen. Psychometrische kwaliteiten worden beschreven op basis van twee steekproeven onder Bosnische vluchtelingen die in Nederland wonen, en onder veteranen die zijn uitgezonden tijdens grootschalige militaire operaties vanaf 1945 tot 2004. Drie subschalen vertoonden een goede betrouwbaarheid en validiteit. De eerste subschaal meette vertrouwen versus wantrouwen en benadrukte cognities rondom vertrouwen in relatie tot oorlog en geweld. De tweede subschaal meette cognities over persoonlijke groei, inclusief het leren van ervaringen. De derde subschaal meette het belang van religie en benadrukt het zoeken naar orde in het bestaan, gebaseerd op religie. Betekenisgeving aan bedreigende ervaringen draagt bij aan een narratief over het leven en daardoor aan het ontstaan van een congruent zelfbeeld. Door het inkaderen van de traumatische ervaring in een context van

tijd en ruimte kan de gebeurtenis worden geïntegreerd in het autobiografisch geheugen (Ehlers & Clark, 2000). Verder verkrijgt een persoon weer een gevoel van controle over de emotionele impact door de traumatische ervaring begrijpelijk te maken. Herstel van trauma omvat het organiseren van overweldigende en gedetailleerde hereinneringen aan de gebeurtenissen (Neimeyer, 2006). Op deze wijze is betekenis geven het leggen van een puzzel waarbij fundamentele assumpties weer een gevoel van innerlijke veiligheid creëren.

Hoofdstuk 4 beschrijft een onderzoek naar welk soort evaluaties het meest adaptief zijn in de psychologische verwerking van militaire uitzendervaringen. Vragenlijstgegevens van een steekproef van 1.561 veteranen die hebben deelgenomen aan diverse oorlogs- en vredesoperaties bevestigden resultaten uit eerder empirisch onderzoek dat de meerderheid van de veteranen hun uitzendervaringen geruime tijd na hun inzet als positief evalueren, ondanks de blootstelling aan oorlogsomstandigheden. Veteranen die positief waren over hun militaire ervaringen rapporteerden minder posttraumatische stress, kenden meer positieve betekenis toe, ervoeren meer persoonlijke voordelen, en rapporteerden een hogere kwaliteit van leven in vergelijking met veteranen die negatief waren over hun uitzendervaringen. Resultaten van deze studie lieten zien dat een positieve perceptie op de militaire uitzending op de lange termijn het meest voordelig is voor veteranen. Naar verwachting zijn veteranen met zowel positieve als negatieve evaluaties bezig met de verwerking van de emotionele impact van hun ervaringen. Dit laat zien dat zij in staat zijn om een gedifferentieerd perspectief te hanteren. Daarentegen rapporteerden veteranen met uitsluitend negatieve evaluaties ten aanzien van hun militaire uitzending de slechtste psychologische aanpassing en kwaliteit van leven. Deze negatieve evaluaties kunnen een gevoel van dreiging in stand houden, die leiden tot een verhoogd risico op sociaal isolement en beperken het gebruik van gezondheidszorg. Een adaptieve cognitieve strategie is naar verwachting het focussen op de positieve persoonlijke voordelen om de negatieve emotionele impact van de militaire uitzendervaring te verwerken. In aanvulling hierop lieten de kwalitatieve resultaten zien dat positieve evaluaties meer gericht zijn op het bevorderen van zelfvertrouwen. Negatieve evaluaties benadrukten meer het ontbreken van controle over moeilijke omstandigheden tijdens de uitzending. Uitzendervaringen lijken voor een groot deel bij te dragen aan identiteitsvorming wanneer de nadruk wordt gelegd op positieve psychologische veranderingen.

Hoofdstuk 5 behandelt betekenisgeving als mediator tussen ervaren bedreiging en posttraumatische stress-reacties in een cross-sectionele steekproef van 1.561 veteranen die hebben deelgenomen aan uiteenlopende oorlogs- en vredesoperaties. Betekenisgeving in termen van wantrouwen en het vinden van persoonlijke voordelen medieerde gedeeltelijk de relatie tussen enerzijds

ervaren dreiging en anderzijds herbelevingen en vermijding. Dat betekent dat wantrouwen en persoonlijk belang de relatie tussen ervaren dreiging en posttraumatische stress-reacties intensiveert. Deze bevinding ondersteunt de aanname dat succesvolle verwerking van dreigende ervaringen wordt bereikt wanneer basale opvattingen over het zelf, anderen en de wereld gerelateerd zijn aan veiligheid en vertrouwen en wanneer deze opvattingen helpen om betekenisvolle relaties aan te gaan met andere mensen. Verder vertoonden wantrouwende opvattingen over anderen en de wereld een sterk verband met een lagere kwaliteit van leven in ons model. Het creëren van een positief wereldbeeld kan worden gezien als een belangrijke missie na de militaire uitzending om mentale gezondheid en gezond functioneren te kunnen bereiken. Het geloof in een positief wereldbeeld wordt zelfs belangrijker voor het welzijn naarmate veteranen ouder worden. Ook wordt met het ouder worden de neiging om te reflecteren op het verleden groter en worden veteranen zich meer bewust van de eindigheid van het leven. Daarom lijkt terugkijken met positieve gevoelens op de militaire uitzending ook positieve consequenties te hebben voor gezond en succesvol ouder worden.

Hoofdstuk 6 gaat over de persoonlijke betekenissen die veteranen toekennen aan hun uitzendervaringen in Cambodja die zijn verzameld op basis van diepte-interviews. Veteranen zonder posttraumatische stress-reacties evalueerden hun uitzendervaringen als betekenisvol in hun leven. De uitzending representeerde een andere werkelijkheid dan thuis, een werkelijkheid waarin ze werden geconfronteerd met onvoorspelbare en gevaarlijke situaties en waarin de militaire prestatie en kameraadschap een duidelijke focus en richting gaven. Veteranen ervoeren voldoening doordat hun bijdrage verschil maakte en zij voelden zich gewaardeerd door de lokale bevolking. De professionele vaardigheden en levenservaring die zij opdeden creëerden nieuwe mogelijkheden in hun verdere carrière en persoonlijke leven. Veteranen met posttraumatische stress-reacties uitten in vergelijking vaker levensdreigende situaties te hebben meegemaakt waarin ze werden geconfronteerd met onvoorspelbaar gedrag van de conflicterende partijen en waarin ze minder in staat waren om emotionele afstand te bewaren. Verder waren de verschillende realiteiten moeilijk in perspectief te plaatsen voor de geïnterviewden met stress-reacties. Dit geldt voor situaties waarin zij als militair waren geconfronteerd met de ogenschijnlijk geringe waarde van een mensenleven, of het zien van grote verschillen in armoede en rijkdom tussen beide werelden. Na terugkeer hadden ze meer moeite met het aanpassen aan het gewone leven. Ze voelden zich verloren tussen twee werelden. Existentiële vragen bleven zich opdringen in hun gedachten, waardoor het moeilijk was om hun leven weer op te pakken. De realiteit in Cambodja liet een blijvende indruk achter in hun gedachten en vernietigde

basale opvattingen waar ze in geloofden voordat ze op uitzending gingen. Veteranen zonder posttraumatische stress-reacties hadden duidelijk grip op wat ze hadden meegemaakt tijdens de uitzending en vonden persoonlijk belang in deze ervaringen voor hun huidige leven. Hun verhalen getuigen van een grotere mate van persoonlijke kracht, controle en gevoelens van voldoening en waardering voor hun inzet wanneer ze terugkeken op hun prestaties.

Hoofdstuk 7 beschrijft in hoeverre persoonlijke kwaliteiten, zoals zelfwaardering, optimisme en ervaren controle, als latente variabele “veerkracht” samenhangen met processen van betekenisgeving van militaire uitzendervaringen. De analyse van vragenlijstgegevens liet zien dat het construct “weerbaarheid” goed werd gedefinieerd en een sterk verband vertoonde met het construeren van een positieve betekenis na de militaire uitzending. Volgens ons model voorspelde een hogere mate van weerbaarheid minder wantrouwen in anderen en de wereld, meer persoonlijke groei en minder intrusies en vermijding na de militaire uitzending. Het lijkt er op dat deze kernkwaliteiten het creëren van een betekenisvol wereldbeeld ondersteunen door het versterken van gevoelens van vertrouwen en veiligheid. Overigens kan het ook zo zijn dat veerkracht voorkomt dat veteranen wantrouwend worden na blootstelling aan oorlogsstressoren. Zelfvertrouwen, persoonlijke controle en optimisme bevorderen emotionele stabiliteit en kunnen daardoor de behoefte om te begrijpen wat er is gebeurd verminderen en de veteranen beschermen tegen het vernietigen van basale opvattingen gedurende stressvolle tijden. Veteranen die veerkrachtig zijn en zich na de uitzending goed kunnen aanpassen zijn een belangrijke groep voor toekomstig onderzoek. Ze zouden als voorbeeld kunnen dienen in de klinische praktijk, aangezien slechts een minderheid een posttraumatische stress-stoornis ontwikkelt. Hun blauwdruk van mentale aanpassing biedt richtlijnen voor het bevorderen van gezondheid en voor het ontwikkelen van interventies ter ondersteuning van veteranen met gezondheidsklachten.

Het huidige onderzoek heeft enkele methodologische beperkingen, zoals het cross-sectionele en retrospectieve karakter van het vragenlijstonderzoek. Hierdoor kunnen geen definitieve conclusies worden getrokken over causale relaties tussen de variabelen. Een volgend stap zou dan ook longitudinaal onderzoek moeten zijn. De gegevens van het vragenlijstonderzoek zijn verzameld op basis van zelfrapportage. Er wordt gezegd dat psychopathologie de manier waarop mensen gebeurtenissen herinneren beïnvloedt. Maar een literatuurstudie van Brewin en collegae (1993) laat zien dat een psychiatrische achtergrond niet minder betrouwbare of valide herinneringen oplevert van eerdere ervaringen. Wel zijn veranderingen in het rapporteren van blootstelling aan dreigende ervaringen gerelateerd aan veranderingen in posttraumatische

stress-symptomen (Engelhard, Van den Hout & McNally, 2008; Wilson et al., 2008). Een mogelijkheid is dat deze veranderingen het zoeken naar betekenisgeving reflecteren en dat dit zoeken betrekking heeft op het construeren van een coherent narratief van de ervaringen binnen de context van hun autobiographie (Koenen et al., 2007). Intrusieve gedachten zijn een indicatie voor een actief cognitief verwerkingsproces en kunnen de emotionele impact van de gebeurtenissen op dat moment versterken. Het gaat om de manier waarop negatieve gebeurtenissen in het geheugen worden verwerkt en gerepresenteerd zijn, wat van belang is voor het proces van betekenisgeving en niet voor de weergave van de objectieve werkelijkheid. Een andere beperking van het onderzoek betreft het concept van betekenisgeving, dat het risico van tautologie met zich meedraagt. Dit is tegengegaan door het includeren van antecedenten en consequenten in de modellen die werden geanalyseerd in hoofdstuk 5 en 7. Tevens is het gebruik van meerdere methoden van onderzoek een manier om tautologie tegen te gaan. Door het combineren van kwantitatieve en kwalitatieve methoden konden bevindingen worden bevestigd, niet bevestigd of uitgebreid.

Sterke kanten van dit onderzoek zijn de grootte van de steekproef en het gebruik van meerdere onderzoeksmethoden. Voor het doel van dit onderzoek is gekozen voor een algemene steekproef van Nederlandse veteranen die hebben deelgenomen aan oorlogs- en vredesoperaties. Deze doorsnede maakte het mogelijk om een breder perspectief te kiezen in het bestuderen van de relevantie van betekenisgeving in het cognitieve verwerkingsproces na het meemaken bedreigende gebeurtenissen, dan bij een beperkend perspectief op negatieve gezondheidsklachten, zoals PTSS. Het onderzoek laat zien dat positieve aspecten van militaire uitzending worden onderschat in het cognitieve proces en dat zij een adaptieve waarde hebben in de psychologische aanpassing na de militaire uitzending. Het benadrukken van deze positieve aspecten is naar verwachting effectief in het bevorderen van een gezonde aanpassing na terugkeer van uitzending. Het gebruik van kwantitatieve en kwalitatieve methoden maakte het mogelijk om verschillende perspectieven op de werkelijkheid te onderzoeken. Er is aan de ene kant de objectieve werkelijkheid die gebaseerd is op het meten en analyseren van causale relaties tussen variabelen binnen een waarde vrij kader (Denzin & Lincoln, 1994). Het kwalitatieve paradigma daarentegen is gebaseerd op interpretatie en constructivisme, dat er vanuit gaat dat er meerdere waarheden zijn (Guba & Lincoln, 1994). In deze studie is gebruikgemaakt van een combinatie van deze methoden om statistische modellen te toetsen ten aanzien van betekenisgeving, gevolgd door een verkenning van betekenisgeving bij veteranen over hun uitzendervaringen. Dit *sequential explanatory design* maakte het mogelijk om verder te reiken dan traditionele perspectieven over cognitive aanpassing na dreigende ervaringen.

Een belangrijke bevinding van dit onderzoek is dat de meerderheid van de Nederlandse veteranen meer positieve dan negatieve aspecten van hun militaire uitzendervaringen rapporteerden. De positieve evaluaties reflecteerden vooral blijvende persoonlijke veranderingen, gericht op een toename in zelfvertrouwen. Terwijl negatieve evaluaties betrekking hadden op oncontroleerbare situaties. Dit positieve beeld werd bevestigd door de uitkomsten van de interviews die lieten zien dat voormalige vredessoldaten die zijn ingezet in Cambodja waardevolle herinneringen hadden aan hun uitzending. In het kader van de huidige militaire uitzendingen naar Irak en Afghanistan is het evenzo belangrijk om prioriteit te geven aan de psychologische aanpassing op lange termijn, naast aandacht voor de negatieve mentale gevolgen. Er is weinig bekend over diverse aanpassingstrajecten in reactie op blootstelling aan oorlogssituaties. Uiteindelijk zullen veteranen het meeste voordeel halen uit het construeren van positieve betekenis van de negatieve impact die de oorlog op hen heeft gehad en het vinden van persoonlijk belang na de uitzending om een betekenisvol wereldbeeld te creëren samen met hun familie en vrienden.

Het zoeken naar betekenis kan worden gezien als een adaptief mechanisme om een positief beeld van zelf, anderen en de wereld te herstellen na het meemaken van bedreigende ervaringen (Kleber, 2007). Door het begrijpelijk maken van de bedreigende ervaringen kunnen veteranen weer een gevoel van controle krijgen over de emotionele impact van de gebeurtenis (zie figuur Hoofdstuk 8). Daarna volgt het proces van het vinden van persoonlijk belang uit de ervaring. Als begrip over de bedreigende ervaringen resulteert in negatieve betekenisgeving, dan zullen gevoelens van wantrouwen overheersen. Dit zal vervolgens weer leiden tot een vermindering van zelfvertrouwen, optimisme en controle. Daarentegen, als veteranen positieve betekenis kunnen halen uit militaire uitzendervaringen, dan zal dit hun veerkracht versterken. Dit resulteert in meer zelfvertrouwen, optimisme en persoonlijke controle. De bedreigende nieuwe informatie moet worden opgenomen (assimilatie) in bestaande opvattingen over de wereld, of bestaande modellen over de wereld om ons heen moeten worden aangepast (accommodatie) aan deze informatie (Piaget, 1983). Mensen hebben een voorkeur om bestaande opvattingen te handhaven, omdat het veranderen van schema's meer psychologische moeite kost (Dalglish, 2004). Om weer een gevoel van veiligheid en voorspelbaarheid te krijgen, zullen de herziene opvattingen de nalatenschap van het trauma moeten omvatten, waarmee erkent wordt dat gebeurtenissen willekeurig en oncontroleerbaar zijn.

Als de behoefte om de ervaringen te begrijpen is vervuld, kan het proces van het vinden van persoonlijk belang zich in gang zetten. Het voordeel van nieuw geconstrueerde schema's is dat ze beter bestand zijn tegen toekomstige tegenslag. De erkenning van willekeur en kwetsbaarheid in nieuw geconstru-

eerde opvattingen over de wereld vormt de basis voor een proces van existentiële re-evaluatie dat voordelen genereert (Janoff-Bulman & Yopyk, 2004). Dit reflecteert een verandering in focus van meer existentiële vragen over de zin van het leven naar meer persoonlijke zaken gerelateerd aan betekenis in het leven. Het construeren van positieve betekenis na dreiging vergroot persoonlijke kwaliteiten door het versterken van persoonlijke kracht en een gevoel van controle. Op de lange termijn bevordert dit de capaciteit om veerkrachtiger en vindingrijker om te gaan met tegenslag (Walsh, 2006).

Een vervolgstap in het aantonen van causaliteit tussen variabelen in het voorgestelde model is het gebruik van een longitudinal ontwerp om meer zicht te krijgen op de dynamiek van betekenisgeving. Ook zouden verschillende trajecten van psychologische aanpassing moeten worden geïncorporeerd in de onderzoeksopzet, omdat er meerdere wegen zijn in herstel en veerkracht, zoals voorgesteld door Bonnano (2004). Herstel refereert aan een traject waarbij normaal functioneren wordt beïnvloed door psychopathologie en/of gezondheidsproblemen voor een periode van minstens een aantal maanden, waarna vervolgens weer een toestand van normaal functioneren wordt bereikt. Een chronisch traject wordt gekarakteriseerd door blijvende psychopathologie en een uitgesteld traject laat een latere aanvang zien van psychopathologie. Binnen deze verschillende aanpassingstrajecten zou het zoeken naar betekenis op verschillende meetmomenten moeten worden vastgesteld, vanaf het moment dat militairen terugkeren van uitzending. Het kan zijn dat in een veerkrachtig aanpassingstraject het zoeken naar betekenis afwezig is, omdat deze militairen geen bedreiging hebben ervaren en omdat schemata geen aanpassing behoeven. Aan de andere kant zullen zich in de andere aanpassingstrajecten wel processen van betekenisgeving voltrekken.

Een belangrijke overweging in vervolgonderzoek naar fundamentele opvattingen is dat deze overtuigingen moeilijk zijn vast te stellen op basis van zelfrapportage-instrumenten. Ter illustratie, we weten dat er slechte dingen gebeuren in de wereld, maar we neigen er naar te geloven dat ze niet gebeuren in onze wereld. Wat we denken op een bewust, rationeel niveau kan verschillen van wat we denken op een meer impliciet, onbewust niveau van verwerking. Deze twee manieren van weten, - experientieel en rationeel - zijn belangrijk om te onderzoeken in vervolgonderzoek naar het proces van zingeving. Door het gebruik van meerdere methoden, zoals een combinatie van zelfrapportage en experimentele taken, kan deze beperking worden tegengegaan.

Verder is het opvallend dat instrumenten voor het meten van psychologische processen in relatie tot stress en trauma een negatieve bias hebben. Om ons perspectief te verbreden naar algemene modellen van aanpassing moeten we verder kijken dan alleen naar symptomen. Een positieve psychologische

benadering zou zowel positieve als negatieve aspecten van de menselijke ervaring moeten omvatten (Joseph & Linley, 2005). De resultaten van deze studie laten duidelijk zien dat de meerderheid van veteranen zich goed weet aan te passen en positief is over hun militaire uitzendervaringen. Een laatste overweging in vervolgonderzoek naar betekenisgeving is dat het zoeken naar betekenis meer aanwezig is bij veteranen die hebben deelgenomen aan risicovolle militaire operaties. Deze missies omvatten meer blootstelling aan geweld. In deze studie was het niet mogelijk dit onderscheid te maken vanwege de grote demografische verschillen tussen groepen en mogelijke *confounding* effecten.

De bevindingen van dit onderzoek hebben diverse implicaties voor beleid en de klinische praktijk. Allereerst zouden de resultaten *bewustwording* moeten genereren van de positieve consequenties van militaire uitzending voor veteranen om sociale waardering en genuanceerde beeldvorming te bevorderen bij een breder publiek. Beleidsmakers en professionals in de zorg zouden deze positieve psychologische aspecten moeten benadrukken in aanvulling op mogelijke negatieve gevolgen ter bevordering van de psychologische verwerking. Gezondheid is niet overwegend een medische kwestie, maar heeft ook psychologische, sociale en spirituele dimensies (WHO, 1948). Positieve aspecten van een uitzending komen tegemoet aan de behoefte naar betekenisgeving, bieden veteranen een breder perspectief om de controle te herstellen en om zelfvertrouwen en verwerking van de ervaringen te bevorderen. *Subjectieve evaluaties en verwachtingen* zijn instrumenteel van invloed op de psychologische verwerking na het meemaken van stressvolle en traumatische gebeurtenissen. Verwachtingspatronen voor de uitzending over het doel van de missie creëren een cruciale *mindset* die van invloed is op het betekenisgevingsproces na de uitzending. De militaire voorbereiding, met inbegrip van trainingen en oefeningen zou zich moeten richten op het reduceren van onzekerheden en het bevorderen van constructieve evaluaties en verwachtingen die zijn gebaseerd op een realistisch beeld van wat militairen kunnen verwachten qua uitdagingen en moeilijkheden in het uitzendgebied. Indien culturele waarden en normen bijvoorbeeld erg verschillen met Nederlandse tradities, vooral op het gebied van sociale interacties en het omgaan met de dood, zouden rollenspellen een goede voorbereiding kunnen bieden. Ook het aanleren van effectieve cognitieve strategieën om emotionele afstand te kunnen bewaren tijdens potentieel traumatische gebeurtenissen zou kunnen voorkomen dat soldaten worden overspoeld door emoties tijdens dergelijke situaties. Eerder uitgezonden militairen of veteranen kunnen jonge militairen voor de uitzending daarbij ondersteunen als mentale coaches. Zij kunnen dienen als een rolmodel. Mentale fitheid als onderdeel van de voorbereiding is even belangrijk als de fysieke

fitheid om de militaire taken te kunnen uitvoeren en voor een gezonde psychische aanpassing na terugkeer.

Ter voorkoming van psychopathologie zouden preventie en interventie het zoeken naar betekenis moeten faciliteren tijdens de cognitieve verwerking na de uitzending. De kwalitatieve bevindingen lieten bijvoorbeeld zien dat de waardering voor hun militaire inzet erg belangrijk is. Indien veteranen op zoek zijn naar betekenis, kunnen de zinloosheid van de missie en het gebrek aan waardering psychologisch problematisch worden tijdens de verwerking van bedreigende ervaringen. Om te voorkomen dat negatieve gedachten over de uitzending overheersen en leiden tot chronische PTSS zou een positief perspectief moeten worden benadrukt in preventieve activiteiten en behandeling. In aanvulling daarop zou herstel ook gericht moeten zijn op het opbouwen van een ondersteunend netwerk in het verwerken van de negatieve impact en het zoeken naar zin.

*Wantrouwende opvattingen* die samenhangen met posttraumatische stressreacties bij veteranen zijn een grote zorg voor de klinische praktijk. Het gebrek aan vertrouwen in anderen vormt een grote barriere in het zoeken naar hulp. Veteranenbeleid zou zich daarop moeten richten door middel van *outreaching* activiteiten, voorlichting en aanpassingen in gezondheidszorgmodellen, zoals het informeren van de eerstelijnszorg en het ontwikkelen van richtlijnen in het overwinnen van wantrouwen in contact met veteranen. Een andere consequentie van wantrouwen in anderen en de wereld is het risico op sociaal isolement. Veteranen met wantrouwende opvattingen kunnen problemen krijgen met het ontvangen van adequate emotionele steun, en daardoor een langer hersteltraject nodig hebben bij het verwerken van hun ervaringen. Het gebruik van actieve preventieve interventies kan effectief zijn in het tegengaan van wantrouwen bij veteranen die behoefte hebben aan hulp. Een *stepped-care* preventie voor depressie en angst is bijvoorbeeld aantoonbaar effectief gebleken in het verminderen van het tot uiting komen van deze stoornissen wanneer hoge risicogroepen werden benaderd (Veer-Tazelaar, 2009).

Veelbelovende resultaten zijn ook gevonden voor het toepassen van *mindfulness-based stress reduction* geïntroduceerd door Kabat-Zinn (1990), waarbij de acceptatie van stress en negatieve opvattingen een cruciale rol spelen (Grossman et al., 2004). Deze interventie is relatief kortdurend en kosteneffectief, kan worden toegepast bij diverse chronische aandoeningen en is in staat een positieve verandering te bewerkstelligen in fundamentele perspectieven ten aanzien van gezondheid en ziekte. *Mindfulness* lijkt het omgaan met stress in het dagelijkse leven te verbeteren, en heeft ook een positief effect op gezondheidsproblemen en stress. Voor veteranen met overheersend negatieve gedachten over hun militaire uitzending kan deze interventie een

verandering in focus op meer positieve aspecten teweegbrengen door het accepteren van intrusieve gedachten en het meer gericht zijn op innerlijke behoeften. In aanvulling daarop laten *internet-gebaseerde interventies* voor traumatisch gerelateerde gezondheidsproblemen veelbelovende resultaten zien, vergelijkbaar met de traditionele behandelmethoden (Amstadter et al., 2009). Effectieve mechanismen daarin zijn cognitieve herinterpretatie, het sociaal delen en zelfconfrontatiemethoden. Deze mechanismen faciliteren processen van betekenisgeving.

Een laatste klinische implicatie betreft de *cruciale rol van de familie* in het zoeken naar betekenis na de uitzending. Veteranen worden bij terugkeer uitgedaagd om te praten over hun ervaringen als ze herenigd worden met hun partners, kinderen en ouders. Familie is belangrijk bij het delen van fundamentele opvattingen en een gezamenlijk wereldbeeld. Problemen kunnen zich voordoen wanneer er geen sociaal wereldbeeld meer wordt gedeeld binnen een familie. Veteranen die ingrijpende ervaringen hebben meegemaakt en deze niet delen met familieleden, kunnen problemen krijgen in de onderlinge verhoudingen. Kinderen kunnen zich vervreemd voelen van hun vader, en partners zien hun partner als een andere persoon terugkeren. Sommige veteranen wendden zich tot kameraden om een gezamenlijke realiteit te delen en zich verbonden te voelen. Zoals aangetoond in de kwalitatieve resultaten van dit onderzoek, vormt het zich gevangen voelen tussen twee werelden een risico op het ontstaan van mentale gezondheidssproblemen. Het verlies van verbondenheid met de wereld creëert sociaal isolement en belemmert herstel. Een buddy-steunsysteem kan dit verlies aan verbondenheid tegengaan en perspectief bieden om een betekenisvol wereldbeeld te creëren. Het delen van ervaringen helpt om een nieuw geloofstelsel op te bouwen waar de nieuwe kennis over het leven in past. Het creëren van een betekenisvol wereldbeeld maakt het mogelijk dat veteranen zich weer kunnen verbinden met andere mensen zonder zich vervreemd te voelen (Herman, 1992; Walsh, 2006). Ook kunnen kameraden en de militaire organisatie door veteranen als familie worden gezien. Werken en leven in het buitenland, weg van partners en kinderen, met het risico op verlies van gezondheid en eigen leven is een groot offer dat deze mensen brengen, en die door de buitenwereld soms ernstig wordt onderschat. Vooral richting de families van deze uitgezonden vrouwen en mannen verdient dit offer veel erkenning en respect.

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# About the author



Michaela Louise Schok was born in Saanen (Switzerland) on 10th August 1968. From 1989 until 1995 she studied Clinical Psychology at the Faculty of Social Sciences of Utrecht University and specialised in Health Psychology and Psychosocial Victimology and Depression. From January 2000 she worked at the Veterans Institute as a psychologist and researcher specializing in the psychological adaptation after war and peacekeeping and the psychological effects of deployment on partners and children. Under supervision of Rolf Kleber she started doing her PhD since 2004 after writing her research proposal. Prior to this job she worked at the BNMO-Centre (now called The Base). Her main activities were developing and evaluating health care interventions for veterans and their families. In 1999 she also was involved as a co-author in writing a research proposal “Psychological predictors of outcome after gastric banding for morbid obesity” which was granted at the Research Institute for Psychology and Health. She married Pim Rebholz on June 9<sup>th</sup> 2006 and their son Bryan was born on March 3<sup>rd</sup> 2005.

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