Post Traumatic Stress Disorder (PTSD)

and Trauma-Related Guilt:

The Perspective of a Counselling Psychologist

within the Military

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Section C – A Critical Review of the Literature:

Perspectives on Guilt within Post-Traumatic Stress Disorder

Section D – Professional Clinical Practice:

Trauma-Focussed Therapy - Posttraumatic Stress Disorder and Trauma-Related Guilt

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Section 'A' - Preface

Overview

Post-traumatic stress disorder (PTSD) occurs as a result of exposure to a traumatic event that overwhelms coping capacities and generates feelings of helplessness and horror. My interest in PTSD stems from my previous career within the Police Service. Whilst I was a serving officer I would be faced with death, grotesque injury, and threats to life on an irregular basis often with no indication as to what was going to happen. Psychological assistance, although available in the form of counselling, was not entirely visible, it needed to be sought out rather than routinely offered. Indeed there was a huge stigma about admitting to any kind of psychological problem, necessarily viewed as weak in this unforgiving masculine environment. This influenced my journey into Counselling Psychology in order to help those suffering from such psychological distress. I am now in a position to offer professional assistance as a Counselling Psychologist within the Military. Clinical practice provides encounters with individuals suffering from PTSD, many of whom experience the emotion of guilt over their role in, or response to trauma. My interest in PTSD has taken me into the realm of Practitioner Doctorate and my choice of research into PTSD and trauma-related guilt reflects my concerns within clinical practice. My intention within this portfolio, illustrated in Section B, is to explore the support and assistance provided to those suffering post-trauma reactions within the Military and to expose any stigma still existing. With the findings I hope to influence the services offered within the Military. A critical review of the literature, illustrated in Section C, involves cognitions and affect within trauma-related guilt, the impact upon self-identity and a cognitive model of trauma-related guilt. Professional practice, illustrated in Section D, reflects a case presentation in relation to PTSD and trauma-related guilt.

1.1 Section B – Empirical Research Study

The research component is conducted within the Military, a masculine hierarchical organisation, where stigma prevents many from admitting to or seeking assistance for psychological problems. Military personnel are increasingly faced with potentially

traumatic incidents because of the nature of their role in combat. They are invariably in situations in which their capacities to cope with threats to life or involvement in grotesque scenarios may be overwhelmed and in this respect their responses may conflict with personal values or fall below personal standards, inducing the emotion of guilt or shame. There is a very real risk of suffering PTSD. Indeed many may require psychological help. Any assistance that is available should be accessible, effective and stigma-free.

This research explores the system of support within a sample of two branches of the military, the British Royal Marines, and the Coldstream Guards. Trauma Risk Management (TRiM) is a peer-group support system which is embedded within operational units promoting recognition of psychological problems. The Royal Marines have incorporated a rolling system of TRiM within their culture for approximately ten years. The Coldstream Guards are in the initial stages of incorporating TRiM. Evaluation of PTSD symptoms and current anxiety are compared within and between the groups, as are attitudes towards individuals seeking assistance for psychological problems, at two points in time, pre and post-deployment to Afghanistan. The intention of the research is to evaluate the effects of TRiM. Findings have shown that the TRiM group exhibited less anxiety and less negative attitudes towards psychological distress. However, both groups showed concern at perceived views of others and the impact of disclosure. As guilt within PTSD has been shown to be prevalent within combat related stress (e.g. Kubany, 1998) this is the focus of the critical literature review which will be addressed next.

1.2 Section C – Critical Review of the Literature

The literature review component focuses on guilt experienced as a result of ones role in, and responses to a traumatic event. Research (e.g. Kubany, 1998) has indicated that trauma-related guilt can increase the vulnerability to suffering from PTSD and plays a significant role in maintaining the PTSD (e.g. Resick & Schnicke, 1993). The review looks at the prevalence of trauma-related guilt within military populations, and the precipitating factors in experiencing guilt. After a trauma ones view of the self, others and the world can be shattered and the review explores the role of schemas within trauma. Experiencing guilt within a trauma can exert a profound effect upon self-identity (e.g. Brewin, 2003; Wilson, 2006) and this is explored. The review then

progresses to explore the cognitive model of trauma-related guilt devised by Kubany (1998) and looks at research related to four thinking errors; hindsight bias, justification distortion, responsibility distortion and wrongdoing distortion, regularly found within presentations encountered in clinical practice. The cognitive model is significant in the success of treatment using Cognitive Behaviour Therapy for trauma-related guilt. This leads the reader on to the section on professional clinical practice where the case presentation involves trauma-related guilt.

1.3 Section D - Professional Clinical Practice

The clinical case presentation is representative of many presentations encountered in clinical practice within a military setting. This presentation explores PTSD, however as a result of childhood abuse. My client experienced sexual abuse within childhood by a family member. When the allegations were exposed my client was disbelieved, and in turn prevented from recounting her story which may have facilitated positive validation at the time. The trauma was consciously removed from her life narrative during the years following. The memories resurfaced, influenced as a result of perceived bullying within the Army where the circumstances of rejection to the allegations were so similar as to influence recall of the original trauma. My client subsequently experienced physical and psychological symptoms and during therapy the illness of Chronic Fatigue Syndrome was exposed. Therapy for childhood abuse exposed the emotion of trauma-related guilt, which may have influenced the vulnerability to PTSD and served to maintain the symptoms. Trauma-focussed therapy was conducted, as advocated by practitioners (e.g. Ehlers & Clark, 2000; Foa & Kozak, 1986; Foa & Rothbaum, 1998) and the trauma-related guilt model by Kubany (1998) to confront the emotion of guilt. This approach was successful in extinguishing the distressing PTSD symptoms and the trauma-related guilt, whereby my client was able to successfully reinvest in life.

1.4 Summary and Conclusion

The three pieces of work included within the portfolio relate to PTSD and trauma-related guilt. Exploration has shown that even within masculine organisations such as the military individuals suffer the adverse effects of overwhelming stressors whilst in combat and from adverse life circumstances. Clinical practice has shown that PTSD is a very real problem within the military, whether from combat-stress, childhood abuse

or other trauma. Often the emotion of guilt is experienced and as a clinician one can offer such trauma-focussed therapies as detailed in the professional clinical practice and literature components. Albeit there remains a stigma attached to seeking assistance, individuals need to be encouraged to seek out the necessary psychological help. Research has indicated that a support mechanism such as TRiM may influence levels of distress and negative attitudes towards those suffering psychological distress and in this respect has important implications for Counselling Psychology. As a Counselling Psychologist I feel privileged to work in my chosen specialism within a military environment.

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Section 'B' – Empirical Research Study

Does the Incorporation of Trauma Risk Management (TRiM) within the Military have an effect of the level of Post-Trauma Reactions after exposure to Combat Experiences?

Abstract:

Exposure to potentially traumatic events experienced in military combat can often lead to psychological illness such as Post Traumatic Stress Disorder (PTSD). However the stigma of suffering a mental illness prevents many within the military from seeking help. Currently operating within the Royal Marines is Trauma Risk Management (TRiM) a peer-support system embedded within the operational units, promoting recognition of psychological illness. This current research aims to evaluate the effects of TRiM on two individual units, one from the British Royal Marines and one from the Coldstream Guards, at different stages of TRiM incorporation. Levels of distress and attitudes towards suffering psychological distress have been evaluated prior to, and upon return from six months deployment to Afghanistan, by quantitative analysis using the General Health Questionnaire (GHQ 12), the PTSD Checklist Civilian Version (PCL C), and an Attitude to Mental Health Questionnaire. Participants numbered 180 pre-deployment and 137 post-deployment. Findings show that in comparison the TRiM group were found to have lower psychological distress and less negative attitudes towards suffering from psychological distress. However, both groups showed concern at perceived views of others and the impact of disclosing a psychological illness. Elevated psychological distress for both the Marines and Coldstream Guards was found pre-deployment, suggesting anticipatory anxiety, as compared with reduced levels post-deployment, suggesting subsequent relief at being back from tour and that combat experiences do not necessarily lead to psychological distress.

Chapter 1: Introduction to the Study and Literature Review

1.1 War and the Military

Any one of us can be victim to a trauma. Traumatic events include direct experiences such as rape, domestic violence, assaults, (Resick, 2001) terrorist attacks, (Silke, 2003) being a prisoner of war (Taylor, 2006) or military combat (Kulka, Schlenger, Fairbank, Hough, Jordan, Marmar et al., 1990). Witnessing events, such as handling dead bodies, or participating in rescue work, can be experienced as traumatic. However learning of events, such as hearing a friend or relative has been subject to a violent death can also be perceived as traumatic (Taylor, 2006).

In recent years media portrayals of war have been quite graphic with public interest fuelled by the increasing immediate visual and written coverage of war conflicts. The British Military have in the past two decades been increasingly used in UN Peacekeeping Operations and in combat, deployed to such areas as Bosnia, Sierra Leone, Iraq, and Afghanistan, where encountering potentially traumatic events is inevitable. Interest in the psychological effects of trauma peaked during and after wartime activity and one of the most studied areas of events likely to lead to PTSD has been military combat (Brewin, 2003). The military is a high-risk occupation for developing PTSD (Kulka et al., 1990) and the link between mental illness and combat is well established (Hoge, Terhakopian, Castro, Messer & Engel, 2007). Wessely (2005) posits that the nature of military operations is risk taking, and to counter this there has been a heavy focus on training whereby personnel are purposefully stretched and tested for combat. Although training within the military is designed to prepare individuals for the trauma of their duties, the development of PTSD and other psychological illness in some is unavoidable.

Many avenues have been pursued in ensuring the well-being of personnel such as psychological debriefing devised by Mitchell (1983) as noted by Rose, Bisson, Churchill and Wessely (2001), Solomon, Neria and Witzum (2000) and Wessely and Deahl (2003) and stress briefings (Sharpley, Fear, Greenberg, Jones & Wessely, 2007). However many still suffer the effects of psychological illness years after exposure to traumatic incidents. The military face challenges in providing assistance

to those suffering psychological distress due to limited numbers of mental health practitioners, a hostile attitude towards those outside the military arena, logistical constraints and a wide dispersal of personnel (Greenberg, Thomas, Iversen, Unwin, Hull & Wessely, 2003; Jones, Roberts & Greenberg, 2003; Neff, 1998).

1.2 Masculinity and Stigma

Promotion of the strong masculine culture required for war may instil a reluctance to admit to suffering from any psychological illness. Concern about perceptions of leaders and peers within this 'macho' environment increases the stigma and thereby prevents many within the military from acknowledging problems and seeking help. Greene-Shortridge, Britt and Castro (2007) suggest that individuals contemplating disclosure of a psychological problem within the military will no doubt be aware of the attitudes of others within their social group and thereby anticipate the negative consequences of ridicule or social exclusion. Those actually disclosing problems experience the shame of being labelled as suffering from mental illness and this may increase the risk for PTSD in the longer term. One study in the US by Hoge, Castro, Messer, McGurk, Cotting and Koffman (2004) involving current operations in Afghanistan and Iraq found that out of those suffering from PTSD, only 23% – 40% actually sought assistance, suggesting that there were barriers to seeking mental health assistance. UK research by Greenberg et al. (2003) looking into support required by military personnel reported that two thirds of personnel spoke about their experiences and most valued family and peer networks rather than formal methods of support.

1.3 Overview of the Current Research

In itself PTSD has been researched over and above any other post-trauma reaction. However, Greene-Shortridge et al. (2007) have found that most studies examining the effects on mental health in combat have been conducted some years after military service, suggesting problems in accurate recall. This current study aims to capture data on psychological functioning and attitudes towards mental health, four to six weeks prior to deployment to Afghanistan when thoughts of impending combat are prominent, and upon return from deployment when combat experiences are fresh. Measures will be evaluated within and between two groups, Delta Company 40 Commandos, the British Royal Marines, who have incorporated a rolling system of TRiM into their culture for approximately ten years, and 3 Company, Coldstream

Guards, who are in the initial stages of TRiM incorporation. The aim is to identify any differences between the TRiM group and the non-TRiM group by means of questionnaires. The questionnaires incorporate general background information, previous psychological functioning, current anxiety measures taken from the GHQ 12, anxiety in relation to stressful experiences in the past taken from the PCL (C), combat experiences, and attitudes towards mental health. Findings have shown differences between the two groups in respect of lower levels of distress pre and post-deployment for the TRiM group, along with less negative attitudes towards psychological health. However, both groups showed concern in relation to the perceived views of others and the impact of disclosing a mental health problem.

Chapter 2 Theoretical Concepts of PTSD

2.1 Historical Context of PTSD within the Military

Historically there has been controversy as to whether PTSD exists as a separate disorder or whether it is simply a normal response to an abnormal event (Breslau & Davis, 1987). Some views suggest that PTSD was invented for political reasons in the 1970's, in part because of the lobbying by supporters of the Vietnam Veterans, whose clinicians asserted that the syndrome did not fit into existing medical categories (Brewin, 2003; Burkett & Whitley, 1998). However, Jones and Wessely (2005) posit that during World War One psychological breakdown, otherwise known in terms as varied as 'shell shock' 'combat fatigue' and 'war neuroses', dominated military psychiatry. These classifications may well have been describing what we now understand as PTSD. During World War Two studies of prolonged and intense combat found that the greater the killed and wounded figure the higher the risk of psychological breakdown (Jones & Wessely, 2005). Jones (2006) found that air crew who were sick were given the label of 'LMF' or 'lack of moral fibre' to deliberately stigmatise them as a potential deterrent to others contemplating sick leave. However the increasing interest in and study of post-traumatic symptoms led to the introduction of PTSD into the 1980 American diagnostic edition of DSM III, with subsequent alterations to the definition introduced in DSM IV.

2.2 Diagnostic Features of PTSD

To be diagnosed with PTSD (See Appendix A for full DSM IV Diagnostic Criteria, American Psychiatric Association, 1994) the traumatic event must include experiencing or witnessing death, or serious injury, or a threat to physical integrity. The individual's response must involve intense fear, helplessness or horror in accordance with Criterion A (APA, 1994). Symptoms of PTSD fall into three categories, persistent re-experiencing of the event, avoidance or numbing, and physiological arousal. An individual must have at least one of the re-experiencing symptoms from Criterion B, such as intrusive images or thoughts, or flashbacks, at least three of the avoidance symptoms from Criterion C, such as attempts to avoid thoughts, feelings, and places associated with the trauma, and at least two of the physiological symptoms from Criterion D, such as decreased concentration, or

exaggerated startle response (APA, 1994). Acute stress disorder (ASD) arises from the same stressors as PTSD however lasts no longer than four weeks, otherwise the diagnosis of PTSD is considered.

Comorbidity in PTSD

PTSD is often comorbid with illnesses of major depression, anxiety or substance abuse (Breslau, Davis, Andreski & Peterson, 1991; Brewin, 2003; McNally, Bryant & Ehlers, 2003; Resick, 2001; Rothbaum, Foa, Riggs, Murdoch & Walsh, 1992; Taylor, 2006). Research with Vietnam Veterans conducted by Kulka et al. (1990) found Comorbidity with PTSD common, with 65% to 98% of individuals having at least one other comorbid disorder, and that comorbidity at the time of assessment was 50%. Major depression and substance abuse were the most frequent comorbid disorders for Vietnam Veterans (Kulka et al., 1990; Kessler, Sonnega, Bromet, Hughes & Nelson, 1995; Resick, 2001). Breslau et al. (1991) found that 83% of individuals suffering PTSD had at least one other disorder, the most common being substance abuse 43%, major depression 37% or agoraphobia 22%. However substance dependence may reflect an inappropriate method of coping with the PTSD. Kessler et al. (1995) found from the National Comorbidity Study in the US that PTSD was the primary illness in the majority of instances in regards to comorbid major depression and substance abuse, however was less likely to be the primary illness in comorbid anxiety disorders.

Development of PTSD

Whether or not an incident is considered traumatic depends on the perception of the individual. McNally et al. (2003) in their review of interventions for PTSD suggest that the vast majority of trauma victims recover from initial post trauma reactions without any intervention. Approximately half make a full recovery within three months (APA, 2000). Most post trauma reactions develop shortly after exposure to trauma, however a minority of 4% - 6% do not develop symptoms until months or even years post-event (Bryant & Harvey, 2000; Gray, Bolton & Litz, 2004). Some post-trauma reactions develop gradually, increasing in severity, and may be prolonged. Others may have little or no symptoms until delayed onset, and in some cases PTSD may only surface many years after the trauma. If symptoms persist for between one to three months then acute PTSD may be diagnosed. Symptoms in

excess of three months lead to a consideration of chronic PTSD. On occasions if symptoms subside they may re-emerge later on, often in response to reminders of the original trauma or triggered by additional stressors (APA, 2000).

Predisposing and Precipitating Circumstances for PTSD

Trauma alone is insufficient to cause PTSD. Taylor (2006) asserts that the greater the person's predisposition for developing PTSD the smaller the amount of stress is needed to precipitate the illness. Brewin, Andrews and Valentine (2000) and Ozer, Best, Lipsey and Weiss (2003) conducted meta-analyses, finding four significant categories of predictors of PTSD;

a) history such as family psychiatric illness (McNally et al., 2003), family instability, low intelligence, and personal past trauma exposure;
b) severity of index trauma;
c) perception of threat to life and other threat related psychological processes; and
d) low social support and other life stressors post-trauma (Breslau, Davis, Andreski & Peterson, 1991; Taylor, 2006).

A study by Iversen, Fear, Ehlers, Hacker Hughes, Hull, Earnshaw et al. (2008) using data from a cohort study of personnel who were deployed to Iraq in 2003 (Hotopf, Hull, Fear, Browne, Horn, Iversen et al., 2006) into risk factors affecting PTSD in 4,762 regular Armed Forces, found that post-traumatic stress symptoms were related to lower rank, being unmarried and having low educational achievement. Low morale and poor social support within the unit was also related to greater risk of post-traumatic stress symptoms. Taylor (2006) also posits that the less supportive and more stressful a soldier's working environment the more likely a traumatic stressor will give rise to PTSD. In support of this finding by Iversen et al. (2008) a study by Greenberg, Iversen, Hull, Bland and Wessely (2008) exploring prevalence of PTSD in UK Armed Forces Peacekeepers found that personnel with the higher rank of officer and who were married were less likely to present with PTSD. A study by Grieger, Cozza, Ursano, Hoge, Martinez, Engel et al. (2006) into PTSD in 613 battle injured US soldiers, found that early severity of physical injury was strongly related to later development of PTSD and depression.

Suffering a Combat Stress Reaction (CSR) the nearest equivalent of which is ASD, (Solomon, Neria & Wiztum, 2000) and participation in atrocities as the aggressor (Breslau & Davis, 1987) can also affect the likelihood of PTSD. Resick (2001) posits that the intensity of combat or having been wounded predicts greater severity of post-trauma reactions. A review of historical war statistics by Jones and Wessely (2001) revealed a relationship between the incidence and total of killed and wounded with the number of psychiatric casualties, although this prevalence was modified by the quality of leadership, morale and preparedness of the troops and the intensity of the fighting. Hoge et al. (2004) found a strong reported relation between the prevalence of PTSD and combat experiences such as handling dead bodies, knowing someone who was killed, being shot at and killing enemy forces. Rates of PTSD were significantly related to having been wounded or injured (Hoge et al., 2004). Repeated exposures within the same context, (Taylor, 2006) living in a constant state of danger, (Kaysen, Resick & Wise, 2003) the intensity of the traumatic event (Castro & McGurk, 2007) and the presence of ASD (Brewin, 2003; Jones & Wessely, 2005) can increase the risk of PTSD.

2.3 Responses to a Traumatic Incident

The range of possible responses to a trauma is influenced by how a person perceives the potentially traumatic incident, their past experiences, personal coping resources and social support mechanisms (Greenberg, 2006). Possible reactions during the incident can include perceiving a threat to life, a reaction of horror at exposure to the grotesque and base scenario and the unexpectedness of the situation (Greenberg, 2006; Taylor, 2006). A person may also experience a loss of part of the self, either emotionally such as loss of self-esteem, a physical loss, or a material loss (Resick, 2001). During and after the incident there may be a wide variety of responses; psychological reactions such as feeling overwhelmed, out of control, experiencing flashbacks and intrusions, a pervasive sense of threat; physical reactions such as increased heart-rate, trembling and shaking, inability to relax; and behavioural responses such as avoidance and increasing alcohol abuse (Brewin, 2003; Foa & Rothbaum, 1998; Greenberg, 2006). Emotional reactions in respect of actions during and after the incident can include guilt, depression, anxiety and anger. The person may have felt overwhelmed and out of control, or felt guilt or shame over their actions

and these reactions will impact upon their memory for the incident and later psychological problems.

Brewin (2003) asserts that traumatic events can be unpredictable, producing feelings of helplessness, powerlessness and inadequacy. This challenges the illusion of safety and security and creates contradiction in our beliefs about the world and others in it. Individuals ordinarily operate on a belief system of a predictable, fair and orderly world consisting of people in general being well meaning, a belief in our own invulnerability and in our abilities to protect and help others when the situation demands. Janoff-Bulman (1992) conducted research that compared the assumptions of victims with non-victims, finding that those who had suffered a traumatic event viewed themselves and the world less safe and secure than before the trauma. Trauma survivors need to find a way to re-evaluate and rebuild these shattered assumptions and this can mean accepting a realistic view that the world is sometimes a bad place and that people can be vulnerable, balanced with seeing the world as benevolent and meaningful (Janoff-Bulman, 1992). If the memory of a traumatic event is too distressing this can lead to avoidance of thoughts, situations and places which is a risk factor for development and maintenance of PTSD. Brewin (2003; 2001) posits that when the trauma victim is in denial, or unable to re-integrate the trauma into memory, this prevents conscious examination of the trauma material and in turn prevents the process of recovery, raising the possibility of PTSD.

Memory Processes in Trauma

Resick and Schnicke (1993) suggest that conscious memory of a trauma can be systematically distorted in two ways; a) over-assimilation which involves distorting the reality of what has happened, constructing in memory less negative and more acceptable details, thereby lessening the discrepancy with pre-trauma beliefs and goals and b) over-accommodation which involves abandoning pre-existing beliefs, and basing the current and future world upon new information generated from the trauma, such as the world is now a dangerous place and no-one can be trusted. In over-assimilation Brewin (2003; 2001) posits that if a person is unable to limit exposure to trauma reminders and is unexpectedly confronted with additional trauma reminders, the original memory can be accessed and the individual will once again feel in danger. Brewin (2003) suggests that over-accommodation can lead to problems

whereby an increasing variety of neutral situations become experienced as potentially threatening and dangerous. This form of conditioned response can lead to the perception of inadequate coping mechanisms and a negative sense of self, in turn generating secondary emotions such as self-blame, guilt, anger or shame over perceived inadequacies, for example being unable to stop the trauma. This may increase the impact of the trauma, creating a cycle of negative rumination which can lead to the development or maintenance of comorbid depression (Brewin, 2003; Resick, 2001). This inability to cope may also lead to comorbid substance abuse, as has been found in studies within the military by Hoge et al. (2004).

2.4 Recovery from PTSD

Although the majority of individuals recover naturally from exposure to potentially traumatic events many suffer from some form of post-trauma reactions. In normal recovery researchers (e.g. Kessler et al., 1995; Resick, 2001) have reported that post-trauma symptoms can be a natural reaction diminishing after some days or weeks (Brewin, 2003; Wessely, 2005). However, when symptoms fail to subside there are two separate processes involved in recovery from PTSD; the re-experiencing of trauma memories and conscious re-appraisal and re-structuring of the event and its impact. This involves working through pre and post-trauma memories, and comparing and evaluating beliefs, plans and goals of before and after the trauma. Pennebaker and Harber (1993) assert that discussing the potentially traumatic event is associated with lower levels of psychological distress and better coping skills. Foa and Kozak (1986) have found that verbalising feelings and thoughts can impose logical structure onto memories stored in a disorganised manner. As traumatic memories tend to be disorganised, repeated recall can help old and new information to combine in a more coherent way, or can overlay the original memory thereby displacing it, creating new trauma memories which make sense to the trauma survivor. Brewin (2003) asserts that this produces competing memories of the trauma, the original ones associated with fear, helplessness or horror, and the new ones where the trauma is recalled in a safe and supportive environment as something that is in the past . This process should allow new memories of the trauma which no longer create the feeling of danger (Brewin, 2003). The focus will now turn to the relationship between trauma and psychological functioning within the military.

Chapter 3 Perceptions on Mental Health

3.1 Prevalence of Psychological Distress within the Military

Psychological illnesses are considered proportionate to risk within the military (Wessely, 2005). The National Vietnam Veterans Readjustment Study (NVVRS) conducted by Kulka et al. (1990) estimated that 30.9% of men and 26% of women met the diagnostic criteria for PTSD at some stage after their service in Vietnam. A study by Hoge et al. (2004) involving current operations in Iraq and Afghanistan, found that by using the measure of the PCL, out of four U.S. combat infantry units, between 15% -17% of those who returned from Iraq in 2004 suffered from either ASD or PTSD. Outcome measures included major depression, generalised anxiety and PTSD, using standardised self-report questionnaires to assess symptoms within the previous four weeks. Responses from units returning from Afghanistan indicated 11.2% positive for a mental health disorder. More recent research into returnees from both Afghanistan and Iraq (Erbes, Westermeyer, Engdahl & Johnsen, 2007) found that by using the PCL, levels of PTSD were 12%, consistent with findings by Hoge et al. (2004) and supporting the assertions by Wessely (2005) of the link between exposure and psychological problems.

Research (Jones, Rona, Hooper & Wessely, 2006) conducted on 4,500 randomly selected personnel to assess psychological symptoms during periods of relative low deployment activity using measures of the GHQ 12 and PCL (C) found that elevated levels of PTSD were more frequent in the Army and in the lower ranks. They found 20% of personnel above the cut-off rate for the GHQ 12 and 2% above the cut-off rate on the PCL (C). Jones et al. (2006) reported that psychological distress was significantly associated with service, number of deployments and rank, suggesting a relatively substantial prevalence of self-reported psychological distress.

In a cohort study comparing the mental and physical health of 4,722 soldiers returning from a deployment to Iraq in 2003 and a sample of 5,500 non-deployed soldiers, Hotopf et al. (2006) found that 4% of both samples met the criteria for PTSD using the PCL (C) and 20% of both samples indicated caseness by use of the GHQ 12. This suggests that as a whole, individuals who were deployed to Iraq had a similar rate of

mental illness to the control group who were not deployed to Iraq. Personnel included reservists and findings indicated a significant interaction between reservist status and deployment, although comparison is outside the remit of this current study. Hotopf et al. (2006) concluded that at the time of the study, deployment to Iraq was not necessarily associated with deterioration in mental health. This 4% finding from the PCL (C) is much less than the findings from Hoge et al. (2004) and Erbes et al. (2007) but corresponds with lower findings by Jones et al. (2006)

Further research was conducted by Horn, Hull, Jones, Murphy, Browne, Fear et al. (2006) using the same sample data as Hotopf et al. (2006) to compare data from the Iraq study and the Gulf War of 1991. Horn et al. (2006) used data only from males to correspond with data from the earlier Gulf War study, and from regular soldiers, choosing to analyse reservist data separately. They found from 3,642 UK personnel returning from deployment to Iraq and 4,295 non-deployed personnel, that increases in symptoms measured by physical and psychological health had only increased slightly after deployment, supporting the findings of Hotopf et al. (2006) that psychological health does not necessarily deteriorate after deployment, in contrast to the findings from the 1991 Gulf War where increases in symptomatic ill-health were noted. Research by Rona, Fear, Hull, Greenberg, Earnshaw, Hotopf et al. (2007) using the same data as Hotopf et al. (2006) assessing the consequences of overstretch of UK regular Armed Forces personnel with previous deployment experience found that personnel deployed in excess of 13 months within the previous three years were more likely to show caseness on the PCL (C) and GHQ 12.

Brief longitudinal research conducted by Hacker Hughes, Cameron, Eldridge, Devon, Wessely and Greenberg (2005) with personnel from the UK's Air Assault Brigade before and after deployment to Iraq and subsequent return to the UK, found that mental health had not deteriorated. They found that the GHQ (28) scores had reduced post-deployment, and that rates of PTSD from the Trauma Screening Questionnaire (TSQ) were 2%, in contrast to Hoge's findings of 12%. A further study by Campion, Hacker Hughes, Devon and Fear (2006) exploring mental health of military personnel prior to and after deployment to Afghanistan using the GHQ 28 found that, despite regular action in theatre and harsh conditions, the mental health of personnel did not deteriorate during deployment, reinforcing the previous research conducted by Hacker

Hughes et al. (2005). However the use of different measuring instruments, such as the TSQ and the GHQ 28, may limit comparison of psychological distress within some of the studies.

Retrospective research conducted by Greenberg et al. (2008) into measures of post-traumatic stress in 1,198 UK Military peacekeepers between 1991 and 2000, reported that PTSD varied from 3.6% to 5.5%, suggesting that PTSD, although evident in some, was not a regular finding in this particular sample. Measures used included the military version of the PCL, the PCL (M) which asks similar questions to the PCL (C) but with an emphasis on military experiences, the GHQ 12, and for comparison the posttraumatic stress reaction brief measure. However, as in all retrospective studies there needs to be a consideration of recall bias, although other authors (Wessely, Unwin, Hotopf, Hull, Ismail, Nicalaou et al., 2003) suggest that in recall bias the tendency is to inflate rather than minimise rates of psychological distress. The studies reviewed here tend to contradict regular assertions in the media that being on deployment seriously affects the psychological health of troops.

However there are a number of possible reasons for the differences in findings of the British research in comparison with the findings of Hoge et al. (2004) and Erbes et al. (2007). In the study of Hacker Hughes et al. (2005) baseline measures were obtained close to deployment when the soldiers stress levels may have been elevated and subsequent measures were administered one month post-deployment in comparison with four to six months post-deployment in the Hoge et al. (2004) study. At the one month timescale personnel may have been relieved at being back from deployment, potentially contributing to the reduced anxiety levels. Although Greenberg et al. (2003) assert that post-deployment psychological distress can subside over time psychological problems may also only begin to present three to six months post-deployment as individuals adjust to life and normalisation and this may have influenced findings in the study by Hoge et al. (1994). However a contributing factor in the difference in findings between the two studies include the fact that the US were deployed in areas of greater risk than the UK, had higher casualty figures, and US tours are of 12 months duration whereas UK tours are six months (Hotopf et al., 2006). Studies by Adler (2005) and Rona et al. (2007) have shown that longer deployment can assert a negative effect on military units and the shorter the duration

of the tour the less distressed the soldier. Hoge and Castro (2006) note, in response to comments in comparison of both pieces of research, that the degree of combat engagement reported by the US operating in the north of Iraq was much higher than the UK who operated in the south, suggesting that combat differences provide an important indicator to the PTSD prevalence in these two studies. This suggests increased exposure by US forces to traumatic events and may account for the difference in findings (Hoge & Castro, 2006).

3.2 Stigma of Suffering from Psychological Distress

Individuals exposed to trauma who do not recover to their previous state of functioning can arouse discomfort in others, attracting scorn, hostility and stigma towards their illness. So what is stigma? Stigma is defined by Goffman (1963) as an 'attribute that is deeply discrediting' (p.3). Byrne (2001) asserts that to be labelled as suffering from a mental illness carries consequences both internally, such as shame and low self-esteem, and externally, such as social exclusion and discrimination. The World Health Organisation (2001) reports that stigma and the associated discrimination towards people suffering mental and behavioural problems is the most important barrier to overcome.

Greene-Shortridge, Britt and Castro (2007) reviewed the literature on stigma associated with admitting to a mental health problem. They distinguished between public stigma, the attitudes of others, and self-stigma, the internalisation of the attitudes of society towards persons suffering a mental illness. Within the military stigma can relate to a socially agreed negative group judgement, and within a culture that prides itself on masculinity and resilience this can lead to a personal sense of failure, shame and humiliation. Factors that contribute to reluctance to disclosure and seeking psychological assistance can be affected by concern about how they will be perceived by the group, and the subsequent stigmatisation of suffering from psychological illness. Internalising the negative views of others could potentially lead to increased self-stigma, lowered self-esteem and in turn inhibit help-seeking behaviour (Greene-Shortridge et al. 2007).

US Research into Stigma

In the study by Hoge et al. (2004) into personnel returning from current operations in Iraq they found that only 23% - 40% of those who indicated they were suffering from psychological distress actually sought assistance. Personnel returning from Afghanistan who indicated that they were suffering from psychological distress were twice as likely to report concerns about the stigma of seeking assistance. As a result Hoge et al. (2004) concluded that there were obvious barriers to receiving mental health assistance, and a significant risk of mental health problems within the military. At the time of their research Hoge et al. (2004) had not found any studies that assessed the use of or need for mental health care, or the barriers to seeking care within the military. This may have exacerbated their perception of neglect of this aspect of military life.

In contrast, more recent research conducted by Erbes et al. (2007) into returnees from Afghanistan and Iraq found 56% of those screening positive for PTSD reported using mental health services. However a contributing factor to seeking assistance in the sample used by Erbes et al. (2007) may have been that they were drawn from service members enrolled for Veterans Affairs care. This in itself may indicate higher levels of distress and easier accessibility to assistance. They also report that it was negative affect expressed through depression rather than the PTSD that led to seeking assistance, suggesting that those suffering PTSD without negative affect may have been less likely to utilise such services. Britt, Greene, Castro and Hoge (2006) examined the help-seeking consequences in over 3,000 soldiers, reporting that the stigma of seeking help was negatively related to the quality of leadership and the positive qualities of the unit.

Research conducted by Britt (2000) explored stigmatisation experienced in the workplace within the returning US military after peacekeeping duties in Bosnia. Of personnel seeking mental health assistance it was reported that soldiers experienced more discomfort and stigma in discussing potential psychological problems as opposed to medical problems. Their concern over stigma was elevated when being screened with their units. Over half felt their career would be affected and almost half felt that admitting to a psychological problem would cause others to maintain their

distance. They reported more likelihood in following through a medical referral than a psychological referral.

UK Research into Stigma

A study conducted into the experiences of ex-service British personnel (Iversen, Dyson, Smith, Greenberg, Walwyn, Unwin et al., 2005) found, from self-report measures, that almost 30% had a mental health problem whilst in service, most commonly depressive disorders (48.3%) and anxiety disorders (37.9%). Only half sought mental health assistance. The main reason proposed for not seeking help was either embarrassment or the stigma of having to admit to seeking assistance. Iversen et al. (2005) reported that those who suffered mental health problems in service were more likely to suffer once they had left the forces. They also found that PTSD sufferers often had a comorbid diagnosis, corroborating previous research findings (e.g. McNally et al., 2003).

Retrospective research conducted by Greenberg et al. (2003) into psychological support required by personnel in the armed forces on return to the UK found that most personnel valued peer and family networks for support and two-thirds reported speaking about their experiences, which they found was related to lower levels of psychological distress. They found that older personnel especially were more likely to use social networks or their chain of command rather than seeking formal methods of support. In this respect the more experienced and senior members could influence the attitudes and help-seeking behaviours of those who may need a role model. The researchers concluded that social support of peers should be facilitated as an appropriate form of response. However the study was undertaken in 2001 and explored peacekeeping operations back for a period of ten years, hence there may be limitations in recall bias and causality between variables. Research conducted by Greenberg, Henderson, Langston, Iversen and Wessely (2007) examining 142 interview transcripts of how military personnel in the Royal Navy would react to a distressed peer found that the majority would respond positively. Lower ranks were more likely to report a negative impact and the majority felt that reporting issues of self harm would negatively impact upon that person's career. Greenberg et al. (2007) assert that this is an important finding as peers are well placed to assist each other with emotional and functional support when in distress.

In contrast to the findings of Hoge et al. (2004) the research by Greenberg et al. (2003) found that personnel who were suffering from mental health problems had actually sought psychological assistance. However, although differences between the US and UK military may be accounted for by culture within the units, hierarchical attitudes, the briefing and education discrepancies, research has not been found to address these differences.

A review of the literature on stigma and interpersonal contact by Couture and Penn (2003) found that contact tends to reduce the stigmatising views towards individuals with mental illness. However a limitation of this review included methodological problems and the definition of 'contact'. Research was conducted by Alexander and Link (2003) into the impact of contact on stigmatising attitudes toward homeless people with mental illness by conducting a telephone survey. They found that as contact increased, undesired social contact decreased, suggesting the importance of different types of contact in reducing stigmatising attitudes.

3.3 Social Support within the Military

Research by Litz and Gray (2002) of the Department of Veterans Affairs, US, into management of post-trauma reactions suggest that interventions have previously neglected social support systems. They suggest that the social support of the individual in the external environment should be evaluated, together with how the individual uses social support under stressful circumstances. McNally et al. (2003) in their review of the literature on risk factors for PTSD found support for the suggestion that strong social support systems can buffer individuals from developing PTSD. This is supported in findings by Brewin et al. (2000) and Ozer et al. (2003) in relation to predisposing factors affecting vulnerability for PTSD. They suggest that the more personal resources a person has, such as positive thinking patterns, supportive family and friends and previous good coping abilities, along with a cohesive and positive work environment, the less the risk of developing post-traumatic reactions, points also noted by Greenberg (2006).

Lack of social support has been shown to be associated with negative mental health outcomes following combat. Hobfoll and London (1988) found that veterans with low

social support had greater emotional distress after exposure to war-related stress and recent research within the military (Rona, Hooper, French, Jones & Wessely, 2006) into self-perception of health concluded that social support can be helpful in decreasing isolation in those whose tendency is to socially avoid and who may need psychological support. Sympathetic peer support can also reduce the negative perception of acknowledging the need for psychological intervention. Research conducted by Iversen et al. (2008) using the data from the 2003 Iraq War study (Hotopf et al., 2006) found that in using the PCL (C), by asking questions about morale, the perceived level of support and a sense of comradeship within their unit, that low morale and limited social support were related to an increased risk of symptoms of PTSD. They suggested that encouraging good leadership and positive social support may relate to decreased risk of PTSD. Iversen et al. (2008) note that as the study was cross-sectional they are unable to state direction of causation.

Research by Solomon and Mikulincer (1990) conducted into life events, locus of control, social support and the association with PTSD (using the PTSD Inventory) with 255 Israeli soldiers suffering combat stress reaction, found that social support measures were the only variables that significantly contributed to PTSD. A study conducted by Lowery and Stokes (2005) into paramedic students self-reporting PTSD symptomatology using the PDS (Posttraumatic Stress Diagnostic Scale) found that a direct relationship existed between PTSD, dysfunctional peer social support, and negative attitudes towards emotional expression, indicating that the negative attitudes towards emotional expression significantly contributed to their PTSD, and that regulating distressing emotions can be reinforced through external pressures. However, in both these studies the measures used were different to other studies therefore introducing limitations in comparison. Limbert (2004) explored psychological well-being and social support within the UK military serving in the Falkland Islands using the measure of the GHQ 12. Limbert (2004) found that perceptions of social support were significant predictors of psychological well-being and in this respect proposed that making someone available to listen to the concerns of troops in an informal manner could help improve psychological well-being. Also highlighted was the importance of social support in enhancing the way personnel cope with stressful situations.

3.4 Unit Cohesion

Ritchie (2007) posits that unit cohesion has been shown to be beneficial to the mental health of the group and within the US military emphasis is focussed on the development and maintenance of unit bonding and morale, as an effective and protective force. Unit cohesion would tend to suggest perceptions of social support and has been suggested by Shay (1994) as having a positive impact within military culture. A study by Brailey, Vasterling, Proctor, Constans and Friedman (2007) into unit cohesion and PTSD within the US military found that, by use of the PCL, higher pre-deployment unit cohesion levels appeared to improve stress related symptoms. Theoretical models of unit cohesion suggested by Griffith and Vaitkus (1999) suggest that high levels of unit cohesion are a major resilience source for military stress, including combat and several studies (e.g. McTeague, McNally & Litz, 2004) have demonstrated the resilience of unit cohesion for combat related stress. The protective effects of unit cohesion on stress emphasise the formation of trust by an individual in both peers and leaders, which Griffith and Vaitkus (1999) refer to as horizontal/peer and vertical/leader bonding. A study by Griffith (2002) into the relation of cohesion to stress and well-being found that perceptions of emotional support were associated with positive outcomes in relation to well-being, and found the importance of leader support under stressful circumstances was in providing emotional support. The findings from these studies highlight the importance of social support and trust of peers and leaders within the military.

Research by Browne, Hull, Horn, Jones, Murphy, Fear et al. (2007) conducted on the dataset obtained by Hotopf et al. (2006) on personnel deployed to Iraq in 2003 focussed on the mental health of reservists. Browne et al. (2007) posit that reservists often have not met their comrades prior to deployment. This may lead to feelings of isolation. Reservists reported slightly lower levels of unit cohesion, felt less well informed of events in theatre, and perceived less interest in their work from the chain of command. After adjustment for socio-demographic differences, by using the GHQ 12 and PCL (C), PTSD and mental health disorders were significantly associated with reservist status. However making further adjustments for reported problems at home led to the reduction of association of PTSD with reservist status. Browne et al. (2007) state that, rather than deploying with their parent unit most reservists will deploy as

individuals. This may lead to a lack of perceived cohesion within that unit and suggests that a sense of inclusion and comradeship is an important source of resilience.

Chapter 4 Management of Post-trauma Reactions within the Military

4.1 Historical and Current Procedures

Single Session Debriefing

Psychological debriefing after a trauma has been utilised regularly by the military in an attempt to manage post-trauma reactions. However it has been increasingly investigated by researchers (e.g. Deahl, Srinivasan, Jones, Thomas, Neblett & Jolly, 2000; Solomon, Neria & Witztum, 2000) with disappointing results. Mitchell (1983) believed that psychological debriefing could diminish stress reactions among such occupations as the emergency services and hence devised Critical Incident Stress Debriefing (CISD). Raphael and Wilson (2000) proposed that CISD was designed to prevent and reduce the long-term psychological and emotional distress of trauma by a single structured debriefing session, delivered within several days after the traumatic event and lasting three to four hours (Deahl et al., 2000; Solomon et al., 2000). In CISD emotional ventilation, discussing thoughts, feelings, and reactions to the trauma are combined with cognitive appraisal and education to stress the normalisation of reactions (McNally et al., 2003; Solomon et al., 2000). Whereas the normalisation of post-trauma reactions is felt to be beneficial, emotional expression in a single session may be counterproductive, as shall now be addressed.

Much research has been conducted into the effectiveness of single session debriefing. Researchers concluded from meta-analysis studies (e.g. Rose et al., 2001) and from a trial of group psychological debriefing at the height of the Bosnian War (e.g. Deahl et al., 2000) that the efficacy of psychological debriefing for reducing or preventing PTSD was unconfirmed (McNally et al., 2003; Raphael & Wilson, 2000; Wessely & Deahl, 2003). A randomised controlled trial was conducted by Sijbranij, Olff, Reitsma, Carlier and Gersons (2006) into the effect of emotional ventilation debriefing, educational debriefing and no debriefing and found no evidence for the benefits of individual psychological debriefing in reducing symptoms of PTSD, anxiety or depression post-trauma. Some researchers (Solomon et al., 2000; Rose et al., 2001; Wessely & Deahl, 2003) have even suggested that this type of psychological debriefing may be potentially harmful. Encouraging survivors to

discuss personal thoughts and feelings immediately after a trauma may be counterproductive. Psychological debriefing is time limited therefore it is questionable as to whether it is actually possible for emotional ventilation and cognitive restructuring to take place. Emotions may be brought to the surface without allowing the time and space for them to be worked through. Solomon et al. (2000) suggest that when depressive individuals have a tendency to negative rumination or when coping by avoidance this type of debriefing could be overwhelming. This re-exposure could cause further traumatisation. In addition, the single session debriefing cannot identify stress reactions that are delayed or that occur gradually. As Rachman (2001) posits the trauma should be controllable, predictable, and tackled gradually and in this respect single session debriefing is not suitable for the purpose. Single session psychological debriefing has now been discontinued in the military on the orders of The Surgeon General (2006) Defence Medical Services Department.

PIE Principles (Proximity, Immediacy and Expectancy)

The principles of 'proximity' – treatment as near to the battlefield as possible, 'immediacy' – response as soon as possible, and 'expectancy' - of recovery and return to the unit (PIE) (Jones & Wessely, 2005; McNally et al., 2003; Solomon et al., 2000; Solomon & Benbenishty, 1986) have long influenced military early intervention for combat stress reaction. Affected soldiers are treated close to the site of the combat area or trauma, remaining in their military uniforms, as soon as possible after the onset of symptoms, and with the expectation that they will soon return to combat duties (Artiss, 1963; Solomon et al., 2000; Solomon & Benbenishty, 1986) thereby remaining in their role as a soldier and facilitating continuing contact with comrades to prevent isolation. As social beings this facilitates continuing inclusion and acceptance within the group that individuals often seek. Solomon & Benbenishty (1986) assert that this strengthens commitment and reinforces ones military identity. Individuals whose symptoms persist or worsen are evacuated for more intensive assessment or treatment. PIE principles combine group and individual therapy, lasting three to five days, and include relaxation and physical fitness. Solomon et al. (2000) assert that vulnerable persons are not placed at risk of further trauma through intervention as it is only provided to suitable individuals, in contrast to CISD where all personnel receive the intervention.

Some research has shown that the more a soldier's treatment meets with PIE there is less likelihood of developing post-trauma reactions and more likelihood of return to the unit. Solomon and Benbenishty (1986) studied troops involved in the Lebanese War, some managed in accordance with PIE and others treated away from the battlefield. The PIE managed troops reported reduced PTSD symptoms one year later, suggesting the superiority of PIE principles. However as found by McNally et al. (2003) in their review of early interventions for PTSD, PTSD symptom severity at the time of questioning can influence memory for initial PTSD thereby limiting the effectiveness of this study. In contrast, Jones, Thomas and Ironside (2007) investigated historical documents in relation to 3,580 shell shock admissions in 1917, finding that 'forward psychiatry', another term indicating the PIE principles, was not effective in returning troops to their units. Influencing factors may have included severity of illness or perceptions of the war. However by allocating affected soldiers to support roles this did prevent discharge from the armed forces. A further review into the literature on the effectiveness of PIE by Jones and Wessely (2003) found that reported outcomes of PIE tend to exaggerate its effectiveness as a treatment for acute stress reaction indicating that PIE principles may be less effective than previously documented.

In contrast, research into management of mental illness in the British Army (Neal, Kiernan, Hill, McManus & Turner, 2003) made positive findings in a Military Training and Rehabilitation Unit based at the Duchess of Kent's Psychiatric Hospital. This Unit was designed to increase the number of soldiers returning to full operational fitness. Success of the Unit was attributed to an improved risk assessment procedure whereby patients were observed in a simulated military environment. During the initial phase patients are motivated to remain in the Army, can wear Army uniform and take part in Army exercises, along with receiving individual psychological therapy. In phase two the wearing of uniform and training are compulsory and patients are re-integrated with Army culture. This leads to an increased number of soldiers returning to their Units fully fit, without operational restrictions. Neal et al. (2003) suggest that this effective re-integration leads to a reduction of stigmatisation in suffering from a mental health illness. It also provides an element of social support and helps to reduce any possible feelings of isolation, thereby allowing the soldier to retain military identity, in support of the PIE principle 'expectation'.

Pre-Deployment Briefings

Pre-deployment briefings are now regularly conducted within the military. These consist of information on psychological illness and how to manage operational stress. The content of briefings can differ depending on the nature of the deployment. However as a guideline the following can be included; the nature of operational stress, forms of psychological illness, incorporating education on prevention, recognition and management of illness, alcohol and other substance abuse, suicide and self harm, in accordance with the Surgeon General's Policy Letter (2006). The duration and timing of delivery of the briefing may differ, and can be presented by personnel within the chain of command, or by mental health practitioners. The briefings attempt to normalise the reactions to trauma and engender a support structure to buffer against the effects of psychological stress, in turn attempting to reduce the stigma of psychological illness, a positive step in the right direction.

Deahl et al. (2000) conducted research on UK soldiers returning from Peacekeeping duties. They had a Stress Training Package delivered pre-deployment, which consisted of a half-day session providing education on the nature of stress and its effects, symptoms, how to cope, relaxation techniques, identification of potential stressful events encountered in theatre, and where to seek help. Findings indicated very low rates of PTSD, using the Impact of Events Scale which correlates highly with the PCL (C) (Weathers et al., 1994), and other psychological injury. The researchers suggested that the Stress Training Package could have contributed to this finding. However Deahl et al. (2000) note a limitation in that more than half of the participants had previous exposure to trauma, and the results incorporated the effect of psychological briefings post-deployment, both of which may have influenced the findings.

In contrast, Sharpley, Fear, Greenberg, Jones and Wessely (2007) conducted research on the efficacy of pre-deployment stress briefings using data collected in the Hotopf et al. (2006) study of personnel deployed to Iraq in 2003. They compared two groups, personnel who attended the briefings and personnel who did not, using measures including the GHQ 12 and PCL (C). They found no evidence to suggest that attending a pre-deployment stress briefing reduced medium-term psychological distress or that

pre-deployment briefings caused harm. Sharpley et al. (2007) suggest limitations in their study in that not all personnel were given the opportunity to attend the stress briefings and there were demographic differences between those who attended and those who did not. From their research Sharpley et al. (2007) concluded that although psycho-education in the form of stress briefings is regularly used in an attempt to prevent psychological distress, they remain an unproven intervention.

Post Deployment Briefings

Post-deployment briefings are provided to personnel on their return to the UK. They can be provided by mental health staff or chain of command and in general last around two hours (Iversen et al., 2008). The focus tends to be on home-coming, re-integration with family life, psycho-education on mental health and methods of seeking assistance if required (Iversen et al., 2008).The home-coming briefs are not targeted towards personnel involved in trauma and therefore are not seen as potentially harmful, as in single-session debriefing, and attendance is compulsory. Iversen et al. (2008) conducted research from the data provided in the Hotopf et al. (2006) Iraq War study from 2003. They found that there was an association of PTSD with lack of a home-coming brief. However Iversen et al. (2008) note that as personnel who are ill would be less likely to attend the briefing this may have affected the findings. The association between PTSD and the home-coming brief was not apparent when all other variables within the study (e.g. deployment experiences) were considered as a whole. This tends to suggest that home-coming briefings may have limited use.

4.2 Trauma Risk Management (TRiM)

4.2.1 Historical Context of TRiM

Greenberg (2006) suggests that within the last decade, partly in response to the ineffectiveness of other post-operational interventions, senior commanders within the British Royal Marines sought a workable management plan to provide psychological support to personnel, which in turn would maintain operational effectiveness. The origins of the plan were devised and developed from experiences in humanitarian and peacekeeping operations and in combat. Observations from these experiences demonstrated that not all personnel required support and intervention. The rationale of

the plan therefore was to target only those who required support. Whilst in theatre access to psychological services is limited and in order to be effective the plan had to take account of interventions delivered by personnel integral to the unit (Greenberg, 2006). As a result currently operating within the Royal Marines is Trauma Risk Management (TRiM) a proactive peer group model of psychological risk assessment which promotes recognition of psychological illness and is now in use with other organisations such as St John's Ambulance and the British Broadcasting Corporation (Jones, Roberts, & Greenberg, 2003).

4.2.2 Objectives of TRiM

The main aim of TRiM is to keep personnel in hierarchical organisations functioning after a traumatic event and in this respect procedures for dealing with the aftermath of an incident are required to be in place prior to any incident happening (Greenberg, 2006). Key objectives of TRiM are to train and educate non-medical managers to be practitioners who, in turn, provide support and information to those exposed to potentially traumatic incidents. Selection of suitably qualified personnel is dependent on identification by a senior person with in-depth knowledge of risk assessment. The selected risk assessor must have five years or more service and have been successful in a competitive selection process resulting in promotion (Jones et al., 2003). Psycho-education includes the normalisation of experiencing distress during and after a traumatic event. A certain amount of stress is considered healthy and can promote optimal performance. However any increases of stress above a critical level can overwhelm a person's coping resources and this is when functioning and performance declines, leading to an increase in psychological distress (Brewin, 2003).

Foa, Keane and Friedman (2000) suggest that there is limited evidence to show that psycho-education alone is an effective treatment for those exposed to traumatic events and in this respect although TRiM seeks to educate personnel to enhance recognition of the signs of stress, in addition the emphasis is on supporting peers, sharing of experiences, acceptance of stress reactions and challenging stigma in relation to psychological illness. The stages of TRiM training are illustrated at Appendix B. TRiM practitioners are embedded in operational units and are on site to provide the basic psycho-educational briefings after exposure to trauma (Jones et al., 2003) thereby providing support at the earliest opportunity by those integral to the unit and

with experience of being on deployment. The following aspects of TRiM are adapted from the TRiM Manual devised by Greenberg (2006).

4.2.3 Procedural Aspects of TRiM

The planning phase takes place between 24 hours and 72 hours after the potentially traumatic incident. TRiM practitioners call a planning meeting with management shortly after an incident in order to provide an opportunity to gather event information and identify the personnel involved. Management strategy is formulated and further action decided. The initial Trauma Risk Assessment is conducted, either individually or in small groups of no more than eight individuals, no earlier than 72 hours after the incident. At this stage any potential problems in psychological functioning are noted and this provides a baseline to guide decisions at the follow-up assessment. Follow-up is conducted after one month to establish adjustment to trauma and assess whether referrals are required. Some personnel may experience a delay in developing psychological problems, or may continue to experience problems that were noted at the initial assessment therefore scores obtained at three days can be compared to scores at the one month period. Although group support is encouraged at these assessments, emotional ventilation is not and is not considered a priority, in contrast to CISD. If personnel do not appear to be improving after the one month assessment then anyone considered to require psychological intervention is referred to the relevant specialist department.

4.2.4 Trauma Risk Assessment

How a person perceives a traumatic incident influences the risk of developing post-trauma reactions. Although not all people will require intervention, a hierarchy of personnel to be considered for risk assessment is suggested, starting with the most vulnerable, the people who were involved in the incident (primary victims) moving on to rescuers and helpers (secondary victims), those who witnessed the event, were onlookers or involved at a distance, those who were meant to be there but avoided it, and lastly the vulnerable others who may be affected (Greenberg, 2006). Factors influencing whether a risk assessment is required include whether personnel witnessed serious injury to others, especially colleagues, whether death was involved, whether the trauma was long lasting and complex, whether personnel have been disfigured or injured, and whether the event involved a near miss. Distress can be

exacerbated if children, the elderly or the disabled were involved. The Trauma Risk Assessment explores such avenues as whether the person felt out of control during the incident, whether their life was threatened, whether the person blamed others for the event, whether the person experienced an acute stress reaction after the incident, whether there was overwhelming distress following the incident and whether the person has experienced previous traumatic events. The full list of risk factors obtained from the TRiM Manual (Greenberg, 2006) is included at Appendix C. Psycho-education is provided and post-trauma reactions are normalised. If the risk assessment is conducted in a group setting then the emphasis is on supporting each other and cohesiveness.

The 'Before, During and After Grid' (BDA) was devised and adapted through the functional analysis model by Roberts and Jones (1998) in an attempt to formalise the risk assessments. The risk assessment interview involves establishing facts, feelings and how personnel thought about the future in relation to three timescales; before, during and after the incident. Information gathering is structured, asking questions of the five w's; what happened, who was there, where did it happen, when did it happen and why did it happen, and also how did it happen. This can provide information on the level of perceived threat to the individual. If an elevated level of distress is present during the incident and persists afterwards then this is an indication that the individual may be at risk of developing psychological problems.

If the event is not deemed potentially traumatic or if personnel are not considered at psychological risk then a briefing meeting can be convened. In these instances a senior manager provides a briefing on the incident, psychological reactions are normalised by medical staff, social support is encouraged and self-referral is discussed. This type of meeting can illustrate to personnel that the organisation is aware of potentially traumatic events and that the hierarchy within the organisation take the event and the psychological health of personnel seriously (Greenberg, 2006). This potentially positive and accepting environment may in turn help to reduce the stigma attached to seeking assistance.

4.2.5 Effectiveness of TRiM

TRiM education is now routinely incorporated into the Royal Marines recruit training and most other Royal Marine courses. Research is ongoing within the Royal Navy into the efficacy of TRiM. Jones et al. (2003) report that field trials within organisations using TRiM for personnel management has been successful. TRiM has also been well received. A cluster randomised controlled trial recently conducted within the Royal Navy by Greenberg and Langston (2007) over a 12 to 18 month period found no evidence to suggest that TRiM causes harm. The study found that individuals who did come into contact with TRiM rated it higher than ratings of other forms of support after a traumatic incident. However there is also no evidence to suggest that perceptions of stigma have altered. Junior ranks were sceptical of peer groups providing emotional support. One limitation to the study is that personnel involved in the study did not experience a great deal of traumatic incidents therefore TRiM may not have been used to its potential (Greenberg & Langston, 2007).

Research conducted by Gould, Greenberg and Hetherton (2007) sought to evaluate the effectiveness of TRiM in improving attitudes about stress and PTSD and seeking help from military networks. They looked at 124 non-clinical active UK service members in the Royal Marines, Royal Navy and the Army who were interested in becoming a TRiM practitioner. Half received a TRiM intervention and the other half received no training. Results showed that TRiM training improved attitudes about stress and PTSD, although baseline attitudes towards stress and PTSD were moderately positive at the outset. TRiM was found to improve attitudes toward seeking help from TRiM practitioners, although not from normal military support networks, which was consistent with findings from research conducted by Greenberg et al. (2003) showing that most personnel tend to prefer seeking help from informal networks.

The US Military have used TRiM as a model upon which to base their ‘soldier peer mentoring care and support’ system (Keller, Greenberg, Bobo, Roberts, Jones & Orman, 2005). Keller et al. (2005) suggest that currently self-referral for mental health problems can be perceived as shameful or ending a career. As early identification of psychological illness may prevent development of more severe illnesses such as PTSD, they proposed this peer-driven psychological risk

management and support system. The intention is to effectively manage personnel exposed to potentially traumatic events and facilitate the necessary early referral to specialist help.

It seems clear that, although there have been many interventions advocated for the prevention or reduction of PTSD, there has been no one strategy that reduces the risk significantly. A review of the techniques to moderate post-trauma reactions suggests that there is further work to be done to establish what exactly is effective and indeed there is a need to explore diverse means of delivering support pre and post-trauma. To date little research has been conducted across the military cultures in an attempt to evaluate the effects of TRiM in mitigating the effects of psychological injury.

Although TRiM to date has only been focussed on the more elite groups such as the Royal Marines it is currently in the initial stages of being incorporated within certain units across the UK Army. There are differences in aspects of selection, training and culture between the more elite units and the Regular Infantry and no research has been conducted into how TRiM will be viewed, whether it will be accepted or whether its use will generate positive outcomes within the Army. In this respect it is not known whether TRiM actually has a use in military groups other than the elite units. However, this current research will attempt to address the gap in knowledge by evaluating the effects of TRiM on psychological functioning and on attitudes towards suffering from psychological distress within two units that are at different stages of TRiM incorporation, one from the Royal Marines and one from the Army. As the culture of the two branches of the forces is different from the outset this has been addressed to some degree within the research.

It is hypothesised that a) units which have incorporated TRiM will have a lower prevalence of psychological distress than non TRiM units, b) units which have incorporated TRiM will be more resistant to the development of combat related stress than non TRiM Units, and c) TRiM will create a better understanding of the effects of trauma, generating more sympathetic attitudes to seeking psychological assistance, thereby reducing the stigma attached to psychological illness.

Chapter 5 Research Method

5.1 Hypotheses and Research Question

It is hypothesised that a) units which have incorporated TRiM will have a lower prevalence of psychological distress than non TRiM units, b) units which have incorporated TRiM will be more resistant to the development of combat related stress than non TRiM Units, and c) TRiM will create a better understanding of the effects of trauma, generating more sympathetic attitudes to seeking psychological assistance, thereby reducing the stigma attached to psychological illness.

5.2 Ethical Issues

Voluntary Participation

Ethical issues have been considered by seeking guidance from the Codes of Conduct issued by the British Psychological Society and MoDREC guidelines. As the military is a disciplined organisation the researcher was conscious of obtaining genuine voluntary participation for the study and felt that the measures taken to ensure voluntary participation were adequate for the parameters of the study. Contained within the questionnaire booklet is full guidance as to the voluntary nature of participation. During the military research briefing to the participants, voluntary participation was emphasised by the briefing officer and information was provided on the right to withdraw at any stage of the study. These rights were respected at all stages of the research. Enquiries within the military reveal that many units have previous experience of being involved in military research, with similarly focussed questions. In these instances personnel have opted not to partake in research and have not encountered adverse consequences.

Researchers should guarantee the safety of participants and everything possible should be done to protect them from harm or discomfort; individuals should not feel worse about themselves after the research (Coolican, 1999). Questions contained within the questionnaires were not intended to cause harm or distress, or be experienced as an invasion of privacy. Questions were all approved by MoDREC. The GHQ 12 and PCL (C) are in use with the general population and the researcher could

find no research that suggests that completion of these measures causes adverse effects. The general background questionnaire requests personal information, and although some questions regarding psychological health are sensitive, participants are advised on the information sheet contained within the questionnaire that they do not have to answer questions unless they wish to do so. In view of previous research conducted within the military the researcher was conscious of the participants suffering from research fatigue. However it has not been possible to ascertain as to whether individuals subject of the current research have also been subject of previous research due to the fact that personnel regularly move units and previous research would focus on particular groups without identifying individuals.

Confidentiality

Procedures for distribution and collection of the questionnaires were planned in an attempt to avoid exposing individuals to the likelihood of being identified by senior officers. No names were requested on the questionnaires and therefore could be anonymous unless participants chose to disclose their service number on the rear sheet of the questionnaire. Identification of individuals would only be possible if the inclusion of service numbers on the completed form were seen by an individual who had access to, or knew specific service numbers. Collection was as a group, and during the planning of the research it was envisaged that collection would be direct to the researcher. However due to operational reasons this was not possible. Therefore collection was to a suitably identified individual, whereby the questionnaires would be secured for personal collection by the researcher. Once the data was received in its hard copy form it was retained in a secure and confidential location until the conclusion of the research procedure. The information is to be destroyed immediately upon completion of the study and subsequent qualification of the researcher. No other person is able to access the computerised data.

Contact

The researcher was advised that during the initial period of joining the military all individuals are fully briefed in relation to access to mental health assistance within the military and are made aware of the location of this assistance. In addition to this, information is included in the booklet identifying external sources of psychological help, and a contact number provided if participants feel they require non-military

mental health assistance. Provided in the booklet is a name and telephone contact number of an Independent Medical Officer (IMO) selected to be available for individuals to consult with if unhappy or dissatisfied with any part of the study or their involvement in the study. Contact details of the researcher are included in the questionnaire and participants were informed they could make contact should they so wish. If, once the research was underway, it became apparent that adverse effects were encountered then the researcher would ensure that the study ceased without delay. However no such communications were received.

The researcher has a responsibility to debrief each participant. However debriefing with the participants, or personally thanking them for their assistance, was not possible due to their operational deployment, other than during completion of the initial phase of questionnaires with 40 Commandos when the researcher was present. This was therefore included in written format in the questionnaire booklet.

5.3 Design

This current study aims to evaluate the effects of TRiM (independent variable) upon a) the level of post trauma reactions, and b) stigma towards suffering from psychological distress (dependent variables) by making a comparison of two conditions:

1. one condition whereby TRiM is in the initial stages of being incorporated, and
2. one condition whereby TRiM has been incorporated for approximately ten years.

Measures of psychological functioning and stigma towards suffering from psychological distress was measured at two points in time, approximately four to six weeks prior to active deployment and upon return from deployment. The timings of the interventions were determined by operational demands. Psychological distress is measured by scores on the GHQ 12 and PCL (C) and attitudes towards psychological distress measured by means of the ‘attitude to mental health’ questionnaire.

Sampling is purposive, in order to study the relationship between specific variables. Groups have been unable to be randomly selected for the study due to operational deployments and specific groups had already been using TRiM or selected for TRiM

to be incorporated. Two groups for research were selected in conjunction with military personnel at Land Command, a military operational planning unit. They were selected as providing within each group, the best representative sample of individuals with diverse backgrounds, comprising groups that would be deployed at the same time and with different stages of TRiM incorporation, thereby fulfilling the research conditions. Data collection has been quantified and comparisons made within and between groups.

5.4 Participants

This current study is investigating a sample of personnel from 52 Brigade, consisting of Delta Company 40 Commandos, Royal Marines, otherwise known as group 1, who have incorporated a rolling system of TRiM training and education to personnel over approximately the past ten years, and 3 Company Coldstream Guards, otherwise known as group 2, who are in the initial stages of TRiM incorporation. Briefings on TRiM and training for specifically selected personnel within the Coldstream Guards had initially begun to be conducted in May 2007 but as this was a recent development it was anticipated that TRiM would not have entered the culture of the Coldstream Guards at the time of the study. Each Company consists of approximately 100 all male personnel. This precludes any exploration of the effects of TRiM upon females, which may have produced different findings. At the outset of the study 94 participants from 40 Commandos and 86 participants from Coldstream Guards were involved in the study due to availability. All participants were deployed for Afghanistan in September/October 2007 and were to remain in relatively similar combat conditions for approximately six months. Ages ranged from 18 years upwards and have been grouped into bands, only one participant being over the age of 40 years. All participants were considered fit for active duty at the time of the study. The military background and training of the personnel involved is relatively dissimilar and this difference has been explored during the study itself by conducting interviews with suitable personnel.

5.5 Timetable and Amendments to Research

Realistically the research timetable needed to take into account operational availability. Submission of the ethics form to the Ministry of Defence Research Ethics Committee (MoDREC) was in December 2006. The Ethics Committee sit once per

month and it was envisaged that approval would be received some time in February 2007. However due to the time taken to obtain ethical approval from MoDREC the original research, planned to be conducted at three stages was not possible. Groups originally identified for participation in the research were abandoned and further suitable groups were selected in conjunction with Land Command. Authorisation was received in July 2007. The research was therefore adapted to incorporate two stages of data collection, four to six weeks prior to deployment and, originally three months into deployment whilst troops were on active duty in Afghanistan, a term known as 'in theatre'. The procedures for distribution, completion and collection have been described later in detail for all phases in the section marked 'procedure'.

The first phase of questionnaires was distributed and completed in September and October 2007 prior to deployment. The second phase of questionnaires was to be completed late December or early January 2008 which was approximately three months into active duty. The researcher had been authorised to travel to Afghanistan for the second phase of the study. However due to increasing volatility in the area the plans were changed. Amendments to procedures had been discussed and accepted at the previous meetings should the researcher not be available to travel to Afghanistan. Therefore identical booklets containing all the original information were distributed in November 2007 by posting the questionnaires to a nominated individual in Camp Bastion, Afghanistan for onward distribution to the relevant personnel in the forward operating bases. The parcel contained the booklets, the original précis of the research, additional informal information regarding the completion of questionnaires and a note thanking personnel for their assistance. The questionnaires were completed and returned to the UK. This phase of questionnaires was held in a secure environment but unable to be accessed by the researcher in time for the study. Therefore due to problems in retrieving the second phase of questionnaires further amendments were made to the research plan. The second phase of questionnaires, although completed, was therefore not used for the purposes of this study, but retained for future analysis.

The third phase of distribution of the questionnaires was distributed and completed in April/May 2008 upon return from deployment to the UK. The 40 Commandos completed questionnaires whilst in decompression in Cyprus and the Coldstream Guards on return to the UK immediately after decompression. This phase of

questionnaires was used for the purpose of this study. Analysis of data collected from the initial phase of questionnaires was during the spring of 2008 and data from the third phase of questionnaires was subject to analysis during the summer of 2008.

5.6 Psychological Measures

The questionnaire method was selected as being a suitable tool for gathering structured information from a large number of people and on this basis qualitative interviews with personnel were discounted. Although interviews would provide a more in-depth subjective experience of TRiM, of psychological functioning and of attitudes towards individuals suffering from psychological distress, this method would have been impracticable for the proposed outcome measures required from the research. The data collected are quantitative therefore requiring statistical analysis. However the data collection procedures also provide opportunities for respondents to comment freely on some answers thereby combining features of qualitative data. This can provide a subjective component to the experiences which underlie some quantified responses.

The questionnaires were combined into a 12 page booklet for ease of completion (See Appendix D) and were compiled with the intention of being user friendly. Contained within the first two inside pages of the booklet are guidelines informing the participants of the rationale of the study and information relating to the voluntary nature of the research, which explicitly states that there is no obligation to take part, that participants have the right to withdraw at any stage of the research, and that the data collated will be anonymous. Consideration had been given to the fact that if providing names was obligatory then individuals could be reluctant to participate in the study. The sensitive nature of the data requested also dictated that anonymity was preferable. Due to this fact no signature was required for consent to take part in the study, a point which was agreed by MoDREC. Consent would be implied simply by the act of completing the questionnaire. However on the last page of the questionnaire participants were allowed to provide their service number if they wished. This was explicitly stated as being optional, and was only to be used for tracking of questionnaires. Contained within the guidelines is information relating to the ethics of the study, information detailing where to seek assistance if the study in any way

causes harm or distress, contact details of the Independent Medical Advisor, as required by the military, and details of the researcher.

The design of the research study was intended to provide clear measurement and logical design. Data is only as good as the reliability and validity of the measuring instruments. Reliability, the extent to which the measuring instrument provides the same results when used over time, and validity, the extent to which the instrument is measuring what it purports to measure, were borne in mind when selecting and devising the questionnaires. In devising the booklet an important consideration was how participants would respond to certain types of question, for example embarrassing, sensitive or controversial questions. Social desirability, providing responses considered socially acceptable, can influence responses and participants may have been reluctant to admit to suffering emotional distress. In this respect attempts were made not to force the respondent to answer in a particular way because of the wording of the questions therefore questions contained ‘don’t know’ answers to reduce the pressure on participants.

Measures have been evaluated using the following questionnaires.

5.6.1 General Descriptive Questionnaire

A General Descriptive Questionnaire was devised by the researcher to cover demographic information such as age (grouped into bands), gender, ethnic origin, educational level and rank in order to provide a background to the participant. Increasingly sensitive information is requested. Participants are asked family composition, whether they are in a relationship, whether they perceive they have social support from family, friends and unit members, whether they or a member of their family have ever suffered an emotional problem in the form of ‘depression, anxiety or anger’, behavioural problems in the form of ‘alcohol or drug abuse, or self-harm’, or PTSD. If respondents answer ‘yes’ to any one of these symptoms this is accepted as a positive response. This information was requested to provide a measure of whether the participant or his family had a history or psychological distress. Details of whether participants were experiencing current substantial worries in the form of ‘financial, health or family worries’ and number of active deployments were

requested. Analysis was conducted to establish whether any of the variables affected the dependent variables being measured in the research.

5.6.2 General Health Questionnaire (GHQ 12)

Participants are then requested to complete the General Health Questionnaire (GHQ 12) (Goldberg, 1978). The GHQ was originally developed by Goldberg (1972) in the form of a 60 item version. However the items considered to be 'better' were identified and used in subsequent versions, one of which is the 12 item self-rated questionnaire covering psychological distress. This was designed as a self-administered screening test for detecting the presence of psychiatric disorders in community settings (Banks, Clegg, Jackson, Kemp, Stafford, & Wall, 1980). Individuals are asked whether they have experienced specific symptoms within a timescale of 'the last few weeks' thereby indicating current distress. Responses are then rated on a four point scale ranging from 'not at all' 'no more than usual' 'rather more than usual' to 'much more than usual', or 'more so than usual' 'same as usual' 'less than usual' and 'much less than usual'. There are two ways of scoring the GHQ 12, scoring as on the likert scale as 0, 1, 2, 3, or scoring 0, 0, 1, 1, for each respective column. The latter method was selected to correspond with the version of scoring used by Kings Centre for Military Health Research. Caseness is indicated by a score of ≥ 4. A score of <4 indicates normal functioning. Reliability and validity of the GHQ 12 have previously been tested on civilian populations. However it has not been tested on military populations. The full scale 60 item version was found to exhibit high internal consistency and good test re-test reliability over a period of six months and all other versions, including the GHQ 12 correlated highly with each other (Banks et al., 1980). The validity of the GHQ has been exhibited by its linear associations with independent clinical assessments (r = .70 or greater) and 'sensitivity' and 'specificity' in discriminating between caseness and normal (Banks et al., 1980).

5.6.3 PTSD Symptom Checklist (PCL C)

The next questionnaire in the booklet is the PTSD Symptom Checklist - Civilian version, the PCL (C) developed by the National Centre for PTSD in the US (Weathers, Litz, Huska & Keane, 1994). This version was selected over the PCL (M), the Military version, in order to correspond with the version used by Kings Centre for Military Health Research. The PCL (C) is not a definitive measure of PTSD but an

indication of distress. The scale consists of 17 questions that correspond to DSM IV (APA, 1994) (see Appendix A) definition of PTSD. Criteria rate the frequency and severity of PTSD symptoms on a five point severity scale, from 'not at all' 'a little bit' 'moderate' 'quite a bit' to 'very much', scoring one to five respectively. Questions relate to 'stressful experiences in the past'. Five of the questions relate to re-experiencing the event (B items) seven questions relate to avoidance or numbing (C items) and five questions relate to increased arousal (D items). Individuals are asked to rate how often they have been bothered by each specific symptom in the past month. A total score of ≥ 44 is considered to be PTSD positive in the general population whilst a total score of ≥ 50 is considered to be PTSD positive in military populations. The researcher has used the scoring method recommended by the National Centre for PTSD, a dual method of scoring using the DSM IV scoring rules of an endorsement of at least one B item, at least three C items and at least two D items, along with the cut-off point of ≥ 50. In testing for reliability and validity initial psychometric data was obtained by using a military version of the PCL (C) in a sample of Vietnam veterans, in which the prevalence of PTSD was high (Weathers et al., 1994). Internal consistency coefficients were high for the total scale (.97) and for each sub-scale (.92-.93). Test re-test reliability over two to three days was .96, and this correlated highly with the Impact of Events Scale (.90) devised by Horowitz, Wilner and Alvarez (1979). The PCL (M) was predictive of PTSD caseness as assessed with the Structured Clinical Interview for DSM IIIR (Williams, First, Spitzer & Robert, 1992) a cut-off score of 50 had a sensitivity of .82 (Weathers, Litz, Herman, Huska & Keane, 1993).

5.6.4 Attitude to Mental Health Questionnaire

The next questionnaire in the booklet is the 'Attitude to Mental Health' questionnaire, addressing stigma towards psychological distress, a 13 item self-rated questionnaire assessing how individuals view mental health professionals, access to mental health, and how they perceive mental health issues in relation to perceived perceptions of peers and leaders and perceived effects of disclosure upon their identity and career, previously devised for research within the US Military by Hoge et al. (2004). Confirmation of approval by the author to use the questionnaire was received during the planning of the research. An additional qualitative question asks respondents if they feel assistance to mental health could be improved, and if so, how? Scoring is

assessed from ‘definitely agree’ ‘agree’ ‘don’t know’ ‘disagree’ to ‘definitely disagree’. In order to avoid a constant error of ‘response acquiescence’ (Coolican, 1999, p.163) the question items were altered to allow a mix of positive and negative statements. This was in anticipation of keeping the respondents attention. However responses have also been divided into four distinct groups of ‘views on mental health’, ‘perceived views of leaders’, ‘perceived views of peers’ and ‘perceived effects of disclosing mental health problems’ in order to narrow down response categories and for ease of analysis. These groups have been coded into responses of ‘positive views’ ‘don’t know’ and ‘negative views’, to accord with similar coding by Hoge et al. (1994). If responses within these groups include a positive or negative reply, then this is accepted as positive or negative respectively. If answers conflict then this is accepted as ‘don’t know’. Reliability and validity of this questionnaire have not previously been tested. However a Cronbach’s Alpha has been conducted within this research in order to establish reliability.

5.6.5 Combat Experiences Questionnaire

The last questionnaire in the booklet is the Combat Experiences Questionnaire, which consists of 20 self-rated items as devised by Kings Centre for Military Health Research (Hotopf et al., 2006) with a focus on background experiences within the military arena. A further seven questions were added by the researcher in order to gather additional information on perceived support within combat. Scoring is by using a ‘yes’ or ‘no’ method to establish whether respondents have been involved in the activities described or not. These responses have been further grouped into ‘committed aggressive act’ which relates to discharging a weapon in combat, ‘perceived danger to self’ which relates to experiencing direct and indirect fire, threats to life and hostilities from civilians, ‘UK forces experiences’ which relates to witnessing or assisting UK forces wounded or killed including handling dead bodies, ‘enemy forces experiences’ which relates to witnessing or assisting enemy forces wounded or killed including handling dead bodies, ‘felt work was outside my ability’ and ‘feeling supported during the tour of duty’ in order to narrow down the response categories. However a count of total experiences has also been conducted and used in analysis.

On the last page participants are requested for personal details of things to which only they may know the answers, in order to facilitate tracking of the forms and to establish whether the same participants completed the questionnaires on both occasions. Providing a service number is optional, as discussed earlier. Participants are then thanked for taking the time to complete the questionnaire.

The questionnaire was piloted on one male ex-army individual to establish whether the questions were relevant and easy to understand. This respondent completed the questionnaire in 10 minutes therefore the researcher included in the research guidelines that 20 minutes was probable for completion. This was to allow an additional 10 minutes for the research sample to complete the questionnaire without feeling pressured. The pilot questions were considered relevant and easy to understand. Difficulties encountered in accessing ex-forces personnel prevented any increase in numbers of the pilot sample.

5.7 Procedure

5.7.1 Preliminary Groundwork

In order to protect anonymity no military personnel have been identified within this research. Initial contact with the military was via a meeting with a military psychiatrist within Kings Centre for Military Health Research, London. Potential research avenues not previously addressed by military research were discussed at the initial meeting. Once the research parameters had been narrowed down consideration was given as to whether to conduct qualitative or quantitative research, and the identification of subsequent research questions and hypotheses. Further names of contacts were then provided which enabled access to relevant personnel to assist in furthering the study.

Power calculations were conducted prior to beginning the research. The numbers of n1 = 94 and n2 = 86 looked sufficiently large at the pre-deployment stage to have reasonable power (0.80) to find a medium effect size of 0.5 at a 5% significance level. Power calculations showed that the total sample size required for each group would be n = 66. In view of the fact that some of the participants may have chosen not to

complete the questionnaires it was anticipated that requesting participation from personnel in two complete Company's would obtain a more significant result.

A subsequent meeting was arranged at Land Command to discuss the requirements and practicalities of the research. Selection of groups was dictated by stages of TRiM incorporation and deployment at a time to correspond with the research. The researcher was unable to influence the random sampling of the participants other than to request that one group to have incorporated TRiM for a lengthy period and the other group to either not have incorporated TRiM or to be in the early stages of accepting TRiM, also that both groups be deployed for a period of six to seven months to an area in which they would encounter similar potentially traumatic experiences. The researcher requested that the groups consist of a similar background and be engaged in similar roles within theatre. However this request was not possible in addition to the other research requirements.

The groups that were best suited to the research demands were identified, Delta Company 40 Commandos and 3 Company Coldstream Guards, and it was agreed that the researcher would contact the respective Commanding Officers to gain permission to conduct the study. This would facilitate approval and allow co-operation for the study to filter down the ranks. Authority to proceed with the study was subsequently provided by the relevant person in overall charge of The Regiment of 52 Brigade. Dates for deployment of personnel, and distribution and collection of the questionnaires were arranged, however were subject to change due to operational requirements. TRiM training was scheduled to be conducted with the Coldstream Guards prior to the commencement of the research therefore the research would in no way influence the incorporation of TRiM or its timing as a result of the study.

In order to receive authority from the Ministry of Defence Research Ethics Committee to conduct the research, the form 'Application for MoDREC Approval' was completed (see Appendix E). This was a lengthy procedure resulting in amendments to the wording of one of the hypotheses and removal of one qualitative question regarding an individuals' subjective experience of the worst trauma on tour, prior to authorisation. Authorisation was provided by MoDREC on 23rd July 2007 (See Appendix E).

The researcher was provided with details of potential contacts within both the 40 Commandos and the Coldstream Guards. The researcher made contact with the nominated personnel to convey details of the proposed research, although the contacts were already aware of the research due to details having been cascaded to them from the relevant person in charge of The Regiment of 52 Brigade. The two contacts from 40 Commandos and the Coldstream Guards agreed to help facilitate the process of the study and be utilised as a contact. They were used throughout the research to facilitate meetings with personnel and to facilitate the timely operation of the research.

TRiM Training for the Researcher

In July 2007 the researcher attended a TRiM training course at the HQ of the Royal Marines, originally planned for two and a half days, however due to time constraints it was condensed to last two days. TRiM training personnel were selected from within the Royal Marines. Two trainers facilitated the course. Fifteen active duty males attended and one female civilian from the Welfare Department. Only four were volunteers, the remainder apparently reluctant attendees. A psycho-educational presentation was given on the description of traumatic stress and various reactions to potentially traumatic events. Attendees were taught the practicalities of risk assessments. Video clips of potentially traumatic incidents were shown depicting three individuals exposed to a traumatic event, two from military combat and the third a police officer involved in a shooting. Participants were asked to risk assess the individuals and allocate a percentage of risk. Afterwards there was a group discussion of the assigned risk scores. Later a role play was undertaken, of a witness to a suicide undergoing debriefing by a TRiM co-ordinator. Again participants were requested to assign risk scores for the witness and discuss their reasons for so doing. The researcher was unable to complete the full course due to other commitments. However the course continued along the same format with further role plays and education. This course was representative of other TRiM training courses.

5.7.2 Briefings for the Research

Prior to the researcher's attendance at the military establishments arrangements were made for the contacts to inform the potential participants of the research and of the opportunity to take part. In relation to the research questionnaires, whilst the

researcher was at the HQ of the Royal Marines available personnel from Delta Company 40 Commandos were assembled in a classroom on the instructions of the researcher's contact. The researcher introduced herself. The contact informed personnel that they would soon be given the opportunity to take part in current research into TRiM. They were then provided with a three to four minute briefing of the research from a hard copy of the précis of research (see Appendix G) which includes the rationale for the study, the importance of completing the questionnaires and information emphasising that participation was voluntary. The briefing was provided by the military in anticipation of a better participation rate. Past research experience has demonstrated that military personnel react more positively to their own hierarchy as opposed to non-military personnel. This procedure of military briefing would also allow a similar type of briefing to be provided to personnel after return from deployment should the researcher not be present. After reading the précis of the research, personnel were given the opportunity to ask questions prior to completing the questionnaire, to which they declined. A 100% response rate of those present, 63 participants, completed the questionnaires in the researcher's presence, providing a further opportunity to ask questions if necessary. The longest respondent took just under 20 minutes to complete the questionnaire. The completion of these questionnaires took place prior to the pre-deployment leave. Personnel were thanked personally for their participation in the research.

In July 2007, whilst the researcher was at the Headquarters of the Coldstream Guards a member of management (the researcher's contact) and the TRiM Practitioner from 3 Company were provided with the précis of the research (see Appendix G). The research was also verbally presented to them. They had previously informed personnel from 3 Company of the research and informed them that they would be given the opportunity to take part in research on TRiM. The researcher requested the contact to provide a similar briefing to personnel from 3 Company on the rationale of the study, the importance of completing the questionnaires and to emphasise that participation was voluntary. The completion of questionnaires was not possible at that time due to non-availability of personnel and in that respect the researcher was unable to be present to facilitate the process. Prior to the pre-deployment leave 58 questionnaires were completed within two weeks of the previously mentioned meeting and collected personally by the researcher.

Blank questionnaires had been left with both the 40 Commandos and the Coldstream Guards in order that a similar briefing and request could be conducted to the unavailable personnel upon their return from pre-deployment leave. Once the remaining personnel from each respective group returned from their leave allocation a similar briefing was provided by the same individuals who had provided the previous briefing. As the availability of personnel was not known until short notice, the researcher was unable to be informed of, and therefore attend these briefings. All participants were informed of the voluntary nature of the research and all present at the briefings accepted the opportunity to take part. During mid September 2007 the researcher received a further 31 completed questionnaires from 40 Commandos personnel. In the beginning of October 2007 a further 28 completed questionnaires were received by the researcher from the Coldstream Guards personnel.

During November 2007 arrangements were made for the distribution of the second phase of questionnaires to personnel whilst in theatre. The researcher posted two parcels (split due to upper weight restrictions sent to the British Forces Post Office address) to a Forward Operating Base in Afghanistan, the outpost in which the Coldstream Guards were operating. However, only one of the parcels arrived successfully. The same briefing was subsequently provided to personnel in 3 Company and during December 2007 and January 2008 all available questionnaires were completed on a first come first served basis. Once completed, the questionnaires were posted directly back to the home address of the researcher. The questionnaires destined for personnel in the 40 Commandos were posted to a nominated individual from 40 Commandos located in the UK and personally transported to Afghanistan. They were distributed to personnel after a similar briefing was presented. All personnel present completed the questionnaires around the timing of 3 months into theatre, December 2007 and January 2008. The questionnaires were subsequently posted to the Royal Marines HQ in the UK. However the parcel was unable to be located during the parameters of this current research and therefore the data was unable to be analysed.

The researcher again amended the parameters of the research and arranged for a third phase of questionnaires to be distributed. Personnel were expected to return to the UK

after a period of approximately 48 hours decompression in Cyprus. Questionnaires destined for the 40 Commandos were posted to the same nominated individual from 40 Commandos in the UK who had transported the parcel to Afghanistan. The parcel contained the booklets, a précis of the research (see Appendix G), additional information regarding the completion of the questionnaires and a note thanking troops for their participation. Whilst in decompression personnel were assembled together by the nominated individual and provided with a similar briefing as detailed on the précis of the research. All personnel present, 91, completed the questionnaires and returned them to the nominated individual. The questionnaires were personally transported back to the UK and on arrival posted to the researcher at her home address.

The researcher was unable to ascertain exact dates of the Coldstream Guards arriving in Cyprus therefore arrangements were made to attend the HQ of the Coldstream Guards in their first week of arriving in the UK, prior to their post-deployment leave. The researcher posted a parcel containing blank questionnaires, a précis of the research (see Appendix G), additional information on the completion of the questionnaires and a note thanking troops for their participation. This parcel was scheduled to arrive on their second day back in the UK. A similar briefing from the précis of the research was provided by the nominated individual to personnel of 3 Company. However, only 46 participants completed the questionnaires. Reasons for this attrition are detailed elsewhere. The completed questionnaires were posted to the researcher at her home address as personal collection could not be arranged due to 3 Company having left for their post-deployment leave.

5.7.3 Analytic Strategy

A quantitative methodology was selected as the most preferred method to gather mass data from personnel and to then evaluate psychological functioning and stigma towards psychological distress at two stages, four to six weeks pre-deployment and on, or during return to the UK from deployment to Afghanistan. Data was analysed using the SPSS for Windows version 15. The method used was intended to provide an overview of the groups as a whole and also an evaluation of differences within and between the groups. In each group there were participants who completed the questionnaires both before and after pre-deployment leave, prior to Afghanistan. Any potential difference in measures, although considered relevant as a result of increasing

anticipatory anxiety closer to deployment, was not taken into consideration at the planning stage of the research or in relation to the research hypotheses. However, the numbers completing the questionnaires at the different stages were similar from both groups therefore comparisons between the groups would not be affected. The key outcome measures used to determine power between TRiM and non TRiM personnel were pre and post-deployment changes in PTSD symptoms as measured by the PCL (C), pre and post-deployment changes in symptoms as measured on the GHQ 12 and pre and post-deployment changes in attitudes towards suffering psychological distress as measured on the 'attitude to mental health' questionnaire. The questionnaires were coded to facilitate input into SPSS ready for analysis. Due to the high number of potential variables certain questions were disregarded in the coding, for example gender (all participants are male) and ethnic origin, or specific answers were condensed into categories for ease of understanding. All relevant variables were given a corresponding number (see Appendix F for Coding). Once coded the 32 selected variables were input into the variable view page of SPSS and the data from the forms was input and ready for analysis.

Chapter 6 Significant Findings

6.1 Strategy of Analysis

Group 1 - Delta Company 40 Commandos
Group 2 - 3 Company Coldstream Guards

Delta Company will herewith be referred to as the 40 Commandos and 3 Company will be referred to as the Coldstream Guards.

Power calculations were conducted prior to beginning the research. The numbers of n1 = 94 and n2 = 86 looked sufficiently large at the pre-deployment stage to have reasonable power (0.80) to find a medium effect size of 0.5 at a 5% significance level. Power calculations showed that the total sample size required for each group would be n = 66. A post hoc test was conducted on the post-deployment sample size of n1 = 91 and n2 = 46. These numbers were sufficiently large, with an effect size of 0.5, and alpha = 0.05, to provide power at 0.78, which was considered satisfactory for the research.

Data was originally collected to facilitate matching of personnel so that pre-deployment responses could be matched with post-deployment responses. However, in practice it was rarely possible to match the questionnaires. Therefore it is not possible to look at changes in measures of psychological functioning and attitudes towards mental health in individuals. It is only possible to descriptively compare the means and percentages pre and post-deployment within the group therefore any significant tests or confidence intervals on the differences in individuals would be invalid since they require matching pre and post-deployment. However, where tracking of questionnaires has been possible, this has not provided any significant findings and the sub-sample of identifiable participants has been included in Appendix H.

For the purposes of this paper the researcher will concentrate mainly on data in relation to 11 variables; rank, education, marital status, current stressors, emotional

problems, emotional problems of the family, social support, GHQ 12, PCL (C), number of deployments and whether personnel felt supported during the tour of duty. The attitude to mental health questionnaire and the combat experiences questionnaire will also be analysed and included in the results. Parametric statistical tests are used where appropriate. However, where variances are unequal or distributions are not normal the non-parametric equivalent tests have been used. Importantly to note, comparison of pre and post-deployment data using both parametric and non-parametric tests has yielded similar results.

In an aid to understanding the results of the research the various sub-sections shall be described. Measures of analysis will be discussed initially in order to explain the rationale for using the specific statistical tests of analysis and the selection of specific variables over others for further analysis. This includes Cronbach's Alpha, Factor Analysis, and Stepwise Multiple Regression Analysis. Descriptive statistics will then be discussed in order that the reader becomes familiar with the data. Tables and figures will be used to assist in this understanding. As comparisons are being made within and between groups, the non-parametric Mann Whitney *U* test is used to compare pre and post-deployment GHQ 12 and PCL (C) scores since outcome variables are not normally distributed. Ordinal logistical regression analysis is also used for comparison between groups for the outcome variables of the GHQ 12 and PCL (C) whilst adjusting for possible confounders. Categorical data is compared using the Chi Square test.

Cluster analysis is conducted on data from personnel based on the specified variables in order to identify the participants who are most dissimilar from the rest of the group. This will help identify if there are any significant differences or outliers which may have affected the dependent variables. In order to demonstrate the relationship between variables both Pearson's *r* and Spearman's correlational analysis was conducted. However as results are similar for both, the Pearson's *r* will be used for both pre and post-deployment data, although it is accepted that causality can not be determined from this analysis. Correlational tables and flow charts will be used to assist the reader in understanding the associations.

Findings are outlined in relation to the dependent variables of the GHQ 12, PCL (C) and the attitude to mental health questionnaire. All three hypotheses will be investigated in turn by the use of the statistical analyses outlined.

6.2 Measures of Analysis and Selection of Statistical Tests

Attitude to Mental Health Questionnaire:

Cronbach's Alpha:

As the 'attitude to mental health' questionnaire had not previously been validated, in order to determine whether the questionnaire had good reliability the Cronbach's alpha test was conducted on data for both the 40 Commandos and Coldstream Guards pre and post-deployment. A Cronbach's Alpha was conducted on all 13 items of the questionnaire, independently for the 40 Commandos pre and post-deployment, and Coldstream Guards pre and post-deployment. The alpha reliability of the thirteen item scale was .85, .83, .85, and .70 respectively, indicating that the scale had good reliability. An alpha of 0.70 or above is considered satisfactory.

Factor Analysis:

In order to determine which of the variables affected the variables of the 'attitude to mental health' questionnaire and to identify clusters of variables a factor analysis was conducted on both the 40 Commandos and Coldstream Guards pre and post-deployment data.

A principal components analysis was conducted on the correlations of the 13 variables of the 'attitude to mental health' questionnaire for the 40 Commandos pre-deployment data. Three factors were initially extracted with eigenvalues equal to or greater than 1.00. Orthogonal rotation of the factors yielded the factor structure given in Appendix I. The first factor accounted for 31% of the variance, the second factor 16 % and the third factor 13%. The first factor appears to be *acceptance of own feelings*, the second factor *openness to psychological help*, and the third factor *dependency on views of others.*

A principal components analysis was conducted on the correlations of the 13 variables of the 'attitude to mental health' questionnaire for the 40 Commandos post-

deployment. Three factors were initially extracted with eigenvalues equal to or greater than 1.00. Orthogonal rotation of the factors yielded the factor structure given in Appendix I. The first factor accounted for 42% of the variance, the second factor 19% and the third factor 14%. The first factor appears to be *acceptance of own feelings*, the second factor *dependency on the views of others* and the third factor *openness to psychological help*.

A principal components analysis was conducted on the correlations of the 13 variables of the 'attitude to mental health' questionnaire for the Coldstream Guards pre-deployment. Three factors were initially extracted with eigenvalues equal to or greater than 1.00. Orthogonal rotation of the factors yielded the factor structure given in Appendix I. The first factor accounted for 31% of the variance, the second factor 23% and the third factor 14%. The first factor appears to be *acceptance of own feelings*, the second factor *dependency on the views of others* and the third factor *time available to attend to mental health issues*.

A principal components analysis was conducted on the correlations of the 13 variables of the 'attitude to mental health' questionnaire for the Coldstream Guards post-deployment. Two factors were initially extracted with eigenvalues equal to or greater than 1.00. Orthogonal rotation of the factors yielded the factor structure given in Appendix I. The first factor accounted for 52% of the variance and the second factor 16 %. The first factor appears to be *acceptance of own feelings* and the second factor *openness to psychological help*.

<u>Interpretation in Factor Analysis</u>:
With factor analysis, since the factors have to be interpreted, differences in interpretation may occur. However in all four instances of factor analysis the important components identified have been relatively similar. The most important variable for both groups pre and post-deployment is *acceptance of own feelings*, which relates to perceptions of being embarrassed at disclosure of mental health problems, being seen as weak, concern that ones career may be harmed by such disclosure and feeling that others would have less confidence in, or blame them for their problems. For further analysis the questions from the 'attitude to mental health' questionnaire were combined into four separate variables, *openness to psychological*

help, views of leaders, views of peers and *perceived effects of disclosure.* These groupings were based primarily on what seemed the most appropriate and sensible groupings of questions, and not specifically related to the factor analysis. This is appropriate in light of obtaining only relatively similar results from factor analyses on the different data sets at different time points, as illustrated here. Groupings were influenced by rank structure, hence separating perceived attitudes of leaders and perceived attitudes of peers as two discrete variables, and barriers to disclosing mental health problems, which has been identified as important by Hoge et al. (2004). These responses have been used in analysis discussed later.

GHQ 12 and PCL (C):

Stepwise Multiple Regression:

All 32 variables (see Appendix F for coding of the questionnaire) were initially input to establish their strength of association with the dependent variables of the GHQ 12 and PCL (C). This showed that the most significant variables were the remaining 11 variables of rank, education, marital status, current stressors, emotional problems, family emotional problems, social support, GHQ 12, PCL (C), number of deployments, and whether personnel felt supported during their tour of duty. Stepwise multiple regression was conducted on data for both the 40 Commandos and Coldstream Guards pre and post-deployment with these remaining variables, the results as indicated below. The statistical analysis of stepwise multiple regression has been included in Appendix J.

The stepwise multiple regression analysis indicates that for both the 40 Commandos and Coldstream Guards pre and post-deployment it is apparent that the GHQ 12 and PCL (C) are the main cause of variance for each other. Other causes of variance for the PCL (C) include emotional problems, family emotional problems, marital status and perceptions of social support. For the GHQ 12 other causes of variance are current stressors. These findings tend to support the literature (e.g. Brewin et al., 2000; McNally et al., 2003; Ozer et al., 20003) on pre-disposing factors for increasing the risk of vulnerability for suffering PTSD. The results obtained from the stepwise multiple regression tended to support the use of the selected variables for further analysis. The researcher also considered the additional variables, such as number of

deployments and rank, to be important within the military sphere and in potentially impacting upon the hypotheses.

6.3 Descriptive Statistics

Group 1 - Delta Company 40 Commandos
Group 2 - 3 Company Coldstream Guards

There were 180 all-male participants in the study at the pre-deployment phase, 94 in the 40 Commandos and 86 in the Coldstream Guards. The full complement of questionnaires was completed by participants in the 40 Commandos both pre and post-deployment. However three individuals lost their lives whilst in theatre therefore participants reduced to 91 post-deployment. The Coldstream Guards completed the full complement of questionnaires pre-deployment. However, only 46 (53.5%) completed the questionnaires post-deployment due to personnel being posted, not being available, or not being motivated to take part in the research. This will be taken into account when reporting the analysis. The data at pre and post-deployment will now be described and illustrated by tables and figures. Descriptive statistics such as the mean, median and mode have been computed to provide an exploration and description of the statistics in order to allow the reader to become familiar with how the data are distributed. Table 1 illustrates the demographic characteristics of the participants of both groups.

Table 1

Demographic characteristics of the 40 Commandos and Coldstream Guards obtained pre-deployment

	40 Commandos n (%)	**Coldstream Guards n (%)**
Age		
18 - 24 years	63 (67%)	51 (59.3%)
25 – 29 years	20 (21.3%)	24 (27.9%)
30 – 39 years	10 (10.6%)	11 (12.8%)
40 + years	1 (1.1%)	
Total Responses	94	86
Education		
No qualifications	13 (13.8%)	21 (24.4%)
O Levels	41 (43.6%)	44 (51.2%)
A Levels	25 (26.6%)	9 (10.5%)
Degree/Postgraduate	15 (16%)	10 (11.6%)
Total Responses	94	84
Rank		
Junior	73 (77.7%)	54 (62.8%)
Junior NCO	15 (16%)	14 (16.3%)
Senior NCO	3 (3.2%)	6 (7%)
Officer	2 (2.1%)	7 (8.1%)
Total Responses	93	81
Marital		
Partner	38 (40.4%)	45 (52.3%)
No Partner	56 (59.6%)	41 (47.7%)
Total Responses	94	86

As can be seen in Table 1 there were more 18-24 year olds in the 40 Commandos (67%) than in the Coldstream Guards (59.3%) and more 25-29 year olds in the Coldstream Guards (27.9%) than in the 40 Commandos (21.3%) indicating a younger cohort in the 40 Commandos as compared with the Coldstream Guards. Education at the combined 'A' level and degree/postgraduate level is higher in the 40 Commandos (42.6%) than in the Coldstream Guards (22.1%) and higher at the combined level of no qualifications and 'O' levels for the Coldstream Guards (75.6%) than in the 40 Commandos (57.4%) indicating higher education levels in the 40 Commandos as compared to the Coldstream Guards. There were more junior ranks in the 40 Commandos (77.7%) than in the Coldstream Guards (62.8%) and more officers in the

Coldstream Guards (8.1%) than in the 40 Commandos (2.1%). The 40 Commandos has a higher proportion of individuals with no partner (59.6%) than in the Coldstream Guards (47.7%) and correspondingly more individuals in the Coldstream Guards have a current partner (52.3%) than in the 40 Commandos (40.4%).

As can be seen from the deployment data in Table 2 a higher number of participants in the 40 Commandos (74.5%) have had no previous deployment experience than in the Coldstream Guards (38.4%). Correspondingly, this translated into a higher number of Coldstream Guards participants experiencing one or more deployments (61.6%) than in the 40 Commandos (25.5%). Only one participant in the 40 Commandos had nine or more previous deployments. Median number of deployments for the 40 Commandos was 0.00 and for the Coldstream Guards was 1.0. Results tend to suggest that more individuals in the Coldstream Guards have encountered combat experiences prior to this current tour than in the 40 Commandos.

Table 2

Deployments of personnel from the 40 Commandos and Coldstream Guards obtained pre deployment.

Deployments	**40 Commandos n(%)**	**Coldstream Guards n(%)**
0	70 (74.5%)	33 (38.4%)
1	5 (5.3%)	26 (30.2%)
2	8 (8.5%)	10 (11.6%)
3	0	7 (8.1%)
4	7 (7.4%)	5 (5.8%)
5	2 (2.1%)	1 (1.2%)
6	1 (1.1%)	3 (3.5%)
7	0	0
8	0	1 (1.2%)
9 or more	1 (1.1%)	0
Total	94	86
Mean	0.79	1.37
Median	0.0	1.0
Mode	0	0
IQR (25^{th} to 75^{th} centiles)	0.0 – 1.0	0.0 – 2.0

Data from the **combat experiences** questionnaire have been compressed into six areas of whether participants had:

a) committed an aggressive act,

b) perceived themselves to be in danger,

c) have experiences of witnessing or assisting wounded or dead UK forces,

d) have experiences of witnessing or assisting wounded or dead enemy forces,

e) whether participants felt work was outside their ability whilst in theatre, and

f) whether participants felt supported during their tour of duty.

These figures are illustrated in Table 3.

Table 3

Combat experiences data of the 40 Commandos and Coldstream Guards pre and post-deployment.

	40 Commandos n (%) Pre-Deployment	**40 Commandos n (%) Post-Deployment**	**Coldstream Gds n (%) Pre-Deployment**	**Coldstream Gds n (%) Post-Deployment**
Committed Aggressive Act				
No	12 (12.8%)	3 (3.3%)	38 (44.2%)	17 (37%)
Yes	13 (13.8%)	87 (95.6%)	13 (15.1%)	28 (60.9%)
No Previous Dep	69 (73.4%)	0	33 (38.4%)	0
Total	94	90	84	45
Perceived Self in Danger				
No	1 (1.1%)	0	7 (8.1%)	0
Yes	24 (25.6%)	90 (98.9%)	44 (51.2%)	46 (100%)
No Previous Dep	69 (73.4%)	0	33 (38.4%)	0
Total	94	90	84	46
UK Experience				
No	12 (12.8%)	14 (15.4%)	23 (26.7%)	13 (28.3%)
Yes	13 (13.8%)	76 (83.5%)	28 (32.6%)	33 (71.7%)
No Previous Dep	69 (73.4%)	0	33 (38.4%)	0
Total	94	90	84	46
Enemy Experience				
No	8 (8.5%)	25 (27.5%)	38 (44.2%)	23 (50%)
Yes	17 (18.1%)	65 (71.4%)	13 (15.1%)	23 (50%)
No Previous Dep	69 (73.4%)	0	33 (38.4%)	0
Total	94	90	84	46
Work outside my Ability				
No	24 (25.5%)	81 (89%)	46 (53.5%)	44 (95.7%)
Yes	1 (1.1%)	8 (8.8%)	4 (4.7%)	2 (4.3%)
No Previous Dep	69 (73.4%)	0	33 (38.4%)	0
Total	94	89	83	46
Felt Supported on Tour of Duty				
No	4 (4.3%)	3 (3.3%)	7 (8.1%)	4 (8.7%)
Yes	20 (21.3%)	85 (93.4%)	41 (47.7%)	42 (91.3%)
No Previous Dep	70 (74.5%)	0	33 (38.4%)	0
Total	94	88	81	46

As can be seen from Table 3 pre-deployment data illustrates that positive responses for committing an aggressive act were similar for both groups, the 40 Commandos at 13.8% and the Coldstream Guards slightly higher at 15.1%. However post-deployment data shows 95.6% of the 40 Commandos had committed an aggressive act compared with 60.9% of the Coldstream Guards. The Coldstream Guards showed a higher positive response rate (51.2%) pre-deployment for perceiving themselves in danger than the 40 Commandos (25.6%). However, post-deployment positive responses are similar; the 40 Commandos at 98.9% (although one participant declined to respond) and the Coldstream Guards at 100%. In looking at UK experiences the Coldstream Guards indicated higher positive responses at 32.6% pre-deployment compared with 13.8% for the 40 Commandos. However post-deployment responses show that the 40 Commandos have a higher positive response rate (83.5%) than the Coldstream Guards (71.7%). In looking at enemy experiences pre-deployment data illustrate that responses for the 40 Commandos are slightly higher at 18.1% than the Coldstream Guards at 15.1%. However, post-deployment data for the 40 Commandos show a much higher response rate at 71.4% than the Coldstream Guards at 50%. These responses tend to suggest that in general at pre-deployment a higher number of personnel in the Coldstream Guards had encountered more combat experiences. However the roles are reversed post-deployment as a higher number in the 40 Commandos indicate more combat experiences.

In looking at whether participants felt that work was outside their ability scores are low. Post-deployment responses show a higher number of the 40 Commandos (8.8%) feeling that work was outside their ability compared to the Coldstream Guards (4.3%). Positive responses for whether participants felt supported during their tour of duty are similar from both groups post-deployment, with the 40 Commandos slightly higher at 93.4% and the Coldstream Guards at 91.3%. Findings indicate that the majority felt that they were supported during their tour of duty and a minority from both groups felt that work was outside of their ability.

As illustrated by the pie chart below (Figure 1) pre-deployment data for whether participants perceived they had social support from ‘family, friends and unit members’ were similar, for the 40 Commandos, 92.6% and for the Coldstream Guards, 91.9%, although a higher proportion in the Coldstream Guards (7%) felt that they did not have social support than in the 40 Commandos (2.1%). Post-deployment data for the 40 Commandos was similar, 95.6% responded positively for perceiving they had social support, although the ‘don’t know’ responses increased slightly to 4.4% and for the Coldstream Guards, 97.8% responded positively with 2.2% responding negatively. This high proportion of positive responses suggests that perceptions of social support for most individuals were supportive both pre and post tour.

In looking solely at whether participants felt they had the support of their unit (Table 4) pre-deployment data shows that the Coldstream Guards were more positive, in that 93% felt they had the support of their unit and only 85.1% of the 40 Commandos felt they had that support. Post-deployment data for perceiving unit support shows positive responses from both groups reducing, with the 40 Commandos reducing to 74.7% and the Coldstream Guards reducing, but remaining higher, at 87%. Correspondingly data for both groups shows that negative responses to experiencing the support of their unit increased post-deployment, for the 40 Commandos, 4.3% increasing to 13.2% and for the Coldstream Guards, 1.2% increasing to 10.9%. This indicates that perceptions of support for most remains positive post-deployment, but for an increasing minority the social support of their unit is missing.

Table 4

Perceptions of social support from unit members within the 40 Commandos and Coldstream Guards pre and post deployment.

Response	40 Commandos n (%) Pre-Deployment	40 Commandos n (%) Post-Deployment	Coldstream Gds n (%) Pre-Deployment	Coldstream Gds n (%) Post-Deployment
No	4 (4.3%)	12 (13.2%)	1 (1.2%)	5 (10.9%)
Don't Know	10 (10.6%)	10 (12.1%)	4 (5.8%)	1 (2.2%)
Yes	80 (85.1%)	68 (74.7%)	80 (93%)	40 (87%)

For ease of comparison Table 5 shows the percentages of personal and family psychological problems in relation to emotional problems, whether they feel they have suffered from PTSD, and current stressors. Data in relation to PTSD will be discussed in detail when examining the hypotheses.

Table 5

Self-report perceptions of personal and family psychological problems for the 40 Commandos and Coldstream Guards pre and post-deployment.

Psychological Problems	40 Commandos (%) Pre-Deployment	40 Commandos (%) Post-Deployment	Coldstream Guards (%) Pre-Deployment	Coldstream Guards (%) Post-Deployment
Emotional	33%	27.5%	44.2%	17.4%
Family Emotional	46.8%	36.3%	31.4%	23.9%
PTSD	1.1%	0.0%	3.5%	4.3%
Family PTSD	4.3%	4.3%	7%	2.2%
Current Stressors	24.5%	14.3%	34.9%	8.7%

Scores for participants suffering from depression, anxiety or anger have been grouped together under the heading of ‘emotional problems’. By asking the question ‘do you feel you have ever suffered from depression, anxiety or anger’, as illustrated by the pie charts (Figure 2) pre-deployment data shows that there were more individuals in the Coldstream Guards who felt that they had suffered from emotional problems (44.2%) than in the 40 Commandos (33%). However 9.6% of the 40 Commandos and 4.7% of the Coldstream Guards did not know whether they had suffered from emotional problems and this may suggest the possibility that they may have suffered emotional problems. Post-deployment the Coldstream Guards reduced to 17.4% feeling that they had suffered emotional problems and the 40 Commandos slightly reduced to 27.5%. The same questions were asked for family members. Pre-deployment a higher percentage in the 40 Commandos felt that their family had suffered emotional problems (46.8%) than in the Coldstream Guards (31.4%)

although 11.6% of the Coldstream Guards and 3.2% of the 40 Commandos did not know whether their family had suffered emotional problems. Post-deployment scores reduced as 36.3% of the 40 Commandos and 23.9% of the Coldstream Guards felt their family had suffered emotional problems.

As can be seen from the pie charts (Figure 3) at pre-deployment, a higher percentage of the Coldstream Guards (34.9%) indicated that they were suffering from current stressors such as substantial financial, health, or family worries than the 40 Commandos (24.5%). However post-deployment figures show a reduction in current stressors for both groups, although in this instance the 40 Commandos indicated higher at 14.3% than indicated by the Coldstream Guards, at 8.7%. These findings tend to suggest elevated levels of perception of current stressors pre-deployment as compared to reduced levels post-deployment.

6.4 Testing of Hypothesis 1:

Units which have incorporated TRiM will have a lower prevalence of psychological distress than non TRiM Units

For ease of comparison Table 6 shows responses from both the 40 Commandos and Coldstream Guards pre-deployment indicating caseness on the GHQ 12 and PCL (C), positive responses as to whether they feel they have suffered from PTSD, have unit support and felt supported during their tour of duty.

Table 6

Pre-deployment data from the 40 Commandos and Coldstream Guards in relation to caseness on the GHQ 12, PCL (C), self-report data on suffering from PTSD, and perceptions of social support.

	40 Commandos n (%)	Coldstream Guards n (%)
GHQ 12 ≥ 4	7 (7.5%)	18 (21.1%)
PCL (C) ≥ 50	1 (1.1%)	6 (7.1%)
PTSD	1 (1.1%)	3 (3.5%)
Unit Support	80 (85.1%)	80 (93%)
Supported during Tour of Duty	20 (21.3%)	41 (47.7%)

Note: *74.5% of 40 Commandos and 38.4% of Coldstream Guards had no previous deployments.*

Caseness is indicated for the GHQ 12 from a score of ≥ 4 as recommended by Goldberg (1978). Pre-deployment data for the GHQ 12 shows a higher number of individuals in the Coldstream Guards indicating caseness, 18 (21.1%) than in the 40 Commandos, 7 (7.5%). Median scores for the GHQ 12 for the 40 Commandos pre-deployment were 0 and for the Coldstream Guards were 1. Pre-deployment data shows that 61.7% of the 40 Commandos and 45.9% of the Coldstream Guards scored zero on the GHQ 12, indicating minimal, or no distress at all.

Caseness is indicated for the PCL (C) from a score of ≥ 50 and of satisfying the criteria of the DSM IV scoring rules as recommended by Weathers et al. (1994). Pre-deployment data for the PCL (C) indicates more individuals in the Coldstream Guards

suffering distress, 6 (7.1%) than in the 40 Commandos, 1 (1.1%). Out of the individuals who indicated caseness on the PCL (C) only one, from the Coldstream Guards, believed they had suffered from PTSD (see below). Median scores for the PCL (C) for the 40 Commandos pre-deployment were 19 and for the Coldstream Guards were 23. Pre-deployment data showed that 36.2% of the 40 Commandos and 16.5% of the Coldstream Guards scored the baseline score on the PCL (C) indicating no distress at all.

By asking the question 'do you feel you have ever suffered from PTSD' pre-deployment scores for participants from the 40 Commandos show that 1(1.1%) felt that they had suffered from PTSD, although this was not the same individual who had scored ≥ 50 on the PCL (C). However 2 (2.1%) did not know whether they had suffered from PTSD. In the Coldstream Guards 3 (3.5%) felt they had suffered PTSD. However 10 (11.6%) did not know. Pre-deployment scores for the Coldstream Guards show a higher percentage felt that a family member had suffered from PTSD (7%) than the 40 Commandos (4.3%).

Comparison of the Pre-Deployment Data for the GHQ 12 and PCL (C):

The non-parametric Mann Whitney *U* test was conducted on the outcome measures of the GHQ 12 and PCL (C) to compare differences between the groups and, in addition, ordinal logistical regression analysis (described later). This led to similar results from both tests and both have been included here.

The Mann Whitney *U* test found that the **GHQ 12** scores of the Coldstream Guards were significantly higher than those in the 40 Commandos ($U = 3116.00$, $N_1 = 94$, $N_2 = 85$, two-tailed $p = 0.005$) when taking the group as a whole.

In relation to data only from participants who had previously been on deployment the Mann Whitney *U* test found that the GHQ 12 scores of the Coldstream Guards were higher than those in the 40 Commandos ($U = 531.50$, $N_1 = 24$, $N_2 = 51$, two-tailed $p = 0.32$) although as can be seen, not significantly so.

In relation to data for participants who had never been on deployment the Mann Whitney *U* test found that the GHQ 12 scores of the Coldstream Guards were

significantly higher than those in the 40 Commandos (U = 744.50, N_1 = 70, N_2 = 33, two-tailed p = 0.003).

The data indicates that the Coldstream Guards are experiencing higher levels of distress than the 40 Commandos and this appears to be more marked when they have not previously been on deployment. Previous deployment experience does not show significant differences in the GHQ 12 between the two groups. This may indicate a de-sensitisation of threat cues.

The Mann Whitney *U* test found that the **PCL (C)** scores of the Coldstream Guards were significantly higher than those in the 40 Commandos (U = 2613.00, N_1 = 94, N_2 = 85, two-tailed $p < 0.001$) when taking the group as a whole.

In relation to data only from participants who had previously been on deployment the Mann Whitney *U* test found that the PCL (C) scores of the Coldstream Guards were significantly higher than those in the 40 Commandos (U = 338.00, N_1 = 24, N_2 = 51, two-tailed p = 0.002).

In relation to data for participants who had never been on deployment the Mann Whitney *U* test found that the PCL (C) scores of the Coldstream Guards were significantly higher than those in the 40 Commandos (U = 844.00, N_1 = 70, N_2 = 34, two-tailed p = 0.02).

The data indicates that the Coldstream Guards are experiencing higher levels of self-reported PTSD symptomatology as indicated on the PCL (C) and this is not affected by whether they have previously been on deployment or not. Any further increases in deployments shows no significant differences on the PCL (C) between the groups. This may indicate a de-sensitisation of threat cues.

<u>Comparison of Pre-Deployment Data for the Independent Variables:</u>

The Mann Whitney *U* test found that the number of **deployments** in the Coldstream Guards were significantly higher than those in the 40 Commandos (U = 2779.00, N_1 = 94, N_2 = 86, two-tailed $p < 0.001$). However as previously mentioned 74.5% of the

40 Commandos had never previously been on deployment as opposed to 38.4% of the Coldstream Guards therefore this significant difference is entirely expected.

Comparison of pre-deployment data was conducted on the independent variables by using Chi Square analysis, showing the following significant results.

There was a significant difference in the observed and expected frequency of the levels of **education** in the 40 Commandos and the Coldstream Guards (χ^2 = 19.97, *df* = 3, $p < 0.001$) indicating that the 40 Commandos have a significantly higher level of education in relation to academic qualifications for 'A' levels and degree level than that of the Coldstream Guards.

There was a significant difference in the observed and expected frequency of the levels of **aggressive acts** committed in the 40 Commandos and the Coldstream Guards (χ^2 = 25.75, *df* = 2, $p < 0.001$). The Coldstream Guards prior to this current deployment have engaged in more acts perceived as aggressive, namely discharging their weapon in combat than the 40 Commandos.

There was a significant difference in the observed and expected frequency of the levels of **perceiving oneself to be in danger** in the 40 Commandos and the Coldstream Guards (χ^2 = 22.60, *df* = 2, $p < 0.001$). A higher number of participants in the Coldstream Guards, prior to this current deployment, have experienced themselves in danger than in the 40 Commandos.

There was a significant difference in the observed and expected frequency of the levels of **UK forces experiences** in the 40 Commandos and the Coldstream Guards (χ^2 = 21.16, *df* = 2, $p < 0.001$). A higher number of participants in the Coldstream Guards, prior to this current deployment, perceive themselves to have witnessed UK forces wounded or killed, handled UK forces bodies or aided UK forces wounded than in the 40 Commandos.

There was a significant difference in the observed and expected frequency of the levels of **enemy forces experiences** in the 40 Commandos and the Coldstream Guards (χ^2 = 32.35, *df* = 2, $p < 0.001$). A higher number of participants in the 40 Commandos, prior to this current deployment, perceive themselves to have witnessed

enemy forces wounded or killed, handled enemy forces bodies or aided enemy forces wounded than in the Coldstream Guards.

There was a significant difference in the observed and expected frequency of participants feeling that **work was outside their ability** in the 40 Commandos and the Coldstream Guards (χ^2 = 20.82, *df* = 2, $p < 0.001$). A higher number of individuals in the Coldstream Guards felt that the work they were engaged in exceeded their ability than in the 40 Commandos.

There was a significant difference in the observed and expected frequency of the participants feeling **supported during the tour of duty** in the 40 Commandos and the Coldstream Guards (χ^2 = 20.49, *df* = 2, $p < 0.001$). A higher number of individuals in the Coldstream Guards felt supported during their tour of duty than in the 40 Commandos.

However these findings in relation to combat experiences are entirely expected due to the higher percentage of personnel in the 40 Commandos having not previously been on deployment.

The values of the GHQ 12 and PCL (C) were compared between groups at the pre-deployment phase (see Table 7 below). Medians and inter-quartile ranges were found in groups as a whole, and in those who had, and who had not, previously been on deployment. Odds ratios were derived from ordinal logistic regression, which gives the odds of having a higher GHQ 12 or PCL (C) score in the Coldstream Guards compared to the 40 Commandos. There was not enough data to conduct the analysis by using only the values of caseness. Therefore analysis is based on calculating the odds ratios using each possible cut-off value in turn, and averaging results across all possible cut-off values. Ordinal logistic regression was used to adjust for potential confounders (age, rank, education, marital status, current stressors, emotional problems, family emotional problems, social support, and whether or not previously deployed).

Table 7

Pre-deployment comparison of the GHQ 12 and PCL (C) scores for the 40 Commandos and Coldstream Guards.

	40 Commandos Median (25^{th} – 75^{th})	Coldstream Guards Median (25^{th} – 75^{th})	p-value unadjusted	Unadjusted Odds Ratios (95%CI)	p-value adjusted	Adjusted Odds Ratio (95% CI)
GHQ 12	0 (0 – 1)	1 (0 – 3)	0.005	2.23 (1.27 – 3.93)	0.008	2.71 (1.30 – 5.67)
GHQ 12 with previous deployment	0 (0 – 1)	0 (0 – 2.5)	0.35	1.54 (0.61 – 3.86)	0.53	1.48 (0.44 – 5.02)
GHQ 12 no previous deployment	0 (0 – 1)	1 (0 – 4)	0.001	3.58 (1.62 – 3.86)	0.004	4.00 (1.54 – 10.35)
PCL(C)	19 (17 – 23)	23 (18 – 30)	< 0.001	3.01 (1.77 – 5.14)	<0.001	3.72 (1.89 – 7.30)
PCL(C) with previous deployment	18 (17 – 20)	23.5 (18 – 31.5)	0.001	4.28 (1.75 – 10.46)	0.002	6.04 (1.92 – 19.0)
PCL(C) no previous deployment	19 (17 – 24)	23 (18 – 30)	0.021	2.46 (1.16 – 5.20)	0.037	2.49 (1.05 – 5.90)

Note: *Odds ratios are derived from ordinal logistic regression. Adjusted odds ratios are adjusted for age, rank, education, marital status, current stressors, emotional problems, family emotional problems, social support, and whether or not previously deployed. Medians are not provided for adjusted analyses as it is not possible to calculate for adjusted means.*

GHQ 12 values are more often higher in the Coldstream Guards than in the 40 Commandos, which suggests that implementation of TRiM within the 40 Commandos may be reducing levels of stress. However, there are many other differences between personnel in the two groups. Far more participants had previously been deployed in the Coldstream Guards. There is a much bigger difference between the two groups in the participants who had not previously been deployed (odds ratio 3.58) than in those who had (odds ratio 1.54). However, the interaction between group and previous deployment does not reach statistical significance ($p = 0.13$) so there is a lack of

certainty over whether or not deployment really does affect results here. These results are not greatly affected by adjustment for potential confounders.

PCL (C) values are also more often higher in the Coldstream Guards than in the 40 Commandos. The difference is greatest in participants who have previously been deployed, who are more likely to be suffering from such symptoms. However a difference is also shown between groups in participants who had never previously been deployed. The interaction between group and previous deployment does not reach statistical significance ($p = 0.12$). Adjustment for confounders does not have a great affect on these results, if anything increasing the observed odds ratios. Table 7 above compares adjusted and unadjusted results.

Summary of Findings for Hypothesis 1:

Units which have incorporated TRiM will have a lower prevalence of psychological distress than non TRiM Units

In summary, pre-deployment data has shown that at the outset there are differences between the 40 Commandos and Coldstream Guards. The Coldstream Guards have encountered a significantly higher number of deployments than the 40 Commandos, and have engaged in a significantly higher number of combat experiences such as discharging their weapon in aggression, UK forces experiences and perceiving themselves in danger. A significantly higher number of the Coldstream Guards have felt that work in theatre was outside their ability although felt supported during their tour of duty. Education levels were significantly higher in the 40 Commandos than the Coldstream Guards. The 40 Commandos showed a lower age cohort and lower ranks than the Coldstream Guards, although not significantly so.

A significantly higher number of the Coldstream Guards experienced distress as measured on the GHQ 12 compared with the 40 Commandos. There remains a significant difference, where participants have not previously been deployed when adjusting for possible confounding variables. A significantly higher number of the Coldstream Guards suffered distress as measured by the PCL (C) compared with the 40 Commandos. This remains so when adjusting for possible confounding variables when previously deployed and when not previously deployed. Higher indications of distress may indicate anticipatory anxiety in relation to a fear of the unknown where

personnel have not previously served on tour or may also relate to knowledge of experiences and danger faced by personnel previously on tour and what has been portrayed in the media of potential death and injury as a result.

The 40 Commandos, the TRiM group, showed lower levels of psychological distress than the Coldstream Guards, the non TRiM group, and this may indicate permission to experience or share their emotions, possibly influenced by the normalisation of stress reactions and a more open environment in which to discuss and share concerns, as reflected in the TRiM system. However, as shown, it is not possible to make any assertions as there are confounding variables to be taken into consideration.

6.5 Testing of Hypothesis 2:

Units which have incorporated TRiM will be more resistant to the development of combat related stress than non TRiM Units.

For ease of comparison pre-deployment data for the GHQ 12, PCL (C) and self report data for suffering from PTSD will be repeated here, together with the post-deployment data.

Caseness is indicated for the GHQ 12 from a score of ≥ 4 as recommended by Goldberg (1978). As illustrated by the histograms below (Figure 4) pre-deployment data for the GHQ 12 shows a higher number of individuals in the Coldstream Guards indicating caseness, 18 (21.1%) than in the 40 Commandos, 7 (7.5%). Median scores for the GHQ 12 for the 40 Commandos pre-deployment were 0 and for the Coldstream Guards were 1. Post-deployment data shows the Coldstream Guards as having a higher number of individuals indicating caseness, 5 (10.9%) than in the 40 Commandos, 3 (3.3%) although there is a reduction in caseness for both groups. Median scores for the GHQ 12 for the 40 Commandos post-deployment remained at 0 and for the Coldstream Guards remained at 1. Post-deployment data shows that 79.1% of the 40 Commandos and 65.2% of the Coldstream Guards scored zero on the GHQ 12, indicating minimal or no distress at all.

Caseness is indicated for the PCL (C) from a score of ≥ 50 and of satisfying the criteria of the DSM IV scoring rules as recommended by Weathers et al. (1994). Pre-deployment data for the PCL (C) (Figure 5) indicates more individuals in the Coldstream Guards suffering distress, 6 (7.1%) than in the 40 Commandos, 1 (1.1%). Out of these individuals only one believed they had suffered from PTSD as indicated by asking the questions 'do you feel you have ever suffered from PTSD'. Median scores for the PCL (C) for the 40 Commandos pre-deployment were 19 and for the Coldstream Guards were 23. Post-deployment data shows a reduction for the Coldstream Guards to 1 (2.2%) while in the 40 Commandos the figure remained the same at 1 (1.1%) although it appears that this was not the same individual. Median scores for the PCL (C) for the 40 Commandos post-deployment had reduced to 17.5 and for the Coldstream Guards had reduced to 17. Post-deployment data showed that 50% of the 40 Commandos and 53.3% of the Coldstream Guards scored the baseline score on the PCL (C) indicating no distress at all. These findings together suggest elevated levels of distress as measured by these two instruments pre-deployment as compared with reduced levels post-deployment.

By asking the question ‘do you feel you have ever suffered from PTSD’ the 40 Commandos pre-deployment scores showed that 1(1.1%) felt that they had suffered from PTSD, and as mentioned this was not the same individual who had scored ≥ 50 on the PCL (C), although 2 (2.1%) did not know. In the Coldstream Guards 3 (3.5%) felt they had suffered PTSD. However 10 (11.6%) did not know. Post-deployment scores for the Coldstream Guards showed a reduction to 2 (4.3%) feeling they had suffered PTSD, where only one of these individuals had scored ≥ 50 on the PCL (C) whereas in the 40 Commandos no-one felt they had suffered PTSD. This is in contrast to the scores on the PCL (C) where one individual in the 40 Commandos scored ≥ 50. Pre-deployment scores for the Coldstream Guards show a higher percentage felt that a family member had suffered from PTSD (7%) than the 40 Commandos (4.3%). Post-deployment the 40 Commandos showed the same as pre-deployment for family members suffering PTSD and the Coldstream Guards reduced to 2.2%. These findings again suggest elevated levels of perception of psychological problems pre-deployment as compared with the reduced levels post-deployment. These findings also suggest that individuals can be suffering symptoms of PTSD and not be aware of what these symptoms suggest, tending to indicate that increased psycho-education could be beneficial.

Comparison of Post-Deployment Data for the GHQ 12 and PCL (C):

The Mann-Whitney *U* test was conducted to make comparisons between the groups. This found that the scores for the **GHQ 12** for the Coldstream Guards were significantly higher than those in the 40 Commandos ($U = 1764$, $N1 = 91$, $N2 – 46$, two-tailed $p = 0.005$) indicating a higher level of distress in the Coldstream Guards than in the 40 Commandos, which corresponds with the findings in the pre-deployment data. There were no significant differences between the groups in scores for the PCL (C).

Comparison of the Post-Deployment Data for the Independent Variables:

Comparison of post-deployment data was conducted on the independent variables by using Chi Square analysis.

There was a significant difference in the observed and expected frequency of the levels of **aggressive acts** committed in the 40 Commandos and the Coldstream Guards (χ^2 = 28.20, *df* = 1, *p* < 0.001). The 40 Commandos, within this current deployment have engaged in more acts perceived as aggressive, namely discharging their weapon in combat.

There was a significant difference in the observed and expected frequency of the levels of **enemy forces experiences** in the 40 Commandos and the Coldstream Guards (χ^2 = 6.58, *df* = 1, *p* = 0.01). A higher number of participants in the 40 Commandos within this current deployment perceive themselves to have witnessed enemy forces wounded or killed, handled enemy forces bodies or aided enemy forces wounded than in the Coldstream Guards.

The values of the GHQ 12 and PCL (C) were compared between groups at the pre and post-deployment stage and results are illustrated in Table 8.

Table 8

Post-deployment comparison of GHQ 12 and PCL (C) scores for the 40 Commandos and Coldstream Guards.

	40 Commandos median (25^{th} – 75^{th}) [90^{th}, 95^{th}]	Coldstream Guards median (25^{th} – 75^{th}) [90^{th}, 95^{th}]	p-value unadjusted	Unadjusted Odds Ratio (95% CI)	p-value adjusted	Adjusted Odds Ratio (95% CI)
GHQ 12 pre deployment	0 (0 – 1)	0 (0 – 3)	0.005	2.23 (1.27 – 3.93)	0.008	2.71 (1.30 – 5.67)
GHQ 12 post deployment	0 (0 – 0) [1, 3]	0 (0 – 0) [4, 5]	0.05	2.18 (1.00 – 4.76)	0.06	2.40 (0.97 – 5.92)
PCL (C) pre deployment	19 (17 – 23)	23 (18 – 30)	< 0.001	3.01 (1.77 – 5.14)	< 0.001	3.72 (1.89 – 7.30)
PCL (C) post deployment	17.5 (17 – 21) [27, 33]	17 (17 – 23) [29, 45]	0.81	1.09 (0.55 – 2.15)	0.27	1.55 (0.71 – 3.40)

Note: *Odds ratios are derived from ordinal logistic regression. Adjusted odds ratios are adjusted for age, rank, education, marital status, current stressors, emotional problems and family emotional problems, social support, and whether or not previously deployed. Medians are not provided for adjusted analyses as it is not possible to calculate for adjusted means.*

Numbers of personnel completing questionnaires at post-deployment are smaller than at baseline, suggesting that it is harder to make conclusions. Unadjusted scores of the GHQ 12 show significant differences between the groups, although not in the scores of the PCL (C). There is no evidence of differences in results looking at previous deployment status for the GHQ 12 (p = 0.51 for interaction between the group and deployment status) and only a small suggestion of a difference in the PCL (C) (p = 0.16 for interaction between the group and deployment status). All results are non-significant: OR = 1.70 (0.54 – 5.36), p = 0.38 for the PCL (C) in those with previous deployments, and OR = 0.92 (0.39 – 2.16) p = 0.85 for the PCL (C) in those with no previous deployment. For the GHQ 12: OR = 3.20 (0.76 – 13.2), p = 0.10 in those

with previous deployment and OR = 1.88 (0.72 – 4.91), $p = 0.20$ in those without previous deployments.

Cluster Analysis:

A cluster analysis was conducted on the participants using the variables **'***age, education, rank, marital status, current stressors, social support, emotional problems, emotional problems of the family, deployment, GHQ 12, PCL (C) and feeling supported during the tour of duty***'**. Most individuals were placed into one large cluster. The individuals illustrated as being the most dissimilar from the rest of the group in a cluster of their own were those showing a high score for the GHQ 12 and the PCL (C). No other differences of significance were noted. This indicates that the majority of participants had correspondingly lower scores in the GHQ 12 and PCL (C), tending to support previous research (e.g. Greenberg et al., 2003) that high psychological distress in serving soldiers is not always the norm. In order to distinguish as to whether there were any further differences in the higher scoring participants on the measures of GHQ 12 and PCL (C) sub samples were obtained for participants indicating caseness on each measure. Data from both pre and post-deployment were used as it was problematic to track the respondents at both stages of the study.

Sub-Sample of Participants scoring ≥ 50 on the PCL (C) and of satisfying the criteria of the DSM IV scoring rules as recommended by Weathers et al., (1994):

A sub-sample was created from participants who scored ≥ 50 on the PCL (C) and satisfying the criteria of scoring at least one B item, three C items and two D items from the DSM IV, of which there were seven participants pre-deployment (six from the Coldstream Guards and one from the 40 Commandos) and two post-deployment (one from each group). Of these nine individuals, 78% indicated caseness on the GHQ 12 and the remaining participants scored 1 and 2 which suggests some distress albeit less than the advocated cut-off scores. An important point to note is that all have responded positively to either having experienced emotional problems or their family having experienced emotional problems. Positive responses to experiencing social support were 89%. Positive responses to experiencing current stressors were 67%. However the remaining participants did not know, suggesting that if they are unsure

then they may not actually be free from experiencing current stressors. Junior ranks comprised 56%, junior non commissioned officers 22% and senior non commissioned officers 11%. There were 55.6% in the 18-24 years age banding and 33.3% in the 25-29 years banding. Deployments ranged from zero to four; 66.6% had previously been deployed and 33.3% had not. Of those with previous deployments 50% felt supported during their tour of duty and 50% did not. Education ranged from no qualifications to degree/postgraduate qualifications; 33% had no qualifications, 56% were educated to O' level/CSE standard and 11% to degree level. Positive responses to having a partner were 55.6% and 44.4% indicated no partner.

Sub-Sample of Participants scoring ≥ 4 on the GHQ 12:

A sub-sample was created from participants who scored ≥ 4 on the GHQ 12, indicating caseness, of which there were seven from the 40 Commandos and 18 from the Coldstream Guards pre-deployment, and three from the 40 Commandos and five from the Coldstream Guards post-deployment, a total of 33. There were 21% scoring ≥ 50 and that satisfied the DSM IV scoring rules on the PCL (C). Pre-deployment 88% indicated that they or their family had suffered emotional problems, and 94% post-deployment. Positive responses to experiencing social support were 91%. Education levels ranged from no qualifications to degree/post graduate qualifications. Junior ranks comprised 67%. There were 69.7% in the age banding 18-24 years and 21% in the 25-29 years banding. Positive responses to having a partner were 45%. There were 33% responded positively to experiencing current stressors. Deployments ranged from zero to six and of those having previous deployments, 50% felt they had not been supported during their tour of duty, 50% responded positively to being supported pre-deployment, and all responded positively post-deployment.

<u>Findings from the Sub-Samples:</u>

Both of these sub-samples indicate that a common thread between individuals showing distress as measured by caseness on the GHQ 12 and PCL (C) is a history of emotional problems or family emotional problems, and as mentioned this supports the findings of previous research (e.g. Brewin et al., 2000; McNally et al., 2003; Ozer et al., 2003). Also indicated is the abundance of junior ranks, suggesting that these ranks are most at risk of psychological distress, tending to support the findings of such

research by Greenberg et al. (2003). The majority are in the younger age group, again tending to support previous research by Jones et al. (2006). The majority tend to be educated to a lower level, supporting the research of Brewin et al. (2000) and Iversen et al. (2008).

Correlations for Pre and Post-Deployment Data for the GHQ 12 and PCL (C):

For ease of comparison both pre and post-deployment correlations will be discussed in this section. Both Spearman's and Pearson's *r* correlations were conducted and provided similar results. Pearson's correlations have been used in the analysis described below and was conducted on the 11 variables selected from the pre and post-deployment data. As can be seen from the correlation matrix (Table 9) measuring the *GHQ 12, PCL (C), education, rank, marital status, social support, emotional problems, family emotional problems, current stress, deployment and feeling supported during tour of duty*, data indicates that there are significant relationships between variables. Only the most significant will be reported and all significant correlations illustrated by way of a flow chart (Figure 6).

There is a significant positive relationship pre-deployment between
(a) the ***GHQ 12*** and the ***PCL (C)*** for the 40 Commandos ($r = 0.54$, $df = 92$, two-tailed $p < 0.001$) and for the Coldstream Guards ($r = 0.65$, $df = 83$, two-tailed $p < 0.001$).
There is also a significant positive relationship post-deployment between
(b) the ***GHQ 12*** and the ***PCL (C)*** for the 40 Commandos ($r = 0.58$, $df = 88$, two-tailed $p < 0.001$) and for the Coldstream Guards ($r = 0.70$, $df = 43$, two-tailed $p < 0.001$).
This indicates that the higher the score on the GHQ 12 the higher the score on the PCL (C). As mentioned previously, although the scales may be similar, the GHQ 12 refers to current anxieties and the PCL (C) relates to anxieties in relation to stressful experiences in the past.

There is a significant positive relationship between
(c) ***PCL (C)*** and ***emotional problems*** for both the 40 Commandos pre-deployment ($r = 0.21$, $df = 91$, $p < 0.05$) and the Coldstream Guards pre-deployment ($r = 0.50$, $df = 83$, $p < 0.01$).
There is also a significant positive relationship between
(d) ***GHQ 12*** and ***emotional problems*** for the Coldstream Guards pre-deployment ($r = .32$, $df = 83$, $p < 0.01$).
This indicates that the higher the score on the GHQ 12 and PCL (C) the more chance of emotional problems pre-deployment which tends to support previous research (e.g. Brewin et al., 2000; McNally et al., 2003; Ozer et al., 2000) but the absence of significant correlations post-deployment tends to corroborate the reduction in distress in support of the findings from Hacker Hughes et al. (2005). This may relate to measures being obtained so close to the end of the deployment therefore suggesting relief at being back from tour.

There is a significant positive relationship between
(e) ***GHQ 12*** and ***current stressors*** for the 40 Commandos pre-deployment ($r = .26$, $df = 91$, $p < 0.05$) and
(f) ***PCL (C)*** and ***current stressors*** for the Coldstream Guards pre-deployment ($r = .30$, $df = 83$, $p < 0.01$). These findings suggest that the higher the score as measured by the GHQ 12 and PCL (C) the more current stressors one feels under, or as causation can

not be determined through correlations the more current stressors one is experiencing the higher the levels of distress on the GHQ 12 and PCL (C).

(g) There is a significant negative relationship pre-deployment for the Coldstream Guards between ***GHQ 12*** and ***social support*** (r = -.26, df = 83, p < 0.05) and between ***PCL (C)*** and ***social support*** (r = -.29, df = 83, p < 0.01) indicating that as social support increases measures of distress decrease, tending to support previous research (e.g. Cohen & Willis, 1985; McNally et al., 2003) suggesting that social support provides a buffer to psychological distress at times of increased anxiety.

Significant Correlations Pre and Post-Deployment for the Independent Variables:

There is a significant negative relationship between

(h) ***current stressors*** and ***social support*** for the 40 Commandos post-deployment (r = -0.35, df = 89, p < 0.01) indicating the higher the level of current stressors the less they feel supported. This may suggest that as the level of current stressors decrease once the tour has ended perceptions of general social support increase.

There is a significant positive relationship between

(i) ***current stressors*** and ***emotional problems*** for the 40 Commandos post-deployment (r = 0.32, df = 89, two-tailed p < 0.01) and for the Coldstream Guards pre-deployment (r = 0.42, df = 84, two-tailed p < 0.01) indicating that the presence of emotional problems influences the perception of current stressors. The absence of any significant relationship post-deployment for the Coldstream Guards may be influenced by the reduction in reporting of distress.

There is a significant positive relationship between

(j) ***deployment*** and ***feeling supported during the tour of duty*** for the 40 Commandos pre-deployment (r = 0.79, df = 92, p < 0.01) and the Coldstream Guards pre-deployment (r = 0.60, df = 79, p< 0.01). However post-deployment there is a significant negative relationship for the 40 Commandos (r = -0.31, df = 86, p< 0.01) and a minimal negative relationship, although not significant, for the Coldstream Guards (r = -0.03, df = 44, p> 0.05) indicating that positive perceptions of unit support have changed after being on deployment. Any recent experiences of not being supported on tour will be prominent in their minds. A high number of individuals

were on their initial deployment and a minority experienced a decrease in social support from unit members.

Partial correlations have been conducted on the relationship between the ***GHQ 12*** and the ***PCL (C)*** for both groups pre and post-deployment, controlling for all other variables as mentioned. However there are no variables that make a significant variation on the zero-order correlation, indicating the strength of the relationship between the GHQ 12 and PCL (C).

Correlations of Combat Experiences:

Pearson's *r* correlation was conducted on ***GHQ 12, PCL (C)***, and the data from the the ***combat experiences*** questionnaire independently for both groups in order to determine any strength and direction of a relationship between variables. As can be seen from the correlation matrix (Table 10) there is a significant positive relationship between *committing aggressive acts, UK forces experience, enemy forces experience,* feeling that *work was outside their ability,* and *feeling supported during the tour of duty* pre-deployment for both groups. Post-deployment data show that there are significant correlations between *UK experiences* and *enemy experiences* for both groups, and between *committing aggressive acts*, *UK experience* and *enemy experience* for the Coldstream Guards.

There are no significant correlations between any ***combat experiences*** and the ***GHQ 12*** or ***PCL (C)***, indicating that combat experiences on this occasion have not affected these particular measures of distress to any significant degree. That said, however, there are negative correlations, although not significant, between the GHQ 12, PCL (C) and combat experiences. This non-significant finding may indicate relief at being back from tour and in this respect the timing of completion of the questionnaires may have not indicated the true measure. Measures taken whilst in theatre and also measures obtained three months after return from tour may show a different result and these will be subject of further research not included in this paper.

Pearson's *r* correlation was conducted on the ***GHQ 12, PCL (C), whether personnel felt psychologically prepared*** and ***whether personnel felt physically prepared for their tour of duty*** for post-deployment data.

There is a significant negative relationship between ***GHQ 12*** and ***physically prepared*** for the 40 Commandos ($r = -0.35$, $df = 88$, $p = 0.001$). There is also a significant negative relationship between ***PCL (C)*** and ***psychologically prepared*** for the 40 Commandos ($r = -0.25$, $df = 87$, $p < 0.05$) indicating that the less they felt prepared mentally and physically for deployment the higher the distress levels experienced. For the Coldstream Guards there is a significant positive relationship between ***physically prepared*** and ***psychologically prepared*** ($r = 0.56$, $df = 44$, $p < 0.001$) indicating that the more physically prepared they felt the more they felt psychologically prepared.

Summary of Hypothesis 2:

Units which have incorporated TRiM will be more resistant to the development of combat related stress than non-TRiM Units

In summary, post-deployment data shows a reduction in scores from both groups on the GHQ 12 and the PCL (C). However, although 40 Commandos showed one individual who indicated caseness on the PCL (C) at both pre and post-deployment, this appears not to be the same individual and the raw scores had reduced. There was also a reduction from both groups post-deployment in the number of individuals who perceived they had suffered from PTSD. There were significant differences between the groups post-deployment; the Coldstream Guards showed significantly higher scores than the 40 Commandos on the GHQ 12, consistent with pre-deployment comparison. There were no significant differences between the groups on the PCL (C) consistent with the reduction in reported distress from the Coldstream Guards. However, cluster analysis revealed that individuals suffering distress as measured on the GHQ 12 and PCL (C) were the exception rather than the rule. Individuals who indicated positive on both measures showed a common thread of experiencing emotional or family emotional problems, and they were more often of junior rank, younger and with lower educational levels.

Correlational analysis revealed a significant association for both groups between the PCL (C) and GHQ 12 pre and post-deployment. Both groups showed significant associations pre-deployment between the PCL (C) and emotional problems although this was not apparent post-deployment. The Coldstream Guards showed significant associations pre-deployment between the GHQ 12 and emotional problems and the PCL (C) and current stressors, although again these were not apparent post-deployment. The 40 Commandos showed a significant association between the GHQ 12 and current stressors pre-deployment, although this was not apparent post-deployment. There was a significant negative relationship for the Coldstream Guards pre-deployment between social support and both the GHQ 12 and the PCL (C) although again this was not apparent post-deployment. The absence of significant relationships post-deployment may be influenced by the perceived reduction in distress and emotional problems and the obtaining of measures so close to returning to the UK. There was a significant positive relationship for both groups pre-deployment between deployments and feeling support during their tour of duty. However this showed as a negative correlation for both groups post-deployment, indicating a reduction in perceptions of social support from within the unit, which may have been influenced by implicit or explicit experiences within the current tour.

The reduction in post-deployment distress from both the 40 Commandos and Coldstream Guards tends to suggest that both groups may have been resistant to the development of combat related stress and this may have been influenced by the effects of TRiM. However, as will be discussed later, there are many other factors to be taken into consideration before making any assertions.

6.6 Testing of Hypothesis 3:

TRiM will create a better understanding of the effects of trauma, generating more sympathetic attitudes to seeking psychological assistance, thereby reducing the stigma attached to psychological illness.

The **attitude to mental health** questionnaire exploring stigma towards mental health consists of 13 questions relating to openness to psychological help, perceived views of leaders, perceived views of peers and perceived effects of disclosure. Table 11 illustrates the most predominant responses from the groups, omitting the 'don't know' responses. As a guide, 'pos' represents positive, and '*neg*' in *italics* represents negative. Responses have been compressed to include 'very positive and positive' as one response and 'very negative and negative' as one response.

Table 11

Attitude to mental health data of the 40 Commandos and Coldstream Guards pre and post deployment.

	40 Commandos n (%) Pre-Deployment	40 Commandos n (%) Post-Deployment	Coldstream Gds n (%) Pre-Deployment	Coldstream Gds n (%) Post-Deployment	*P* Values Pre-Deployment	*P* Values Post-Deployment
1.I trust mental health professionals	pos 54 (57.4%) *neg 4 (4.3%)*	pos 60 (65.9%) *neg 8 (8.8%)*	pos 52 (60.4%) *neg 5 (5.9%)*	pos 36 (78.3%) *neg 1 (2.2%)*	0.35	0.49
2.I know location of where to seek help	pos 66 (70.2%) *neg 2 (2.1%)*	pos 78 (85.7%) *neg 2 (2.2%)*	pos 57 (66.3%) *neg 11 (12.8%)*	pos 38 (82.6%) *neg 1 (2.2%)*	0.001	0.61
3. I have time to seek help	pos 38 (40.4%) *neg 22 (23.4%)*	pos 52 (57.2%) *neg 17 (18.7%)*	pos 28 (32.5%) *neg 28 (32.5%)*	pos 14 (30.4%) *neg 18 (39.2%)*	0.41	0.03
4.Leader allows time to seek help	pos 56 (59.6%) *neg 8 (8.5%*)	pos 52 (57.2%) *neg 13 (14.3%)*	pos 32 (37.2%) *neg 30 (34.9%)*	pos 19 (41.3%) *neg 15 (32.6%)*	<0.001	0.10
5.Too embarrassed to seek help	pos 48 (60%) *neg 18 (19.2%)*	pos 48 (52.8%) *neg 19 (20.9%)*	pos 43 (50%) *neg 26 (30.3%)*	pos 15 (32.6%) *neg 16 (34.8%)*	0.11	0.12
6.Seeking help would harm career	pos 44 (46.8%) *neg 20 (21.3%)*	pos 36 (39.6%) *neg 21 (23.1%)*	pos 35 (40.7%) *neg 27 (31.4%)*	pos 19 (41.1%) *neg 15 (32.6%)*	0.35	0.32
7.Others would lose confidence in me	pos 33 (35.1%) *neg 24 (25.6%)*	pos 30 (33%) *neg 31 (34.1%)*	pos 33 (38.4%) *neg 29 (33.8%)*	pos 15 (32.6%) *neg 18 (39.1%)*	0.31	0.93
8.Peers sympathetic to problems	pos 22 (23.4%) *neg 20 (21.3%)*	pos 27 (29.7%) *neg 18 (19.8%)*	pos 22 (25.6%) *neg 29 (33.7%)*	pos 15 (32.6%) *neg 11 (23.9%)*	0.01	0.43
9.Leaders would treat me differently	pos 33 (35.1%) *neg 22 (23.4%)*	pos 27 (29.7%) *neg 29 (31.9%)*	pos 30 (34.8%) *neg 27 (31.4%)*	pos 14 (30.4%) *neg 17 (36.9%)*	0.16	0.08
10.Leaders would blame me	pos 51 (54.2%) *neg 7 (7.4%)*	pos 49 (53.9%) *neg 11 (12.1%)*	pos 44 (51.1%) *neg 10 (11.6%)*	pos 18 (39.1%) *neg 14 (30.4%)*	0.23	0.09
11.Leaders would be sympathetic	pos 31 (33%) *neg 15 (16%)*	pos 31 (34.4%) *neg 14 (15.4%)*	pos 26 (30.2%) *neg 21 (24.4%)*	pos 18 (39.1%) *neg 10 (21.7%)*	0.07	0.29
12.I would be seen as weak	pos 31 (34.1%) *neg 27 (28.8%)*	pos 36 (39.6%) *neg 29 (31.9%)*	pos 38 (44.1%) *neg 29 (33.7%)*	pos 19 (41.3%) *neg 16 (34.7%)*	0.03	0.99
13.Treatment Works	pos 35 (37.2%) *neg 3 (3.2%)*	pos 39 (42.9%) *neg 8 (8.8%)*	pos 36 (41.9%) *neg 4 (4.7%)*	pos 22 (47.8%) *neg 2 (4.3%)*	0.20	0.58
Total % Pos Replies Mean % Pos Replies	586.5% 45.1%	621.6% 47.8%	553.2% 42.6%	569.2% 43.8%		
Total % Neg Replies *Mean % Neg Replies*	*204.5%* *15.7%*	*242.0%* *18.6%*	*321.1%* *24.7%*	*334.6%* *25.7%*		

Note: P values are obtained from Chi Square analysis. Positive responses sometimes relate to agree or disagree according to the wording of the question and the response that relates to the positive psychological outlook.

As can be seen from Table 11 pre-deployment data for the 40 Commandos shows a higher number of positive than negative responses for all questions. However post-deployment data shows for question 7, whether others would have less confidence in them and question 9, whether they would be treated differently; responses were more negative than positive. Post-deployment data also indicates a change in views for question 6, whether participants careers would be harmed by disclosure, changing from positive to 'don't know', and for question 12, whether participants would be seen as weak, changing from 'don't know' to positive, although the 'don't know' responses are not illustrated in the above table.

The pre-deployment data for the Coldstream Guards show a higher number of more positive than negative responses in most questions. However responses to question 8, whether peers are sympathetic to psychological problems was more negative than positive, and question 3, whether participants have time to seek an appointment shows the same percentages for negative and positive. Post-deployment data for the Coldstream Guards indicates that most questions elicit a higher number of more positive than negative responses. However responses to question 3, whether they feel they have time to seek an appointment, question 5, feeling embarrassed about disclosure, question 7, whether others would have less confidence in them, and question 9, whether they would be treated differently, all elicited more negative than positive responses.

Comparison of responses from both groups does not indicate any predominant pattern. Responses overall from the Coldstream Guards are more negative than the 40 Commandos. Out of 13 questions pre-deployment, responses indicate all 13 negative responses of the Coldstream Guards were higher than the 40 Commandos. The 40 Commandos were more positive than the Coldstream Guards on eight questions, and the Coldstream Guards more positive than the 40 Commandos on five questions. Post-deployment responses illustrate that the Coldstream Guards were more negative than the 40 Commandos on ten questions and the 40 Commandos were more negative than the Coldstream Guards on two questions. The 40 Commandos were more positive than the Coldstream Guards on six questions and the Coldstream Guards were more positive than the 40 Commandos on seven questions.

These findings tend to suggest that in general a higher number of individuals in the 40 Commandos have more positive attitudes towards mental health than those in the Coldstream Guards and correspondingly a higher number of individuals in the Coldstream Guards have more negative attitudes towards mental health in comparison with those in the 40 Commandos. However, that said, there are concerns from both groups and post-deployment data from both groups shows both positive and negative responses increasing. This tends to suggest that the participants who were unsure of their views at the pre-deployment stage have consolidated their perceptions towards mental health issues whilst on this current tour.

In order to establish whether there were any significant differences in the group responses for the 'attitude to mental health' questionnaire, chi square tests were conducted on pre and post-deployment data.

Pre-deployment data:
There was a significant difference between the observed and expected frequency of perceptions of **'knowing where to locate mental health assistance' (** χ^2 = 19.06, *df* = 4, *p* = 0.001). Participants of the 40 Commandos were more positive in relation to knowing the location of mental health assistance than those in the Coldstream Guards.

There was a significant difference between the observed and expected frequency of perceptions of whether **'leaders would allow time to attend a mental health appointment' (** χ^2 = 24.63, *df* = 4, *p* < 0.001). Participants of the 40 Commandos were more positive than the Coldstream Guards in relation to whether their leaders would allow them time off to attend to their mental health appointment.

There was a significant difference between the observed and expected frequency of perceptions of '**sympathy from peers**' **(** χ^2 = 13.02, *df* = 4, *p* = 0.01). Participants of the 40 Commandos were more positive than the Coldstream Guards in relation to perceiving sympathy from their peers when suffering a mental health problem.

There was a significant difference between the observed and expected frequency of perceptions of whether participants would be perceived as '**weak**' **(** χ^2 = 10.78, *df* = 4, *p* = 0.03). Participants of the Coldstream Guards showed a more positive attitude than the 40 Commandos in whether they would be perceived as weak by others.

Post-deployment data:
There was a significant difference between the observed and expected frequency of whether participants feel they have '**time to attend a mental health appointment**' **(** χ^2 = 10.56, *df* = 4, *p* = 0.03). Participants of the 40 Commandos were more positive than the Coldstream Guards as to whether they would have time to attend mental health appointments. There were no further significant differences between the groups within the post-deployment data.

In order to explore any relationship between the variables Pearson's *r* was conducted on the **attitudes to mental health** questionnaire for the full 13 questions. Only the most significant correlations will be reported. As can be seen by the correlation matrix (Table 12) correlations are similar for both groups pre and post-deployment. There are significant correlations between most variables.

Pre-deployment data for the 40 Commandos shows that there is a significant positive relationship between ***being blamed for problems by the leader*** and ***being treated differently*** ($r = 0.65$, $df = 91$, two-tailed $p < 0.01$) and ***being seen as weak*** and ***being treated differently*** ($r = 0.64$, $df = 91$, two-tailed $p < 0.01$). Post-deployment data for the 40 Commandos shows that there is a significant positive relationship between ***being treated differently*** and ***others having less confidence in them*** ($r = 0.82$, $df = 89$, two-tailed $p < 0.01$) and ***harming their career by disclosure*** and ***others having less confidence in them*** ($r = 0.81$, $df = 89$, two-tailed $p < 0.01$).

Pre-deployment data for the Coldstream Guards shows that there is a significant positive relationship between ***harming their career by disclosure*** and ***others having less confidence in them*** ($r = 0.83$, $df = 82$, two-tailed $p < 0.01$) and ***being treated differently*** and ***others having less confidence in them*** ($r = 0.82$, $df = 81$, two-tailed $p < 0.01$). Post-deployment data for the Coldstream Guards shows that there is a significant positive relationship between ***being seen as weak*** and ***being blamed for their problems by their leader*** ($r = 0.89$, $df = 44$, two-tailed $p < 0.01$) and ***others having less confidence in them*** and ***harming their career by disclosure*** ($r = 0.84$, $df = 44$, two-tailed $p < 0.01$).

As can be seen above, both groups are concerned with the perceptions of leaders and peers and in disclosure harming their image and career. Findings tend to support previous research by Hoge et al. (2004) on there being barriers to seeking mental health assistance.

Pearson's *r* was conducted on the **GHQ 12, PCL (C)** and the **compressed attitude to mental health questionnaire** (Table 13) in order to explore any relationship between the variables (*openness to psychological help, views of leaders, views of peers and effects of disclosure*). The most significant correlations for both groups pre and post-deployment are between ***views of leaders*** and ***disclosure,*** and between ***views of peers*** and ***disclosure*** and are illustrated by way of a flow chart (Figure 7). This tends to support the above associations that participants are concerned as to their identity and standing within the unit, which can indeed be affected by admitting to suffering from a psychological problem. Participants appear to place significant importance upon receiving support, mainly from their leaders and secondly their peers in relation to being able to be open about suffering mental health problems.

There are significant negative associations for both groups pre-deployment between the ***GHQ 12*** and ***views on mental health*** and the ***views of leaders***. There are significant negative correlations for the Coldstream Guards pre-deployment between the ***PCL (C***) and ***views on mental health, views of peers, views of leaders*** and ***disclosure***. Post-deployment the Coldstream Guards show significant negative correlations between the ***PCL (C)*** and ***views on mental health***. These findings suggest that as distress as measured on the GHQ 12 and PCL (C) increases perceptions towards mental health becomes more negative.

Summary of Hypothesis 3:

TRiM will create a better understanding of the effects of trauma, generating more sympathetic attitudes to seeking psychological assistance, thereby reducing the stigma attached to psychological illness.

In summary pre and post-deployment data for both groups is more positive than negative. The Coldstream Guards were more negative overall than the 40 Commandos at both pre and post-deployment. However positive responses increased post-deployment for both groups, as did the negative responses, indicating a reduction in the number of individuals who were uncertain in their responses. There were significant differences between the groups pre-deployment between the responses to the questions of knowing the location of where to seek assistance, the leader allowing time off for an appointment, perceiving sympathy from peers and being perceived as weak, the 40 Commandos being significantly more positive than the Coldstream Guards on all questions apart from being perceived as weak. This more negative attitude from the 40 Commandos in relation to being perceived as weak may reflect the strong masculine image of the Commandos and be influenced by the cohesive nature of the group, whereby to disclose psychological suffering would encourage potential rejection. Post-deployment data showed that the significant differences had reduced only being apparent on the question relating to having time to attend a mental health appointment, the 40 Commandos being more positive than the Coldstream Guards.

There were significant associations for both groups pre and post-deployment between the variables under the umbrella of ‘acceptance of own feelings’ which incorporates being seen as weak, being treated differently, others having less confidence in them, being blamed for their problems, and also in disclosure harming their careers. There are significant correlations between disclosure and both the views of leaders and views of peers, suggesting concern over the perceptions of others within the close work environment. Most individuals appear concerned with the perceptions of others and in disclosing a mental health problem this could harm their standing within the group, their identity as a soldier and their career. However this may also indicate that their self-esteem and sense of identity is fragile and dependent upon reassurance from

others. In times of stress personnel may focus on the views of their leaders and this could suggest the need for a father figure.

There are significant negative associations between the GHQ 12 and mental health issues pre-deployment for both groups and for the Coldstream Guards significant negative correlations between the PCL (C) and mental health issues. Post-deployment most of the significant associations disappear, leaving one association between the PCL (C) and views on mental health for the Coldstream Guards. This suggests the higher the distress the more negative attitude individuals may have.

As there is no pattern evident in the responses from the groups one can not make definite assertions as to whether TRiM has generated sympathy towards those seeking psychological assistance or whether TRiM has had an effect on reducing stigma towards those suffering psychological distress.

6.7 Summary of the Analysis

Findings have shown that there are significant differences between the two groups at baseline, pre-deployment. The Coldstream Guards have been deployed more often than the 40 Commandos and in general have a higher number of combat experiences. The 40 Commandos have significantly higher education levels. They are of a younger cohort and comprise more junior ranks, although not significantly so. Both groups perceived a high level of social support, from friends and family, and from within their unit, although perceptions of unit support declined post-deployment for both groups. Perception of current stressors was elevated at the pre-deployment stage compared with post-deployment, as were perceptions of having suffered from emotional problems, whether a member of their family had suffered emotional problems and of having suffered from PTSD, suggesting inflated reporting at times of heightened stress.

Findings have illustrated elevated measures of psychological distress as measured by the GHQ 12 and the PCL (C) at the pre-deployment stage in comparison with reduced measures at post-deployment in both the 40 Commandos and Coldstream Guards. The Coldstream Guards showed a higher number of individuals than the 40 Commandos indicating caseness (a score of ≥ 4) on the GHQ 12 pre and post-deployment. The Coldstream Guards also indicated a higher number of individuals than the 40 Commandos indicating caseness (a score of ≥ 50 and satisfying the scoring criteria for the DSM IV) on the PCL (C) pre-deployment. At post-deployment both groups showed one individual indicating caseness on the PCL (C) although the individual in the Coldstream Guards scored higher in raw scores that the individual in the 40 Commandos. As mentioned above, this tends to suggest inflated reporting of distress at times of experiencing higher stress levels.

Correlational analysis showed that as scores on the GHQ 12 increase then scores on the PCL (C) tends to increase for both groups pre and post-deployment. Individuals who indicated caseness on these measures all had previous history of suffering from emotional problems or having a family member who experienced emotional problems. Also prevalent were junior ranks, lower age groups and lower education levels. However cluster analysis showed that suffering from distress as indicated by

these measures, was not the norm. Most individuals were not suffering from distress. There was a positive association pre-deployment for both groups between number of deployments and feeling supported during the tour of duty. However post-deployment this changed to a negative association for both groups, suggesting that adverse experiences on this current tour may have influenced their perceptions of support.

In general the Coldstream Guards indicated a higher number of negative attitudes on the 'attitude to mental health' questionnaire in comparison to the 40 Commandos pre and post-deployment. However both positive responses and negative responses increased post-deployment for both groups, indicating that individuals tended to be increasingly sure of their views after the tour. There were significant differences at the pre-deployment stage between perceptions of knowing the location of mental health assistance, whether leaders would allow time off to attend a mental health appointment, perceiving sympathy from peers and whether individuals would be viewed as weak, with the Coldstream Guards being more negative than the 40 Commandos on all but the question in relation to being perceived as weak. This negative tendency from the 40 Commandos in respect of being seen as weak may reflect the strong masculine attitudes within the group. However, post-deployment the only significant difference was in relation to having time to attend a mental health appointment, again the Coldstream Guards being more negative.

As levels of distress increase on the GHQ 12 at the pre-deployment stage, negative perceptions in relation to views of leaders and attitudes towards mental health tends to increase for both the 40 Commandos and Coldstream Guards. As levels of distress increase on the PCL (C) at the pre-deployment phase, the Coldstream Guards tend to show increased negative perceptions on all criteria of mental health. Post-deployment PCL (C) increases tend to associate with negative views on mental health for the Coldstream Guards. This suggests that as distress on those measures increase attitudes towards mental health become more negative.

These findings shall now be discussed in more depth and linked back to previous research and the theory.

Chapter 7 Discussion

7.1 Re-Stating the Aims

This current study has focussed upon evaluating the effects of TRiM (the independent variable) at two points in time, four to six weeks prior to a six month tour in Afghanistan, and post-deployment either upon return to the UK or whilst in decompression prior to return to the UK. The study was between two groups of military personnel at different stages of TRiM incorporation, one group, Delta Company 40 Commandos, who have incorporated a rolling system of TRiM for approximately ten years, and the other group, 3 Company Coldstream Guards who are in the initial stages where TRiM may not have entered the culture of the group to any degree. Results have been interpreted by reference to the levels of psychological distress as measured by the dependent variables of the GHQ 12, the PCL (C) and attitudes towards mental health.

It was hypothesised that a) units which have incorporated TRiM will have a lower prevalence of psychological distress than non TRiM units, b) units which have incorporated TRiM will be more resistant to the development of combat related stress than non TRiM units, and c) TRiM will create a better understanding of the effects of trauma, generating more sympathetic attitudes to seeking psychological assistance, thereby reducing the stigma attached to psychological illness.

To briefly re-cap on the findings, in respect of hypothesis 1, a significantly higher number of the Coldstream Guards, the non-TRiM group, experienced increased distress as measured on the GHQ 12 and PCL (C) as compared with the 40 Commandos, the TRiM group, suggesting that TRiM may influence the level of psychological distress. In respect of hypothesis 2, this trend continued whereby a significantly higher number the Coldstream Guards experienced distress as measured on the GHQ 12 as compared with the 40 Commandos. Scores on the PCL (C) were relatively similar between the two groups. At the post-deployment stage levels of distress were reduced as compared to the pre-deployment stage, suggesting that both groups may have been resistant to the development of combat related stress. In respect of hypothesis 3, the 40 Commandos were less negative in relation to mental health as

compared with the Coldstream Guards. This tends to suggest a more accepting and understanding attitude from the TRiM group.

However biases may exist. Confounders have been adjusted for and do not seem to greatly influence the results. However this does not rule out the possibility that differences between the groups that have not been accounted for, could influence the differences found, rather than TRiM itself. Variables not measured, not adjusted for, or even variables that have been adjusted for if not measured accurately (reporting of distress appears to be influenced at baseline, prior to deployment when more stressed than when returning home) may have influenced the findings. The findings will be discussed in detail below.

7.2 Experience of TRiM – Interview Data

Interviews were conducted with specific personnel from 3 Company Coldstream Guards three months after return to the UK, and with personnel from the 40 Commandos, the Royal Marines approximately four months after return to the UK. The following is a précis of the comments.

TRiM use during Deployment

Whilst in theatre the Royal Marines employed a TRiM practitioner in every location and in addition a TRiM Manager would fly to specific locations wherever a traumatic event had occurred. The Royal Marines were perceived to be the only unit with TRiM fully operational. Many individuals within Delta Company had never experienced TRiM in operation until this current tour due to a high number of new recruits. Within the Royal Marines there was initial resistance to TRiM until the nature of the system was explained and was distanced from the stigma of ‘counselling’. Within 3 Company there is one TRiM practitioner embedded within the units trained to conduct the risk assessments. In deciding how to sell TRiM to the troops TRiM was portrayed as a peer system of ‘looking out’ for each other, rather than of mental health assistance. If the system was related to mental health then this would exacerbate the stigma already existing regarding psychological problems and therefore TRiM would not be utilised in the manner intended.

During the tour in Afghanistan the 40 Commandos suffered three losses of life, three individuals lost limbs and a number were shot. TRiM was instigated on each occasion, and was utilised a total of 46 times for the Royal Marines as a whole, although this included sessions with members of other units in addition to Delta Company. TRiM was conducted in group settings and if a large number of personnel were involved (24 on one occasion) the group would be split dependent upon where the individuals were positioned and what their involvement was in the traumatic event. TRiM was also conducted individually. TRiM was always instigated for events in theatre and never in relation to home life. TRiM sessions were informal, thereby conducive to talking. Many individuals requested a TRiM session as they wanted to offload their experiences. Some personnel were initially reluctant to talk. However once other members of the group that had encountered the same experiences began to talk, this facilitated others divulging their experiences. The 40 Commandos were based in two locations, the first part of the tour in the north and latterly in the south. Personnel would be patrolling on foot as opposed to armoured vehicles.

The Coldstream Guards experienced four instances of injuries and no losses of life. TRiM risk assessments were instigated on four separate occasions, once in a group of eight individuals and on three occasions individually. On these occasions risk assessments were conducted for the benefit of the medical staff that had treated the injuries. The group session took place in an accommodation tent as this informality was felt to be conducive to talking. All but one individual was open with their experiences. The remaining person was of a quiet disposition therefore this was expected. Whilst in theatre there was no privacy and the environment in which troops were working was not appropriately conducive to quiet contemplation. Often the concerning matters coming to the TRiM practitioner's attention, in addition to the four instances of injuries, were in relation to family and home life rather than potentially traumatic experiences on tour and this was felt to be an area appropriately managed by TRiM.

Changes in Help-seeking Behaviours in response to TRiM

Many individuals in the 40 Commandos were relatively new to TRiM and this tour was their first experience of it in operation. However TRiM would have been introduced within their initial training and introduction into military life. Other more

experienced members of their unit may have been more familiar with TRiM in its operational form. Prior to the introduction to TRiM, in the event of psychological problems personnel would necessarily contact the medical officer within theatre.

The Coldstream Guards were provided with TRiM education between May and July 2007 therefore it was a new system that had not entered their culture to any degree by the time of this research. Prior to TRiM most personnel were reluctant to seek help as stigma was perceived to exist at all levels. Personnel however would approach one of their leaders who would either refer them on for psychological assistance if deemed necessary or dismiss the problem, depending on the severity of the problem and the personal viewpoint of the leader. Management would provide opportunities to talk if personnel required it, and this would be followed up with an informal chat to ensure continuity of well-being. Alternatively personnel could approach the padre to discuss any sensitive or distressing anxieties. This contact was confidential and as a matter of course the padre would not break confidences, thereby reducing individual anxieties in relation to exposure. In this respect it was suggested that the visibility of the padre could be made more prominent. However, that said, it was felt that looking after troops had been occurring prior to TRiM, the main difference was that there was now an official name for it. Since the introduction of TRiM there have been instances of individuals approaching the TRiM practitioner to express concern regarding a colleague. There were conflicting views as to who was most sympathetic to psychological distress. The TRiM practitioner believed that the troops themselves were more sympathetic and leaders less sympathetic. The member of management believed that officers were more sympathetic and more in tune to mental health issues rather than the troops themselves. This nicely illustrates the differences in perception from differing ranks. That said, it appears that TRiM may have influenced the change in help-seeking behaviours and openness towards psychological assistance.

Roles in Theatre

The roles whilst out in theatre were perceived to be exactly the same by both groups. Both groups were located in a similar environment. Both groups believed they were subject of similar experiences such as direct fire from guns, indirect fire from mortars, and threats from suicide bombers. However the 40 Commandos were based in two different locations, initially based in the north and latterly in the south. They would

conduct patrols on foot and this was no doubt more engaging than patrolling in armoured vehicles. The Coldstream Guards spent the whole of the tour apart from two to three days at base camp, in one location. They were separate from other personnel, conducting patrols and protecting outposts, therefore as a result rather isolated from other troops. The Coldstream Guards suffered many contacts whilst on tour. In the first three weeks contacts were almost on a daily basis, although were somewhat reduced after that. The last rounds were fired in January 2008 hence the tour was relatively quiet from then on. In general the tour was believed to be more of a routine than traumatic. However there will be differences in perception from respective individuals.

Prior Differences in Culture

Culture affects how people think and behave; it is the unwritten rules that shape lives, whether in work or life in general. The culture of the 40 Commandos and Coldstream Guards appears to differ, although one similarity is that both groups perceive their standards to be higher than other units within their respective organisations.

The ethos of the Royal Marines is defined as incorporating unity, adaptability, humility, standards, fortitude, humour (King, 2004) and motivation. Recruits face a challenging selection process and drop-out rates are high. The remaining candidates who are successful in being accepted into the 40 Commandos are eager to please. They do whatever is asked of them – and more. It is a smaller unit and felt to be more cohesive than others, encouraging applicants from the more mature individual. The 40 Commandos are felt to enjoy a great deal of ‘down-time’ where they can relax or engage in fitness training.

The culture of the Coldstream Guards is different. Within the Household Cavalry the ethos is on exemplary standards, being more rigid and higher than other members of the Army and this was felt to be an additional pressure on personnel. The Coldstream Guards conduct two roles, the role of ceremonial duties and the role of a fighting soldier. The dual roles affect the amount of down-time available and personnel often experience competing demands. This dual role is felt to create additional stress, and this was suggested as a possible influence of increased baseline scores of psychological distress. Recruits to the Army may not always be motivated or keen to

be there and joining can on occasion be an escape from adverse family circumstances. There may not be the bonding and cohesiveness evident within the 40 Commandos. However, that said, this is obviously not the case for all individuals, and there will be many exceptions to what has been suggested. Decompression time once the tour ended was thought to be a necessity and well received. Knowledge of impending leave allocated for the Coldstream Guards may have influenced measures of distress. Post operational tour leave for the Coldstream Guards was felt to be inadequate in relation to psychological health. They were allowed four weeks leave on return to the UK whilst other units were allocated between six to twelve weeks and this was felt to be more satisfactory. Personnel were still in the process of unwinding when they returned to work. This difference in time off was felt to have a negative impact upon the well-being of personnel and may have been an influencing factor in measures of psychological distress.

TRiM Outcomes

Within the 40 Commandos TRiM worked well and was perceived to be accepted by personnel. Individuals have been more open in admitting any psychological problems and it was felt that TRiM was helping to reduce any stigma attached to admitting to, and seeking help for problems. For both groups TRiM has evoked additional interest in psychological health and personnel are more aware that there is a system and a named person to whom they can refer in times of need.

However, perceived stigma against persons suffering psychological distress continues to exist currently within the 40 Commandos and Coldstream Guards. A study by Schneider and Luscomb (1984) into attitudes towards combat stress in the US Military found that 40% would not trust a returning soldier who had suffered with stress to be able to continue to be an effective soldier and verbal comments from personnel in the Coldstream Guards tend to support this finding. Opinion remains that disclosing psychological distress will harm a career, in spite of organisational assertions, and that in disclosing psychological problems an individual can be viewed as weak, although each case is unique. The higher up the ranks the worse this can be. An example provided was that if an individual has been involved in heavy fighting, witnessed grotesque injuries or death then psychological distress is relatively acceptable. However if one is involved on the periphery of an incident or simply hears

of the death or injury of a friend or colleague then if affected psychologically this can be considered weak, conflicting with research by Taylor (2006) that knowledge of the death or injury of someone close can exert a similar effect as if being involved in the event.

However, overall TRiM was thought to be a positive tool in helping to improve the management and well-being of personnel. Individual comments to the TRiM practitioner within the Coldstream Guards and the TRiM manager within the 40 Commandos indicated that TRiM was well received by personnel. TRiM was considered successful in creating a better understanding of trauma, providing people with information on specific incidents that had occurred and in allowing personnel to discuss events in a supportive team environment. Expectations from both groups of the longer term benefits of a system such as TRiM are positive.

7.3 Demographic Differences between the Groups

This current study found the lower age bandings of 18-24 years and 25-29 years exhibited a higher level of distress as indicated on the GHQ 12 and PCL (C) suggesting that lower age levels can be a higher risk factor for distress. Lower age levels would tend to indicate lower ranks for the majority and correspondingly, findings also indicated that the junior ranks exhibited a higher level of distress than the higher ranks as indicated from caseness on the GHQ 12 (67% of junior ranks) and the PCL (C) (56% of junior ranks). This supports previous research of Jones et al. (2006) where levels of psychological distress were reported to be more elevated in the lower ranks and in younger than older personnel. Iversen et al. (2003) also found PTSD more frequent in lower ranks, and in those who were single. This current study, however, found no significant differences in measures of distress whether the individual had a partner or was single although stepwise multiple regression analysis for the 40 Commandos indicated that marital status caused 5% of variance for the PCL (C). The younger and more inexperienced troops, usually of lower ranks, can be used in more frequency in the front line thereby encountering a higher level of potentially traumatic experiences of direct and indirect fire, suicide bombers, and feeling that their life was in danger, and this may be reflected in the elevated levels of distress.

Research conducted by Sundin, Fear, Jones, Greenberg, Hull, Rona et al. (2008) exploring differences between two elite units, the Marines and Paratroopers and the Regular Infantry found that compared with the Regular Infantry, the Marines were older, had higher education levels and were more likely to hold a lower rank or be a commissioned officer. This current study tends to support the findings of Sundin et al. (2008) in relation to higher education levels and lower ranks of the 40 Commandos as compared with the Coldstream Guards. However there were a higher percentage of younger Commandos in this study than in the Coldstream Guards and this may have been influenced by the fact that nearly three quarters of the 40 Commandos had never been on deployment, again, suggesting younger age levels for new recruits. Samples were specifically selected, not as a random selection of individuals, but to provide suitable measures of TRiM and non-TRiM units being deployed around the time of the research therefore these age levels may not be representative of other Royal Marine personnel.

Iversen et al. (2008) in their study found that higher levels of distress were related to having lower education achievement and Brewin et al. (2000) have also found that lower educational achievement is related to PTSD. The findings within this current study in relation to whether lower education levels suggest a higher risk of PTSD were on the whole supportive of the above research. Although indications of caseness from the PCL (C) were found in all four bandings of education levels; from no qualifications to degree and post graduate level, the majority (89%) either had no qualifications or were educated to O' level/GCSE standard.

In summary, the current study has found that lower age levels and lower ranks reflected higher levels of PTSD as indicated on the self-report measure of the PCL (C) and anxiety as measured on the GHQ 12. The majority indicating increased distress on the PCL (C) were of lower educational achievement. The 40 Commandos were educated to a significantly higher educational level, were younger and comprised of a higher number of lower ranks. The 40 Commandos, the TRiM group, were found to have lower levels of PTSD as compared with the Coldstream Guards, the non-TRiM group, supporting the research of Sundin et al. (2008).

7.4 Pre-disposing Factors for PTSD

Personal and family history of psychopathology has been shown by researchers (e.g. Brewin et al., 2000; McNally et al., 2003; Ozer et al., 2003) to strongly predict PTSD symptoms. This current research found that emotional problems, as indicated by three subjective measures of whether participants felt they had ever suffered from 'depression, anxiety or anger' were elevated in both groups at the pre-deployment phase as compared with the post-deployment phase. The Coldstream Guards illustrated a higher level of emotional problems and family emotional problems than the 40 Commandos. Stepwise multiple regression analysis indicated that significant causes of variance in the PCL (C) scores were influenced by emotional problems and family emotional problems for the 40 Commandos post-deployment and the Coldstream Guards pre-deployment. This in itself could be seen as a potential predictor for vulnerability to PTSD. Cluster analysis revealed that for participants scoring ≥ 50 on the PCL (C) and indicating positive on the DSM IV scoring criteria, all responded positively to either they or their family suffering emotional problems, in support of the above research.

Significant positive correlations were found pre-deployment between the PCL (C) and emotional problems for both groups within this current study, tending to support the findings above that emotional problems are related to PTSD symptoms. Significant correlations were found between the GHQ 12 and emotional problems. In support of current findings, research in relation to previous emotional problems (e.g. King, King, Foy & Gudanowski, 1996) has shown that prior psychological distress can increase stress vulnerability and suggest that increased states of anxiety and emotional distress pre-deployment can heighten the risk for exacerbation of any pre-existing PTSD vulnerability. Monson, Price, Rodriguez, Ripley and Warner (2004) in a study involving 85 male veterans diagnosed with PTSD found that negative affectivity affects the risk of PTSD, supporting the research of Maguen, Turcotte, Peterson, Dremsa, Garb, McNally et al. (2008) in their study of troops deploying to Iraq which showed personnel with heightened levels of stress.

Within the current study PTSD scores as requested by the question 'do you think you have ever suffered from PTSD' were low and although response levels from both

groups were similar, the Coldstream Guards indicated higher levels than the 40 Commandos for both themselves and their families pre-deployment. However post-deployment perceptions of the Coldstream Guards for levels of family members suffering PTSD reduced to below the level of the 40 Commandos. Jones et al. (2006) in their study exploring psychological distress between different units at low deployment activity found higher levels of PTSD as indicated by self-report measures on the PCL (C) in the Army as compared with the Royal Marines. Research by Iversen et al. (2008) using data from the Hotopf et al. (2006) study into personnel deployed to Iraq in 2003 also found that the Royal Marines had a relatively low prevalence of PTSD. The more recent study by Sundin et al. (2008) found that by using the measures of the PCL (C) the Royal Marines reported 2.2% suffering from PTSD symptoms as compared to 6% in the Regular Infantry. Within this current study, pre-deployment scores of ≥ 50 on the PCL (C) and satisfying the criteria for the DSM IV scoring rules was higher in the Coldstream Guards than in the 40 Commandos, consistent with the above findings.

Indicating caseness on the PCL (C) as detailed above, for individuals having never previously been on deployment tends to indicate non-combat related trauma. One of the predictors of PTSD is past personal trauma and although the question is not specifically asked within the questionnaire there is a possibility that suffering past personal trauma such as childhood adversity would increase the possibility of suffering from such problems. Verbal communication by members of the Coldstream Guards indicated that some individuals join the Army because of adverse home circumstances and this may be one consideration that could have influenced pre-deployment scores on the PCL (C).

Experiencing current stressors included subjective measures of current worries about any ‘substantial financial, health, family or other major life issues’ and findings indicated that there were elevated levels of stress for both groups in comparison with post-deployment data. The Coldstream Guards indicated higher levels of current stressors than the 40 Commandos at the pre-deployment phase. Levels of distress as indicated on the GHQ 12 were elevated for both groups in comparison to post-deployment levels. An increase in stress can be beneficial but too much stress can overload the coping capabilities. As before, however, there was a reduction of current

stressors from both groups post-deployment, tending to suggest for the majority that they were able to cope adequately on tour and may have been resistant to combat related stress. The research by Sundin et al. (2008) exploring differences between two elite units and the Regular Infantry suggests that in such an elite unit as the Royal Marines, individuals are selected with less vulnerability prior to enlisting and in this respect personnel tend to be more resilient in comparison to the Regular Infantry. This may have been reflected in lower levels of psychological problems and current stressors for the 40 Commandos within this current study.

In summary, both the 40 Commandos and Coldstream Guards indicated elevated levels of distress pre-deployment in comparison with post-deployment as indicated on the GHQ 12, emotional problems, emotional problems of the family, and current substantial worries. This had the potential to exacerbate the risk for pre-existing vulnerability to PTSD indicated in self-reported previous experience of PTSD and scores on the PCL (C), supporting previous research findings (e.g. Brewin et al., 2000). However as shall be discussed later, although increased levels of distress are indicated, the vulnerability to PTSD is not necessarily demonstrated by increased levels of PTSD at the post-deployment stage.

7.5 Anticipatory Anxiety

Within this current study measures were obtained at close proximity to leaving for Afghanistan, with both the 40 Commandos and the Coldstream Guards providing measures at two different points in time, prior to pre-deployment leave and upon their return from pre-deployment leave, ready for imminent departure to Afghanistan. Although the differences in timings may have influenced levels of anxiety closer to the deployment date any differences have not been included in this study. Elevated levels of distress were indicated on the GHQ 12, the 40 Commandos indicating 7.5% of individuals above the cut-off score of ≥ 4 and Coldstream Guards 21.1%, and on the PCL (C), the 40 Commandos indicating 1.1% of individuals above the cut-off score of ≥ 50 and satisfying the DSM IV scoring criteria, and the Coldstream Guards 7.1%. Troops poised for deployment can experience anticipatory anxiety which may place them at a higher risk for psychological distress post-deployment. However, the data illustrating pre-existing distress within these measures, in general, reduced post-deployment, although some residual cases did remain and this will be discussed later.

Consistent with the findings in this current study research by Brailey et al. (2007) in relation to PTSD in US soldiers, found significant pre-deployment related stress, and further research by Bolton, Litz, Britt, Adler and Roemer (2001) found that out of 2,947 military personnel poised for deployment in a peacekeeping role to Somalia, 6% exceeded the screening criteria for PTSD and 43% reported elevated levels of psychological distress. These findings suggest a high exposure to psychological distress prior to deployment, contributing to the cumulative exposure to potentially traumatic events in theatre. As suggested, this can increase the risk of vulnerability to further psychological distress. Maguen et al. (2008) assert that negative pre-deployment stress can create elevated baseline tension thereby resulting in a knock on effect of stress for personnel.

There are several possible reasons for elevated anxiety levels prior to deployment. Maguen et al. (2008) in their study of personnel deploying to Iraq found that 76% reported concern at being separated from friends and family and 50% reported concern at family responsibilities. Other concerns included completing personal business prior to deployment, health problems of family members, financial worries, and not having friends around. This current study did not address specifically the content of any pre-existing major concerns other than grouping together ‘substantial financial, family, health, or other major worries’ and found elevated levels of worries as compared with post-deployment figures. The findings by Maguen et al. (2008) however tend to be supported by verbal communications to the researcher from members of deployed personnel within the Coldstream Guards suggesting that the majority of worries concerned family and friends.

A further factor influencing concerns and increasing anxieties can include media representations of the harsh nature of military operations and the hostile environment to which they are to be deployed. This can cause anticipatory anxiety for individuals whether previously deployed or not. Maguen et al. (2008) found in their research that such media reports cause elevated levels of mental health symptoms. This finding was also supported by verbal communication to the researcher from personnel from the Coldstream Guards. Personnel who have previously been deployed may be experiencing anticipatory anxiety due to reminders of prior traumatic events they have

experienced. However a high percentage of personnel in this study had no previous deployment experience. In this respect anticipatory anxiety may include a fear of the unknown, bolstered by negative media reports of death and injury. Wessely et al. (2003) found that increased distress led to inflated reporting of problems in the Persian Gulf War of 1991. Within this current study the anticipation of combat may have led to inflated reporting of anxiety and perception of personal and family emotional problems at the pre-deployment phase, supporting the research of Wessely et al. (2003). Jones et al. (2006) suggested that over-reporting of psychological distress may indicate dissatisfaction with military life. This may be a possible reason for elevated levels of distress if troops did not want to be deployed to Afghanistan. Measures of social support and unit cohesion can serve as an indicator of satisfaction prior to combat (Brailey et al., 2007). Although dissatisfaction with military life was not addressed by this current research, measures of social support and unit support were high at the pre-deployment stage.

In summary, anxiety levels as indicated by the GHQ 12 and PCL (C), and current worries, were found to be elevated in comparison with post-deployment levels, consistent with research (e.g. Brailey et al., 2007; Bolton et al., 2001). The Coldstream Guards, the non-TRiM group, indicated higher levels of distress than the 40 Commandos, the TRiM group, and this could suggest that TRiM may play some part in influencing the prevalence of psychological distress. Reasons for inflated distress have included family and friends, financial or health worries back home and concerns at media reports, supporting the findings of Maguen et al. (2008).

7.6 Post-Deployment Psychological Functioning

Response rates by the 40 Commandos was 100% post-deployment, although this had reduced by three individuals due to loss of life. Response rates by the Coldstream Guards reduced to 53.5% at post-deployment. Reasons for attrition were in relation to troops having been posted prior to the questionnaires arriving, that troops had left for post-deployment leave or were simply not available. However, one could question whether some individuals may have failed to participate if they were encountering post-trauma reactions and as a consequence avoided completing the questionnaires in an attempt to evade identification as someone who was suffering from post-trauma reactions. Alternatively individuals may simply not have been motivated to complete

the questionnaires. Research fatigue may have set in as this would have been the third phase of questionnaires to complete within this study.

Levels of anxiety as indicated by the GHQ 12 and PCL (C) had reduced post-deployment. Findings indicate higher levels of anxiety and distress for the Coldstream Guards as compared with the 40 Commandos, corresponding with pre-deployment differences. Data for the GHQ 12 showed the Coldstream Guards indicating 10.9% above the cut-off point of ≥ 4 and the 40 Commandos 3.3%. However, in relation to the PCL (C) although both the Coldstream Guards and the 40 Commandos indicated one individual above the cut-off point of ≥ 50 and satisfying the DSM IV scoring criteria, the raw scores showed the respective individuals scoring 66 for the Coldstream Guards and 51 for the 40 Commandos. Pre-deployment levels also show that the 40 Commandos had one individual indicating caseness for the PCL (C) although with a score of 55 therefore there is a slight reduction in distress. However, although tracking of the questionnaires was difficult, it appears to be a different individual at pre and post-deployment. The dependent variables of the GHQ 12 and PCL (C) indicated a marked change over the two periods of time, pre and post-deployment, for the Coldstream Guards but not for the 40 Commandos. Post-deployment scores for the Coldstream Guards showed more pronounced reductions as compared to pre-deployment scores. Does this indicate that the 40 Commandos are more emotionally stable and the Coldstream Guards more situationally dependent in their perceptions, leading to distress? The culture of TRiM may not have been processed by members of the Coldstream Guards. If they are not being ‘held’ by TRiM they may not feel permitted to express their emotions. Once back to normality within the UK defences may once again be mobilised whereby the ‘warrior image’ is presented and there is little acknowledgement or acceptance of perceived distress.

A possible influencing factor for the reduction in scores may be that measures were obtained immediately after the tour in Afghanistan ended. The 40 Commandos provided measures whilst on decompression in Cyprus, prior to return to the UK and the Coldstream Guards provided the measures in the first week of their return to the UK whilst awaiting post-deployment leave. There may have been relief, or even euphoria at leaving Afghanistan and the dangers that entailed and being back in relatively safe surroundings. A further possible reason for the reduction in measures,

as in the attrition, may have included an intention not to be identified as suffering from psychological problems in order to re-integrate into everyday life without concerns from others being raised. Therefore measures obtained at this period in time may not be a true indicator of how the troops were functioning.

However, that said, these findings tend to reinforce previous findings by Hacker Hughes et al. (2005) in their research into troops returning from Iraq experiencing lower levels of distress, and by Greenberg et al. (2003) suggesting that psychological health does not necessarily deteriorate after deployment or indeed after experiencing potential danger in theatre. Research by Campion et al. (2006) with troops in Afghanistan also found that mental health did not deteriorate whilst on deployment. Corresponding with this finding, research by Deahl et al. (2000) investigating the prevention of trauma using psychological debriefing and operational stress training also demonstrates that psychological illness is not an inevitable consequence of military combat. Deahl et al. (2000) found only three soldiers out of a sample of 106 developed clinically significant PTSD. Although the study was conducted on peacekeeping personnel the majority of the sample was exposed to life-threatening experiences, direct and indirect fire, body handling and witnessing atrocities, experiences corresponding with those regularly encountered by troops in combat. However Deahl et al. (2000) suggest that the differences may have been influenced by the meaning of these situations. Due to the fact that they were deployed on a peacekeeping mission the encounters may have been perceived differently to the role of combat. Another possible confounding issue was that there was a high level of psychological support available in theatre. Although this was not a specific question in this current study, TRiM may also be considered by troops as a high level of psychological support compared with the assistance previously provided due to the high visibility of the TRiM practitioner embedded within the troops.

Maguen et al. (2008) suggest that the effects of successfully mastering a stressful deployment may increase resilience and self-efficacy. In this respect, members of the Coldstream Guards and the 40 Commandos with whom the researcher spoke felt that they had experienced a successful tour and in general felt that they had performed well. This may have increased perceptions of resilience and self efficacy and in turn influenced the reduction in measures of distress post tour.

In summary, levels of distress as indicated by the GHQ 12 and PCL (C) had reduced post-deployment as compared with pre-deployment for both the Coldstream Guards and the 40 Commandos, in support of previous findings (e.g. Hacker Hughes et al., 2005; Campion et al., 2006). The Coldstream Guards indicated higher levels of distress than the 40 Commandos. There was a marked change over time for the Coldstream Guards as a group as evidenced by the more pronounced reduction in post-deployment levels of distress. The findings could suggest that TRiM may influence resistance to suffering from combat related stress. However, measures were obtained immediately after the tour in Afghanistan and this may have influenced findings.

7.7 Combat Experiences

Pre-deployment data shows that 74.5% of the 40 Commandos and 38.4% of Coldstream Guards had never previously been on deployment therefore this tour was their first encounter with combat. The data illustrates that the number of positive responses for committing an aggressive act were similar for both groups pre-deployment. However post-deployment the 40 Commandos showed a much higher response rate to having committed an aggressive act (95.6%) compared with the Coldstream Guards (60.9%). Although both groups were deployed in a similar environment and verbal communication suggests that they would have experienced similar threats, the 40 Commandos indicate a higher level of individuals discharging their weapon in combat, suggesting a more engaging tour.

In the study by Sundin et al. (2008) exploring differences between two elite units and the Regular Infantry, they also found that the Marines were more likely to have discharged their weapon in combat (43.2%) compared with the Regular Infantry (32.3%) although these figures are lower than in this current study and this may be influenced by the intensity of fighting and the area in which current research personnel were deployed. Sundin et al. (2008) found that the Marines were less likely to be engaged in a combat role and more likely to have logistics or communications roles compared to the Regular Infantry. However, as the Marines experienced more potentially traumatic experiences Sundin et al. (2008) suggest this may have been influenced by the amount of time spent in a forward area as compared with the

Regular Infantry. In this current study the 40 Commandos were located in two different environments on foot whereas the Coldstream Guards were located in one area isolated from other troops. Contacts ceased in January 2008 for the Coldstream Guards whereas the contacts continued throughout the tour for the 40 Commandos.

Experiences with UK and enemy forces include witnessing wounded and killed forces, aiding the wounded and handling bodies. Post-deployment responses show that the 40 Commandos indicate a higher number of UK and enemy forces experiences than Coldstream Guards. This again suggests that although the work was within a similar environment it was more engaging and potentially more traumatic for some within the 40 Commandos. In relation to being exposed to danger, responses are similar from the 40 Commandos and Coldstream Guards with almost all individuals (one from the 40 Commandos declined to respond) responding positive to encountering danger in the form of experiencing hostility from civilians, coming under direct and indirect fire, and thinking one might be killed.

As reported in the meta-analysis by Ozer et al. (2003) perceived threat to life was found to be an important predictor of PTSD and Hoge et al. (2004) noted that in their research there was a direct correlation between the number of combat experiences and potential psychological problems. Also, research conducted by Hoge, Auchterionie and Milliken (2006) into mental health problems of service personnel returning from deployment to Iraq or Afghanistan found that mental health problems reported post-deployment were significantly related to combat experiences. They suggest that this in itself serves to reinforce the accumulative nature of exposure to trauma.

However findings in this current study do not support the majority of the research. There were no significant correlations between any combat experience measures and the GHQ 12 or PCL (C), indicating that combat experiences on this occasion have not affected these particular measures of distress to any significant degree. Although there was no significant effect, there were non-significant negative associations between all combat experience measures with the GHQ 12 and PCL (C) apart from committing aggressive acts. Influencing factors may include relief at being back from tour and as mentioned earlier, not wanting to be identified as suffering from anxiety and post-trauma reactions. Indeed, measures taken whilst in theatre and also measures obtained

three months after return from tour may show a different result. Whilst in theatre there is little escape from potentially traumatic events and anxiety levels may be elevated. There may be little benefit in, or incentive to hiding any elevated levels of distress. However research by Campion et al. (2006) during the 2002 deployment to Afghanistan found no negative effects on mental health whilst on deployment. That said, three months after return to the UK may allow time for the post-trauma reactions to reduce as a natural consequence of the recovery process (Resick, 2001) or may allow time for an increase in symptoms which require further intervention.

Research conducted by Killgore, Stetz, Castro and Hoge (2006) into the effects of combat experience upon affective symptoms in deploying soldiers in the US military found that self-reports of PTSD were nearly identical for soldiers with both prior experience or with no experience of combat, supporting findings in this current study where self-reported PTSD was also found in individuals with no prior combat experience. This suggests that pre-deployment measures of emotional stress can impact upon the vulnerability for further distress, activated by combat. However, counter-intuitively, Killgore et al. (2006) found previous combat experience was related to lower levels of affective distress, again corresponding to the findings in this current study.

Within this current study, although scores were low, there were more 40 Commandos (8.8%) who felt that work was outside their ability than the Coldstream Guards (4.3%). That said, this does not translate into generating additional distress, or certainly has not been indicated on the questionnaires. These findings may well be as a result of being placed into a different role for which one had been trained, thereby inducing an increase in stress, or indeed not feeling physically or psychologically prepared for combat. There was a significant negative relationship for the 40 Commandos between GHQ 12 and ‘feeling physically prepared for combat’ suggesting possible anxiety at not being up to the demanding physical role within theatre, and between the PCL (C) and ‘feeling psychologically prepared for combat’ indicating that symptoms may have been affecting their mental readiness for combat. Responses may have been influenced by the fact that for a high percentage of individuals this was their first experience of combat and troops may not have been fully aware of what to expect whether from their respective roles or the harsh

environment encountered. New recruits will also be less experienced. For the Coldstream Guards there was a significant positive relationship between 'feeling physically prepared for combat' and 'feeling psychologically prepared for combat' indicating that the more physically prepared the group felt the more they felt psychologically prepared.

However, in contrast, Sundin et al. (2008) found that the Marines were less likely to report that work was outside of their ability as compared with the Regular Infantry. This may have been influenced by higher levels of training and experience within the sample in their study. As mentioned previously, Wessely (2005) asserts that within the military there is a heavy focus on training where personnel are tested in order to prepare them for the nature of combat. Within the Marines Sundin et al. (2008) posit that the rigorous selection and training process helps to identify those individuals who are capable and highly motivated. Personnel are selected because of skills that allow them to cope with the demanding selection process and in turn are trained to a higher level than the Regular Infantry. Sundin et al. (2008) suggest that these factors may influence increased resilience to the stress and experiences of combat indicated by the findings in their research.

To summarise, as a result of this recent tour in Afghanistan, the 40 Commandos have experienced a higher number of combat experiences such as discharging their weapon in combat, experiences with UK and enemy forces such as handling dead bodies and witnessing or assisting the wounded, although they were located in the same environment as the Coldstream Guards. This would suggest that the work was more engaging, supporting the research of Sundin et al. (2008). Findings did not show any significant relationships between combat experiences and levels of distress as indicated in the GHQ 12 and PCL (C). However this does not support the majority of the research (e.g. Hoge et al., 2004) in finding significant relationships between combat experiences and distress.

7.8 Social Support and Unit Cohesion

Although specific measures were not requested within this study as to perceptions of unit cohesion, social support and unit cohesion have been grouped together for this discussion as the literature tends to suggest similar, and not exclusively distinct, subjective factors. A possible measure of unit cohesion would be perceptions of support specifically from unit members and whether troops felt supported during the tour of duty and these factors will be included in this section.

Within this current study findings indicated that a high percentage in both the 40 Commandos and Coldstream Guards at the pre and post-deployment stage felt they were receiving social support in relation to being able to talk, express problems etc., to persons grouped together as 'friends, family or unit members', although a higher proportion in the Coldstream Guards felt that they did not have social support compared with the 40 Commandos. Positive responses post-deployment for both the 40 Commandos and Coldstream Guards increased, suggesting that a higher number were experiencing social support. The fact that positive responses increased post-deployment may have been influenced by a variety of factors such as support from home in the form of telephone calls, e-mails and letters. Indeed there appears to be adequate access for contact with friends and family back home whilst on deployment, although this was not addressed by the current study.

For the majority of individuals experiences of support were positive, and as found by Cohen, Sherrod and Clark (1986) social support is of benefit to individuals suffering excessive pressure. There was a significant negative relationship for the Coldstream Guards pre-deployment between social support and both the GHQ 12 and the PCL (C). This suggests that the individuals who perceived a higher level of social support were suffering less psychological distress. A negative relationship was found between social support and current stressors for the 40 Commandos post-deployment, and as there was a reported increase in perceived social support, this tends to support the research of Cohen et al. (1986).

Cohen and Willis (1985) suggest that social support can help individuals cope better with potentially traumatic events. Correspondingly, Jones and Wessely (2005) suggest

that factors that reduce the risk of breakdown under combat stress are group cohesion and bonding. As found in research by Breslau et al. (1991) and Taylor (2006) low social support is an indicator of vulnerability to suffering PTSD. Lack of post-trauma social support has been shown by Brewin et al. (2000) and Ozer et al. (2003) to strongly predict PTSD symptoms and previous research (e.g. McNally et al., 2003) has shown that a high level of social support can be a buffer against PTSD thereby indicating the significance of social support. Therefore perceptions of increased social support may have moderated the effects of psychological distress during their tour of duty within this current study.

In the recent study by Sundin et al. (2008) they found that the Marines reported higher levels of unit cohesion as compared with the Regular Infantry. They suggest that higher levels of social support and high morale within such an elite unit may influence the lower prevalence of psychological distress. However, within this current study, in looking solely at whether participants felt they had the support of unit members, pre and post-deployment data shows that the Coldstream Guards were more positive than the 40 Commandos, contrary to the findings of Sundin et al. (2008). One possible influence may be that the Coldstream Guards were isolated from other troops, being located at an outpost whilst in theatre and this may have encouraged increased bonding. A further possible influence may have been that whereas for the majority of the 40 Commandos this was their initial deployment, some of the Coldstream Guards may have served together in theatre in the past, although the research did not address this fact. However in contrast to this, an increased minority of both groups perceived that the support of their unit declined post-deployment, suggesting that for a few the experiences may have been dismissive. Perceived reduced support may have been because personal incidents went unnoticed. Therefore this illustrates the importance of accepting the experiences of each person as individual and open to interpretation and allowing individuals the opportunity to openly discuss their concerns.

On a similar theme, positive responses for whether participants felt supported during the tour of duty show both groups indicating a high level of support. Comparisons with pre-deployment data on feeling supported during the tour of duty were not conducted as a result of the high levels of personnel being on their initial deployment. However, there was a significant negative association post-deployment for the 40

Commandos and a non-significant association for the Coldstream Guards between the number of deployments and feeling supported during the tour of duty, indicating that as deployments have increased perceptions of support decrease. This may be linked to the perception of perceived unit support, with personal incidents going unnoticed.

Findings by Brailey et al. (2007) suggest that the association of stressful life events with PTSD symptoms decreases as unit cohesion increases. In this respect strong unit cohesion can be beneficial to those exposed to significant stress prior to and within deployment. As measures of perceived social support within the units were positive for most within this study this may have influenced the moderation of emotional distress whilst under stress on tour, thereby influencing the reduced levels of distress post tour.

Positive social environments can provide confirmation of social identity. Within the military this is important due to the nature of the work, the necessity to integrate cohesively with the group and the dependence on others in instances of extreme danger and threats to life. Group interactions provide this advice and feedback. Milgram, Orenstein and Zafrir (1989) posit that the effectiveness of unit cohesion and social support in stressful situations is enhanced by positive reinforcement and pro-social behaviours, which between soldiers can markedly reduce anxiety levels. TRiM, although in its infancy for the Coldstream Guards, may have encouraged this positive reinforcement. Verbal communications received by the researcher indicate that within both groups colleagues had begun to question each other as to how they were coping once TRiM had been introduced, thereby facilitating such pro-social encounters. When social support and empathic understanding is expressed from individuals and groups with similar situational experiences, such as soldiers who share the same anxieties and combat experiences, receiving such a positive response to their experiences can be experienced as beneficial. This tends to suggest the importance of targeting social support within military units.

However, in contrast, if unit cohesion is strong in the Commandos as suggested by research (e.g. Sundin et al., 2008) then would admitting to suffering psychological problems be seen as letting down the other unit members? If an individual needed to seek help from an outsider, such as a mental health professional would this be viewed

as a betrayal of the other members of such a small cohesive unit? Many within the 40 Commandos showed a significant concern in being perceived as weak and this may reflect the strong emphasis on masculinity within the unit. This, in turn, may prevent disclosure, increasing the vulnerability for more severe psychological problems in the future. In this respect, a fear of failing within such a cohesive team may potentially have influenced the lower levels of reported distress within the 40 Commandos.

To summarise, both the 40 Commandos and Coldstream Guards indicated high levels of perceived social support pre and post-deployment and correspondingly high levels of perceived support from within their respective units. The Coldstream Guards indicated higher levels of support within their unit, despite the 40 Commandos having incorporated TRiM for approximately ten years and the Coldstream Guards only having introduced TRiM, contrary to findings by Sundin et al. (2008). Negative perceptions of support for a minority increased post-deployment, indicating that not all experiences were positive. However, that said, responses for feeling supported during the tour of duty were high for both groups. Increased levels of perceived support may have influenced lower levels of reported distress post-deployment, supporting the research of Brailey et al. (2007) and Cohen et al. (1986).

7.9 Stigma towards Suffering Psychological Problems

Stigma occurs at all levels within an organisation and this can be exacerbated in a masculine culture such as the military. Stigma can also occur at all stages throughout the process of admitting to suffering psychological problems, seeking assistance, and discharge from any mental health treatment (Byrne, 2001). In an attempt to gauge mental health facilities within the military and the barriers, real or perceived, to seeking help, the ‘attitude to mental health’ questionnaire asks respondents questions in relation to access to mental health, perceived views of leaders and peers and perceived effects of disclosure. Comparison of responses from both groups indicate that responses overall from the Coldstream Guards were more negative than the 40 Commandos. Pre-deployment responses for the 40 Commandos were more positive than negative for all questions, suggesting that more individuals have an accepting attitude towards mental health than not. Pre-deployment responses of the Coldstream Guards were also more positive than negative in most questions although generated a higher number of negative responses than did the 40 Commandos. Post-deployment

data for the 40 Commandos and the Coldstream Guards indicates some elements of concern suggesting that perceptions on certain measures have changed for some individuals whilst on deployment, concerns which were not apparent pre-deployment. This may have been due to negative experiences, explicit or implicit, or communications from others whilst in theatre which have caused the individuals to re-evaluate their previous thinking. However, both positive and negative responses increased post-deployment, indicating that those who showed uncertainty were now sure of their views. These findings will now be discussed in detail.

Views on Mental Health

In respect of access to mental health three questions have been grouped together, 'I trust mental health professionals', 'I know the location of where to seek help' and 'treatment works'. Responses to these questions in general have been extremely positive from both the 40 Commandos and Coldstream Guards pre and post-deployment, especially in relation to trusting mental health professionals. Knowing where to seek assistance when in distress is important and in this respect TRiM has provided a visible and easily accessible means of support. Pre-deployment the Coldstream Guards were significantly more negative than the 40 Commandos in knowing where to locate assistance. This lack of knowledge of where to seek assistance may have contributed to higher anxiety levels. However, post-deployment responses for knowing where that help is located increased for both groups. For the Coldstream Guards this may have been reflected by the introduction of the TRiM practitioner in theatre for the first time. As the majority of the 40 Commandos had not previously been on deployment the assistance of the TRiM practitioner may have been operationalised for them in reality within theatre.

Positive responses for both groups in relation to whether treatment works were between 37% - 48% and increased for both groups post-deployment, although remained below 50%. However, although the treatment of mental health issues is outside the boundaries of this study this will indeed be an influencing factor as to whether the individual seeks to acknowledge the problem and, in turn, discloses such a problem. If expectations of success of treatment are only moderate then the probability of disclosure decreases as the risk of exposure to stigma increases, and especially when chances of an improvement in functioning are low then non-

disclosure may well outweigh the benefits of disclosure. Personnel in need of assistance must feel able to admit to suffering from psychological distress, and to accept the help that is on offer without concerns over the negative effects of stigma. In turn, the support that is provided to military personnel must be effective, and must be seen to be effective if it is to be embraced. The views on mental health were not statistically different between the groups therefore it is not possible to suggest that the attitudes towards mental health are as a result of TRiM.

Perceived Views of Leaders and Peers

Individuals disclosing psychological problems within the military environment may have to contend with the fear of supervisor discrimination and also negative perceptions of their peers. Views of the leaders have been grouped into five questions of 'leader allows time to seek help', 'leader would treat me differently', 'leader would blame me for my problems' and 'leader would be sympathetic to psychological problems'. Also included is 'I don't have time to seek help' as this was potentially felt to be influenced by the leader. As has been shown by this current study the views of leaders are important.

Responses suggest a mixed reaction to individual questions, more positive for both groups pre and post-deployment for all five questions, apart from whether leaders would treat someone differently and post-deployment this received a more negative response from both groups. Although responses remain more positive for the question as to whether leaders would blame them for their problems, for both groups negative responses increase post-deployment. However, post-deployment responses for both groups show an increase in perceived sympathy from leaders, which tends to negate the previous two responses but corroborate the more accepting attitude towards being allowed to attend mental health appointments, mentioned below.

Pre-deployment the Coldstream Guards were significantly more negative than the 40 Commandos in perceiving whether leaders would allow time off to attend an appointment. Perceptions of the leader or his attitude towards psychological problems may be more punitive within the Coldstream Guards or may have been perceived in this way prior to deployment. Whilst in theatre the leader may have shown some regard to TRiM as a novel system, influencing the observed minimal increase in

positive responses and decrease in negative responses post-deployment. However, for the 40 Commandos post-deployment, negative responses increased for perceiving whether leaders would allow time off for an appointment. This may have been influenced by the decrease in perception of unit support. The high level of new recruits may have been overwhelmed with events on tour and personal issues may have appeared to be dismissed. Post-deployment the Coldstream Guards were significantly more negative in perceiving whether they actually had time to attend an appointment, indicating the uncertainty of competing pressures of work taking priority over personal issues. The study by Hoge et al. (2004) also found the main concerns were being treated differently by leaders and leaders blaming them for their problems, lending support for the current findings in this study.

Views of peers have been grouped into two questions of 'members of my unit would have less confidence in me' and 'peers are sympathetic to psychological problems'. Again, responses suggest a mixed reaction. The 'less confidence' question generated more positive responses from both groups pre-deployment. Post-deployment, although differences between negative and positive responses were slight, both groups indicated a higher level of negative responses and lower level of positive responses. This change in perception may have been influenced by adverse experiences during the tour. Whether peers were sympathetic to problems generated more positive responses at both stages from the 40 Commandos and positive responses increased post-deployment. Pre-deployment the Coldstream Guards were significantly more negative than the 40 Commandos although post-deployment they indicated a higher number of positive than negative responses and negative responses decreased. This difference in responses tends to suggest that the questions were measuring different concepts, which was confirmed through factor analysis indicating different factor loadings, and that sympathy towards comrades is not affected by perceived confidence levels in those suffering psychological problems. Responses however may have been simply influenced by whether the individual felt confident in oneself, whether their own issues were being addressed or how positive any interactions had been on that particular day. The study by Hoge et al. (2004) found the main concerns were members having less confidence in them, lending support for the current findings in this study.

If TRiM is to succeed then it must be implemented at the highest levels and supported by leaders, who can act as role models and can influence the changing of attitudes. Greene-Shortridge et al. (2007) suggest that leaders should take an active role in promoting mental health assistance. Leaders can help promote the acceptance and early identification and treatment of psychological problems. Greene-Shortridge et al. (2007) suggest that if leaders demonstrate at a strategic level that within the hierarchy there is an understanding of the importance of psychological assistance and interventions, then this attitude can filter down the organisation and in turn help to reduce the stigma attached to seeking help. Britt, Davison, Bliese & Castro (2004) suggest that effective leadership can help mitigate the effect of potential stressors by increasing self-efficacy. If personnel do not feel supported, trust their leaders and peers, or do not experience feelings of belonging to the larger team then thriving in an environment as challenging as military combat will be problematic (Maguen et al., 2008). The military work within a climate where potentially traumatic events are regularly experienced and in this respect, leaders can help create a culture change in how to respond to the consequences of exposure to trauma.

Perceived Effects of Disclosure

Perceived effects of disclosure have been grouped into three questions of 'I would be too embarrassed to seek help', 'seeking help would harm my career' and 'I would be seen as weak'. Responses for all questions for both the 40 Commandos and Coldstream Guards pre and post-deployment were more positive than negative apart from the question in relation to embarrassment at seeking help for the Coldstream Guards post-deployment, which elicited more negative responses, although differences between negative and positive were slight. There were significant differences between the groups pre-deployment for the question in relation to being seen as weak, the 40 Commandos being significantly more negative than the Coldstream Guards.

When an individual tends to attribute environmental events to oneself this is known as internal locus of control and external locus of control if attributing them to events outside his or her own power (Rotter, 1966). Strickland (1978) posits that internal locus of control improves functioning and promotes greater resistance to psychological distress, and that this leads to suffering from less severe psychiatric

disorder. In this current study the emphasis on confirmatory views of leaders or peers as to psychological self-concept could suggest an external locus of control and an insecure or fragile identity. This tends to suggest a lack of self-esteem or lack of confidence in self-perception leading to shame at admitting any problems. To admit to suffering psychological problems may shatter the 'warrior' image soldiers were hoping to portray. In this respect attracting potential disapproval from others, whether from explicit or implicit experiences in theatre, appears to be an over-riding factor in disclosure. The need to merge with the identity of the group and avoid the risk of rejection by disclosing a perceived weakness may be stronger in the Military than in many other work environments due to the masculine characteristics required for combat and the nature of operations (Jones and Wessely, 2005) and this will be a deterrent to disclosing any perceived failings.

In the study of Hoge et al. (2004) they also found the main concerns were being perceived as weak, not being trusted by peers or leaders and harming their career, again lending support to these current findings and indicating that these are similar concerns within the US and the UK Army. In such a cohesive unit as the Marines which has a strong focus on the collective as opposed to the individual (Sundin et al., 2008) this stigma may be exacerbated. Indeed disclosure of mental health problems within such a unit may instil a fear of personal rejection, may severely restrict the potential to disclose and in turn negate the benevolent impact of TRiM, leading to less reported psychological distress. The significant differences found between the two groups in relation to being seen as weak, suggests this is a heightened concern of the 40 Commandos. However, in contrast, the research of Hoge et al. (2006) into mental health problems of service personnel returning from deployment to Iraq or Afghanistan found that 35% of Iraq war veterans accessed mental health services, although accessing mental health services suggests disclosure at a later stage in the process.

A study by French, Rona, Jones and Wessely (2004) investigating barriers to health screening within the British Armed Forces found the main barrier to seeking assistance to be lack of trust in medical confidentiality. Many felt that they would not answer honestly to some questions due to stigmatisation and fears that admitting to a psychological illness would harm their career prospects. This was a possible

confounding factor within this current study as to whether such concerns have impacted upon the honesty of responding. As stated, a significant minority showed concern at the effects of disclosure if suffering from psychological distress in terms of personal standing within the group and effects on their future career.

Although the study was intended to be confidential some individuals accepted the request to disclose their service numbers and this may have risked identification. Collection of the questionnaires was intended to be direct to the researcher. However this was not possible and as a result questionnaires were handed to the nominated individual who was a member of the unit. This in turn may have influenced responses. There were moderate levels of distress disclosed from the Coldstream Guards and lower levels from the 40 Commandos and although there is no reason to suspect any defensive responses, the recent research conducted by Sundin et al. (2008) suggested that low levels of self-reported distress may be due to the effects of stigma.

When an individual chooses to speak about their experiences the response received needs to be positive for such interactions to be beneficial. TRiM may provide such a beneficial environment. As has been shown by previous research (e.g. Foa & Kozak, 1986; Pennebaker & Harber, 1993) this recounting of events may facilitate psychological processing and in turn reduce levels of post-trauma reactions. Kessler et al. (1995) noted that if PTSD is left untreated it can be complicated by the development of other disorders such as depression and substance abuse and this in itself reflects the importance of early identification of PTSD. In a study by Bolton, Glenn, Orsillo, Roemer and Litz (2003) into the long-term impact of self-disclosure after potentially traumatic events found, in 426 US military personnel who had served as peacekeepers in Somalia, that self-disclosure, especially to supportive family or unit members, was negatively related to PTSD symptom severity. Positive reactions by others were related to lower levels of PTSD. They suggest that negative or non-validating responses to disclosure may negate the potentially beneficial aspects of discussing the traumatic experiences. However that particular research was a retrospective self-disclosure method of data collection therefore causal inference between the variables is not possible and there may be problems in recall bias (Bolton et al., 2003). It is also suggested that individuals most traumatised may have avoided disclosing, and indeed this may be an influencing factor within this current study.

However, that said, positive reactions to disclosure by respected others in the form of support and acceptance is being encouraged by TRiM and this may be beneficial in the longer term.

In summary responses from both groups illustrates a mixed reaction to mental health and its consequences. There is no clear pattern of responses. Higher levels of positive responses were indicated by the 40 Commandos and correspondingly a higher level of negative responses indicated by the Coldstream Guards. That said, however, in total, positive responses were higher than negative responses for both groups pre and post-deployment. Both groups have showed concerns at disclosure of psychological problems being harmful in terms of their own identity and standing within the unit and in relation to career prospects. In view of the findings one can not make assertions about the effectiveness of TRiM in changing or influencing attitudes towards mental health but can only tentatively suggest that TRiM may have begun a softening of attitudes within the Coldstream Guards by eliminating most of the significant differences between the groups. However the cohesiveness and strong masculine properties of elite units such as the Royal Marines may negate some of the more beneficial aspects of TRiM. In this respect the Military face a challenging task in moderating the effects of perceived stigma.

7.10 Psycho-Education of Trauma

Accurate information about the causes and treatment of post-trauma reactions may influence how mental illness is viewed (Greene-Shortridge et al., 2007). Within the 40 Commandos TRiM psycho-education is provided at all levels of basic and command training. In theatre interventions are facilitated as and when required, dictated by the occurrence of potentially traumatic events and psychological interventions are focussed on normalising subsequent psychological reactions. Such information on symptoms of PTSD and the effects on the body and the sense of self can provide additional relief and help assimilate the overwhelming and confusing trauma experiences into an understandable framework (Flack et al., 1998).Verbal communications received by the researcher and subjective comments detailed within the questionnaires suggest that information on the actual traumatic event and normalisation of post-trauma reactions has been reassuring and a welcome intervention for most. However Sharpley et al. (2007) in their research on the efficacy

of pre-deployment stress briefings using data from the Iraq War study by Hotopf et al. (2006) suggest that psycho-education is an invalidated intervention.

TRiM, however, is much more than psycho-education, it allows for expression of experiences in a supportive environment. Greene-Shortridge et al. (2007) suggest that interventions at unit-level could involve those suffering from PTSD discussing their experiences in a supportive environment where reactions to the event could be addressed. This would increase understanding and in turn potentially reduce the negative attitudes towards mental health problems. Corrigan and Penn (1999) have shown that increasing contact with persons suffering mental health problems can be successful in reducing stigma. By facilitating a positive environment in which to discuss post-trauma reactions, such as that which TRiM can provide, and by witnessing that others can benefit from mental health interventions and return to their unit as a functioning soldier, this may indeed influence more timely help-seeking behaviour (Greene-Shortridge et al., 2007). Ritchie (2007) further suggests that encouraging the expectation of a decrease in distressing symptoms can help many individuals.

Research conducted by Alexander and Link (2003) explored whether contact with persons suffering mental health problems reduced the stigma towards those persons. Findings suggest that accurate and empathic information about the particular illness and the struggles of those individuals was beneficial, along with positive contact experiences (Couture & Penn, 2003). In this respect TRiM may provide that required contact during group risk assessment procedures if the experience is seen as positive. However tremendous courage would be required for an individual who was suffering from PTSD or other psychological problems to talk about their experiences within a group setting when stigma continues to be a concern in the military environment. That said, verbal communication provided to the researcher suggests that the experience of TRiM in respect of psycho-education has generated positive comments to date.

7.11 Seeking Assistance v Stoicism

Military culture instils a need to build and reinforce resilience and in this respect can often exacerbate the reluctance to seek help. Therefore a balance needs to be found to retain this resilience alongside offering understanding and an easily accessible system

when personnel do begin to suffer psychological problems. During the TRiM training course attended by the researcher the information was presented by the trainers using a ‘masculine’ attitude, emphasising that TRiM was not connected to counselling or therapy, in turn de-stigmatising the role of TRiM co-ordinator, and normalising the stress reactions to involve an element of the ‘acceptable’. The incidents depicted during the training all involved death or serious injury, suggesting the more serious side to TRiM. Humour was included in the session and this appeared to have the effect of reducing defensive barriers to participation in the training. It was apparent that some personnel were initially uncomfortable and sceptical of TRiM and of what the system could provide. However many participants showed an increasing interest in the material as the training progressed. This indeed may have been facilitated by the normalisation of post-trauma reactions, the masculine identity of the TRiM trainer and the fact that the incidents discussed were perceived as serious.

The TRiM system offers a means of providing psychological support to the troops and has been used both after potentially traumatic events and in relation to more personal matters such as problems with friends and families. However overuse of the system could encourage individuals to depend on help on occasions when it may not be appropriate. Overuse may have the unintended effect of creating an environment in which personnel increasingly seek reassurance and in turn avoid confronting dangers due to the perceived psychological consequences. This would in turn soften the ‘warrior’ image of the soldier (Jones, 2006) which in itself could create an additional round of stigma, fragmenting the unit between those that do seek help and those that don’t. In this respect one could ask whether an element of stigma should remain within the Military, as indeed, getting shot at and shooting at the enemy are all part of the job they knowingly joined.

Chapter 8 Conclusions

8.1 Significant Findings from the Research

There are a number of significant findings in relation to this research. The most important one is that TRiM does not cause harm, which supports the findings of Greenberg and Langston (2007) in their cluster randomised control study. However it may be possible to tentatively suggest that TRiM performs some additional function in relation to buffering against psychological distress. The measures of the GHQ 12 and the PCL (C) were lower for the TRiM group pre-deployment and post-deployment. This tends to support the research of Jones et al. (2006) in finding that Marines had lower levels of psychological distress than the Army and the research of Iversen et al. (2008) which also found low levels of PTSD within the Royal Marines. As the 40 Commandos have incorporated a rolling system of TRiM for approximately ten years then the lower levels of distress may have been in part due to the influence of TRiM. However, importantly, other predominant factors specific to the 40 Commandos, such as rigorous selection procedures, training and unit cohesion may also exert a confounding influence upon psychological functioning and the subsequent levels of distress, supporting the assertions of Sundin et al. (2008). In contrast, strong unit cohesion may have increased the apparent concerns of the 40 Commandos in relation to being perceived as weak and this may have influenced the propensity to disclose. In addition, although confounding variables within this study have been adjusted for, one can not rule out the fact that differences not adjusted for may have influenced findings rather than TRiM itself.

Findings have shown that anticipatory anxiety as indicated by levels of distress on the GHQ 12, PCL (C), levels of current stress, and perceptions of emotional and family emotional problems, is present prior to being deployed on tour and this is in support of findings by Brailey et al. (2007) and Bolton et al. (2001) in their research. Maguen et al. (2008) suggest possible reasons for this anticipatory anxiety such as worries about friends and family, fear of the unknown, memories of previous combat, and negative media reports of hostilities. Verbal communications with troops have tended to reinforce these suggestions. However the timing of obtaining the measures may also have influenced findings as just prior to deployment can lead to increased

anxiety, supporting the assertions of Wessely et al. (2003) in inflated reporting at times of heightened anxiety.

This current study has also found reduced anxiety levels after the tour had ended, as indicated by levels of distress on the GHQ 12, PCL (C), current stresses, and perceptions of emotional and family emotional problems, indicating relief, or even euphoria, at being back from tour. This is in support of research by Hacker Hughes et al. (2005) in terms of reduced anxiety levels post tour and Greenberg et al. (2003) suggesting that mental health does not necessarily deteriorate post-deployment. It may then be possible to suggest that TRiM may exert some influence on the resistance to suffering psychological distress after exposure to combat experiences. However, again, the timing of obtaining the measures may have not provided the most accurate levels of distress, as immediately upon returning from tour can lead to decreased anxiety due to a change in the safety of the environment and impending reunion with friends and family.

Social support is an important factor within units, especially military units that face frequent dangers on tour, and as has been shown by research (e.g. McNally et al., 2003) social support can be a buffer against PTSD. This current study found that social support is important. Both groups perceived a high level of social support from their friends and family, and from their unit members, and positive responses increased post-deployment, indicating that for the majority they experienced such social support. However, unit support independent of other social support, declined post-deployment and concerns were raised in relation to specific support from leaders and peers if individuals were suffering from psychological problems, as dictated by responses on the ‘attitude to mental health’ questionnaire. This tends to suggest that as long as troops are functioning adequately then the support is present but in times of reduced psychological capacity to cope then troops can no longer rely on unquestioning or unconditional support. Despite the 40 Commandos having incorporated TRiM for approximately ten years, the Coldstream Guards indicated higher levels of unit support, tending to suggest that TRiM, although a supportive intervention, does not create a higher level of unit support. Interventions that focus on group cohesion, increasing morale and improving the quality of leadership may buffer

against psychological distress. However, one cannot make any assertions that TRiM may be facilitating such social support within the unit and in turn group cohesion.

Stigma or perceived stigma in relation to disclosing a mental health problem and seeking assistance is still regarded in a negative light (Britt, 2000; Hoge et al., 2004) even within the accepting culture that TRiM aims to cultivate. Concerns were expressed by both groups in relation to the effects of disclosure harming individual standing within the unit and in relation to harming career prospects. This is support of findings by Hoge et al. (2004) and indeed in relation to the views of leaders being important barriers to seeking assistance. Findings have shown that in general the 40 Commandos were less negative in comparison with the Coldstream Guards. However significant differences between the groups pre-deployment had reduced post-deployment and positive responses were higher than negative responses. This may have been influenced by psycho-education on the effects of trauma within the TRiM system, in support of the research by Foa and Kozak (1986) and the normalisation of post-trauma reactions. It is not possible to make assertions about TRiM changing or influencing attitudes towards mental health. However, personal comments to the researcher indicated more pro-social behaviour therefore TRiM may play some part in generating awareness of attitudes in relation to stigma towards psychological distress.

It is important to address the possible stigma attached to suffering from psychological problems. Providing education on the trauma and on the possibility and normality of stress reactions as a consequence is paramount in cultivating an accepting culture that could reduce the potential shame attached to suffering psychological distress, in turn lowering the barriers to seeking psychological assistance. The military are striving to promote a climate in which individuals feel comfortable in admitting to problems, and to seeking assistance when required in response to encountering potentially traumatic events. Opportunities for social support within theatre, and upon return to the UK, are being maximised. However within a masculine culture this remains a difficult barrier to overcome. The advantages of TRiM are that practitioners are drawn from within the organisation and have an in-depth understanding of the culture and social networks (Greenberg, 2006). Practitioners are known and accepted by their peers and provide continual support whilst in the combat environment. Within the TRiM system, having managers and peers provide support and deal with affected individuals

can help limit the potential negative impact of any trauma. Neal et al. (2003) posit that by intending to keep people working if possible, this helps to reduce any feelings of isolation and of having to overcome the barriers of returning to a unit, having left with the label of suffering from a mental illness and the repercussions this may generate. In this respect TRiM may also support the principles of PIE; proximity, immediacy and expectancy.

Within the military organisation the effects of TRiM may be that by facilitating personnel to understand and accept the inevitable stress of military service it can encourage help-seeking behaviour and help to reduce negative perceptions of psychological illness thereby facilitating a culture change within the organisation.

8.2 Critical Reflections

Critical Evaluation of Measures

The dependent variables being measured were the GHQ 12 and PCL (C) and are relatively similar in their focus on anxiety. However the GHQ 12 relates to current anxieties and the PCL (C) relates to anxiety in relation to stressful experiences in the past and these measures were selected to correspond with measures used in current and previous UK research conducted through Kings Centre for Military Health Research. They are considered suitable for the parameters of this study. Although the GHQ has been used and validated in civilian populations it has not been validated in the military population (Jones et al., 2006) therefore the outcome measures may be slightly different. Military personnel work in an environment where danger is ongoing and risks are elevated. This may affect their perceptions of anxiety and thereby the reliability of the measures used. As the GHQ 12 is in relatively regular use within military populations then this validation with other measures within the Military may be a possibility in the future. Although caseness on the PCL (C) was accepted as a score of ≥ 50 and positive indication of specified criteria on the B, C, and D items on the DSM IV (APA, 1994) as advised by the National Centre for PTSD (Weathers et al., 1994) scores below this figure indicate sub-diagnostic symptoms of distress and therefore may still affect quality of life to some degree. Levels below this cut-off point have not been included in the study and may have presented a variation on the findings. One possible reason for differences in findings by other studies may be

accounted for by use of different measures, of which there are many, used to establish PTSD symptomatology, for example the PCL (M), which is the Military version of the PTSD Checklist, Revised Impact of Events Scale (R IES), and the Trauma Screening Questionnaire (TSQ) which may have influenced findings by other studies.

Some questions which were not included in the questionnaire have been identified as being potentially useful. On reflection, length of service of individuals would have been beneficial to know. It may have proved important to observe whether there were any differences between this variable and the outcome measures. However a higher number of deployments, which was included, may tend to support a longer length of service. Including a question in relation to childhood adversity or previous trauma may have helped establish whether the pre-deployment PCL (C) measures of caseness for no previous deployments were limited to participants indicating positive to this question. A possible limitation in the questionnaire is that when requesting information in relation to family emotional problems the researcher did not specify what was meant by 'family' therefore there will no doubt be differences in interpretation in this question as to who is included as a family member and this in turn may have influenced findings. Wording in the 'attitude to mental health' questionnaire was not as clear as intended. Asking whether 'unit leaders might treat me differently' could have been interpreted as either positive, for example allowing preferential treatment, or negative as in punishment for disclosing a perceived weakness and this will have influenced findings.

Reflections on the Process

The research itself is of importance within the real world and the researcher was excited to become involved in such a study. However often events were unpredictable and the researcher was not in control of many specifics within the study, such as timing of the distribution or collection of the questionnaires. This proved problematic in that the original planning was delayed for approval of the study by MoDREC and therefore needed amending. At times there were doubts as to whether the research would go ahead at all. In relation to the questionnaires being posted to Afghanistan, they either did not reach their destination, or only part of the dispatch reached the nominated person. This caused a reduction in data received and the timings of the

research again required amending. On reflection it may have been necessary for the researcher to travel to Afghanistan as planned to ensure the continuity of the research. On the occasions when the researcher was informed that personnel from the unit being researched had died, this evoked guilt in having asked participants to complete the questionnaires whilst in theatre. On one occasion when informed that a member of personnel had died the previous day and that the researcher would have met him, having attended the same TRiM training course as him, the questionnaire seemed trivial in relation to loss of life and the importance of the study seemed to pale into insignificance. At that stage the scope of the study appeared too ambitious in expecting personnel to complete the questionnaires whilst fighting for their lives and their country. However the reality of the situation is that whether or not the questionnaires were completed would have no bearing on loss of life.

8.3 Limitations of the Study

The research design is quantitative in order to obtain sufficient numbers of the most appropriate measures for the study. Qualitative methods have not been included in this paper, other than interviews of personnel on return from tour in order to clarify events in theatre and a minority of subjective questions from the questionnaire. Qualitative exploration may have provided a different focus on TRiM, exploring the subjective experience of the system in depth through semi-structured interviews. This may have illuminated different aspects of TRiM that were missed by quantitative analysis. The researcher sought authority to ask one question in relation to the worst traumatic experience participants had encountered during their tour of duty. This request was quite rightly declined as having the potential to cause distress. However including this question in the study would have provided an additional subjective measure to explore further and may have provided important detail beneficial to the military.

Participants were all male as the groups only included males. However females may have provided a different perspective with which to view potentially traumatic events and their subsequent outcomes, alongside different outcome measures of distress. There are gender differences in help seeking behaviour and females may have been more open to seeking assistance than males, who indeed may be bound by traditional norms of masculinity endorsed by military culture. However, conversely females

within a masculine organisation may be more reluctant to openly admit distress due to the additional pressures on them to perform and prove themselves capable, alongside males, of doing the job.

Excessive alcohol consumption has been identified as a problem within the Military. For example Jones et al. (2003) assert that alcohol problems are apparent after a traumatic experience, potentially viewed as a dysfunctional coping mechanism or developing as a problem independently. Research by Jones et al. (2006) found that psychological distress was more common in those whose level of alcohol intake was high. However this research has not included alcohol consumption as a separate variable. Although the question 'do you feel you have ever suffered from alcohol abuse' was included within the questionnaire, this was excluded in the analysis. The researcher's interest was mainly in the area of PTSD and not alcohol abuse. In this respect, disregarding alcohol consumption has neglected an important aspect of functioning for many within military life. Inclusion, together with the variables considered may have highlighted methods of coping with adverse experiences on tour or provided associations with suffering from psychological distress, and may have impacted upon the findings.

This current study requested measures at two close periods of time therefore indicating cross-sectional data, which may not be as strong as an extensive longitudinal design. Measures obtained from personnel immediately prior to deployment, to be used as a baseline measure, as noted by Hoge et al. (2004) may not be the best time as stress levels may be elevated in anticipation of combat. Correspondingly measures obtained immediately upon return from tour may not provide the most accurate picture. Measures of distress were by self report therefore subjective to the individual and open to interpretation. However this was the best method of collecting mass data, dictated by the parameters of the study. Sampling procedures were not random, but selected on practical realities of operational duties and of availability for inclusion in the study. This would not have included personnel who were absent for such reasons as physical or mental illness therefore only include data from personnel fit for duty. However, although operational limitations influenced the availability of personnel, this should not bias the results of the study, which will provide measures for personnel fit for duty, and should generalise to other military

units. It has not been possible to compare demographic characteristics of participants of the research study with other members of deployed personnel not involved in the study in order to assess whether the sample was representative of the general population of military personnel. This would be impracticable and would breach issues of confidentiality. However due to the diverse backgrounds and experiences of the research sample it is anticipated that this sample should provide a generalisation to other units within the military.

One confounding variable in the study was that there were prior differences between the 40 Commandos and Coldstream Guards. Specific selection procedures, rigorous training, the culture of the respective units and cohesiveness would influence attitudes to psychological distress and stigma. Although the differences have been addressed to a certain degree this may not be sufficient to provide an explanation for any variations in findings. However an extensive focus on differences between the units would require more in-depth exploration which was outside the remit of this study. More appropriate sample groups would have necessitated two groups with similar backgrounds, training, culture and roles within theatre. This would have led to a more acceptable and reliable comparison of groups, and in turn, statistical results. However this was not possible due to the research requirements and the timing of the study.

The results were, in part, produced for the purpose of the military and this may have been prone to certain influences. Respondents may not have wished to be open in admitting to suffering from any form of psychological distress for fear of responses being exposed to scrutiny which in turn could harm their career or their personal standing within the group. On the last page of the questionnaire participants were requested to either enter their service number or personal details to which only they knew. This system worked well when the small number of participants entered their service number and thus facilitated tracking of the forms. However requesting personal details of the participants was only partially successful. Some of the respondents could not recall the details they had entered pre-deployment and stated this fact on the questionnaire. Details of other participants had also changed from pre-deployment. Some participants elected not to provide any details whatsoever. This therefore led to an unsuccessful strategy of tracking the majority of the questionnaires.

There was a good response rate from the 40 Commandos. However at post-deployment 46.5% of the Coldstream Guards failed to complete the questionnaires. It has not been possible to ascertain which participants did not respond. Reasons provided included the posting of individuals and inability to contact others, suggesting the difficulty of tracing a mobile population, a fact which was reported in the Iraq War study of Hotopf et al. (2006). However there may have been a number of other reasons for this. One possibility may have been that the individuals who were suffering increased psychological distress may have avoided completing questionnaires, and this potential explanation is unable to be addressed. Other possibilities may have included research fatigue or concerns in relation to stigma. This attrition will have contributed to a smaller group size and in this respect may have influenced differences between the units and also in finding or not finding a significant effect size for some statistical procedures. However post hoc calculations showed that even with the smaller sample sizes, a medium effect size would provide power which was considered satisfactory for the study. A further limitation in the study is that the research has used correlations to guide interpretations. However correlations do not suggest causality and this has limitations within the findings.

8.4 Future directions in research

This research has highlighted further avenues of research. It has not been established what exactly is important about TRiM. Perhaps it is simply the knowledge of having TRiM in place and allowing personnel the time or permission to accept that they are human and potentially vulnerable to suffering psychological distress as a result of experiences in combat. Qualitative research may prove important in focussing on exactly what it is that personnel require in terms of support and how best this could be facilitated, whether in theatre or having returned to the UK. By using a qualitative method of semi-structured interviews this would allow the researcher to direct the interview and harness the subjective experiences of what the troops feel regarding TRiM and how best to facilitate disclosure. Therefore this aspect of the study would benefit from further research. Females are a substantial part of the military. As females were not involved in this study this has been a neglected area. In this respect a further direction of research to pursue could include the voice of females to obtain a qualitative perspective on TRiM. It also appears that research has not been conducted

over the three branches of the forces, Army, Royal Navy and RAF. Distinguishing the methods of support available in each branch and evaluating the effectiveness of support, either by qualitative or quantitative methods, could prove fruitful.

A further direction of study could focus on actual experiences of stigmatisation rather than perceptions and exploring the prevalence of real stigmatic experiences within the military. Actual experiences may be different to the perceived attitudes of leaders or peers. Assuming that others hold such negative views may increase the fear of admitting to psychological problems and in turn prevent confirmation or disconfirmation of such negative responses.

8.5 Implications for Counselling Psychology

Military personnel increasingly encounter numerous traumatic events within theatre with the potential of suffering adverse psychological post-trauma reactions. As a result any strategies that advance knowledge of prevention or moderation of post-trauma reactions and the accompanying psychological distress is of significant importance, not only to the military, but also to practicing psychologists within National Health Service settings and private practice. Many avenues have been pursued to this end, however as no intervention has been found to be fully successful, the research continues. Within the NHS there are few facilities that deal exclusively with trauma and often, as has been experienced by the researcher, veterans find themselves waiting in lengthy NHS queues for treatment that may not be adequate for their needs. This research may help to illuminate what is important in terms of support for those involved in combat and now outside of the military arena.

Within the military this research has shown that there remain barriers to admitting to and seeking psychological assistance and this is a problem often encountered within the clinical practice of the researcher. Concerns are regularly voiced at the fear of being ‘discovered’ attending an appointment with a psychologist. Often physical reasons are requested for taking sick leave rather than psychological reasons as this is felt to be more acceptable within the military environment. There are very real barriers to admitting to suffering from psychological problems and this is an issue that the military have recently acknowledged and are beginning to address. However to date research is only beginning to address the problem of stigma within the three

branches of the forces. The factors that have been identified from the principle components analysis may assist practitioners in targeting specific problem areas, such as normalising the possibility of combat stress reactions, encouraging individuals to be open to their own feelings, and reducing the reluctance to seek help. In this respect psycho-education could play an important part in facilitating the de-stigmatisation and acceptance of therapy.

This current research has attempted to bridge one strand of what needs to be addressed. The data is available to Kings Centre for Military Health Research in order that they can appropriately make use of the findings. It is anticipated that as the data will be available to this research facility, then respondents of the research questionnaire, and other military personnel, will benefit from the findings of the research in the longer term.

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Appendices

Appendix A

DSM IV Criteria for Post Traumatic Stress Disorder

A. The person has been exposed to a traumatic event in which both of the following were present:
   (1) The person experienced, witnessed or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others
   (2) The person's response involved intense fear, helplessness, or horror. Note: in children this may be expressed instead by disorganised or agitated behaviour

B. The traumatic event is persistently re-experienced in one (or more) of the following ways:
   (1) recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions. Note: In young children repetitive play may occur in which themes or aspects of the trauma are expressed
   (2) recurrent distressing dreams of the event. Note: in children there may be frightening dreams without recognisable content
   (3) acting or feeling as if the traumatic event were occurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur on awakening or when intoxicated). Note: In young children, trauma specific re-enactment may occur.
   (4) intense psychological distress at exposure to internal or external cues that symbolise or resemble an aspect of the traumatic event
   (5) physiological reactivity on exposure to internal or external cues that resemble an aspect of the traumatic event.

C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma) as indicated by three or more of the following:

(1) efforts to avoid thoughts, feelings or conversations associated with the trauma
(2) efforts to avoid activities, places or people that arouse recollections of the trauma
(3) inability to recall an important aspect of the trauma
(4) markedly diminished interest or participation in significant activities
(5) feeling of detachment or estrangement from others
(6) restricted range of affect (e.g., unable to have loving feelings)
(7) sense of a foreshortened future (e.g., does not expect to have a career, marriage, children or a normal lifespan)

D. Persistent symptoms of increased arousal (not present before the trauma) as indicated by two (or more) of the following:
(1) difficulty falling or staying asleep
(2) irritability or outbursts of anger
(3) difficulty concentrating
(4) hypervigilance
(5) exaggerated startle response

E. Duration of the disturbance (Symptoms in Criteria B, C, or D) is more than one month.

F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Specify if:
acute: if duration of symptoms is less than 3 months
chronic: if duration of symptoms is more than 3 months

Specify if:
With delayed onset: if onset of symptoms is at least 6 months after the stressor.

Taken from the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) 1994.

Appendix B

Stages of TRiM Training

a) To understand the rationale for post incident psychological management
b) To understand the basic psychological principles relating to traumatic stress
c) To identify a range of responses that occur in those individuals exposed to traumatic incidents
d) To plan a management strategy that considers the needs of those exposed to the psychological trauma
e) To provide psycho-educational briefings
f) To interview and assess groups and individuals using a structured format to identify high risk individuals
g) To assist and advise managers on the basis of trauma risk assessments
h) To identify and refer those who are at risk of developing a post-traumatic illness at an early stage

Taken from the internal Royal Navy Trauma Risk Management Manual devised by Surgeon Commander Neil Greenberg.

Appendix C

Risk Factors used in the Trauma Risk Assessment Tool

1) The persons felt that they were out of control during the event
2) The person felt that their life was threatened during the event
3) The person blamed others for what happened
4) The person felt ashamed about their behaviour during the event
5) The person experienced acute stress following the event
6) The person has been exposed to substantial stress (work, home, health) since the event
7) The person is having problems with daily activities
8) The persons has been involved in previous traumatic events
9) The person has poor support from others i.e. family, friends, team support
10) The person has been drinking alcohol excessively or using drugs to cope with the distress

Taken from the internal Royal Navy Trauma Risk Management Manual devised by Surgeon Commander Neil Greenberg.

Appendix D

Questionnaire Booklet used in Research

Appendix E

Application and Authorisation for MoDREC Approval

Appendix F

Coding of Questionnaire

Appendix G

Précis of Research

Appendix H

Principal Components Analysis – Attitude to Mental Health Questionnaire

Orthogonal factor loading matrix for thirteen stigma components

Group 1 Pre-deployment data

Variable	Factor 1	Factor 2	Factor 3
Trust	.021	**.882**	.047
Location	.196	**.646**	.165
Time	.635	.003	-.234
Leader Time	.566	.459	-.327
Embarrassed	**.756**	.126	.099
Harm Career	**.725**	.218	.129
Less Confidence	.640	.130	.408
Peer Sympathy	.035	.213	**.740**
Treat Different	**.818**	-.005	.206
Leader Blame	**.733**	.186	.101
Leader Sympathy	.242	.111	**.751**
Weak	**.730**	.052	.235
Treatment Works	.080	**.672**	.182

Orthogonal factor loading matrix for thirteen stigma components

Group 1 Post-deployment data

Variable	Factor 1	Factor 2	Factor 3
Trust	.145	.303	**.793**
Location	.001	.027	**.898**
Time	.661	-.420	.304
Leader Time	.719	-.296	.218
Embarrassed	.776	-.244	.115
Harm Career	**.836**	-.226	.038
Less Confidence	**.907**	.009	-.031
Peer Sympathy	-.228	**.831**	.142
Treat Different	**.853**	-.037	-.005
Leader Blame	**.888**	-.137	.081
Leader Sympathy	-.137	**.848**	.113
Weak	**.839**	.128	-.077
Treatment Works	.030	.521	**.447**

Orthogonal factor loading matrix for thirteen stigma components

Group 2 Pre-deployment data

Variable	Factor 1	Factor 2	Factor 3
Trust	.186	**.784**	.071
Location	.254	**.770**	.128
Time	.142	.043	**.867**
Leader Time	.306	.118	**.767**
Embarrassed	.604	.048	.463
Harm Career	**.877**	.063	.156
Less Confidence	**.906**	-.009	.131
Peer Sympathy	-.065	.685	-.288
Treat Different	**.912**	.013	.056
Leader Blame	.746	.153	.171
Leader Sympathy	-.112	**.767**	.176
Weak	.694	.339	.230
Treatment Works	.138	**.721**	.091

Orthogonal factor loading matrix for thirteen stigma components

Group 2 Post-deployment data

Variable	Factor 1	Factor 2
Trust	-.049	**.836**
Location	.019	**.827**
Time	.803	.032
Leader Time	.806	-.099
Embarrassed	**.826**	-.059
Harm Career	**.835**	-.080
Less Confidence	**.884**	-.189
Peer Sympathy	-.767	.107
Treat Different	.742	-.272
Leader Blame	**.880**	-.094
Leader Sympathy	-.663	.329
Weak	**.893**	-.101
Treatment Works	-.438	**.623**

Appendix I

Sub-sample of Identifiable Participants

A sub-sample (2) was obtained from the larger population of data, consisting of 10 participants from group 1 and 10 from group 2, of which responses could be traced pre and post-deployment thereby allowing identification of changes. Three participants indicated caseness on the GHQ pre-deployment and these scores reduced to 0 post-deployment. These three participants will now be discussed. There was no distress indicated from the PCL, in fact one of the participants changed from the baseline score of 17 to 18, and two reduced post-deployment. Education for these three was at the level of 'A' levels and Degree/Postgraduate. All were of junior ranks, possibly suggesting that junior ranks have the most stressful experiences. Two were first-born children and one the youngest child. Two indicated social support pre- and post-deployment and one indicated no social support at all. One indicated no emotional problems, one indicated emotional problems, and the other indicated that they did not know pre-deployment but did have emotional problems post-deployment. Only one indicated current stresses. Two indicated they felt supported during their tour of duty and one not, no one indicated that work was outside their ability and all felt that they had been exposed to danger. There appeared to be no pattern with regard to responses from the stigma questionnaire with views changing in all directions.

There are no indications of caseness on the PCL from subsample (2). However there are 2 participants with increases post-deployment above an arbitrary score of 30. Both are of junior ranks, again suggesting that junior ranks may have the most stressful experiences or perceive stress in a different way, neither have a partner, both indicate social support, and both indicate either 'don't know' or positive to suffering emotional problems pre-deployment but not post-deployment. Both indicate that their family have emotional problems pre-deployment but only one indicates this post-deployment. One indicates suffering stress pre-deployment and neither indicates this post-deployment. Both have been involved in committing aggressive acts, perceiving the self to have been in danger, have UK forces experience, neither felt that work was

outside their ability and both felt supported during their tour of duty. Again there appears to be no pattern to the responses on the stigma questionnaire, although responses do appear to be more negative than positive in relation to self perceptions and feelings pre and post-deployment for one participant and more positive for the other participant post-deployment.

The correlation matrix illustrated nothing of note that had not been found in the larger population; correlations were in the expected direction and coincided with the correlations of the larger population. However these participants were selected simply as a result of indicating a means of identification to ease tracking of their forms. Therefore the fact that nothing of significance has been noted is not surprising.

A cluster analysis was conducted on the variables '*marital status, social support, emotional problems, family emotional problems, deployment, GHQ, PCL, and feeling supported during the tour of duty*' for the sub-sample (2). Again, as in the larger population the individuals seen as being most different from the rest of the group were those showing a high score for pre PCL and GHQ. Post-deployment PCL scores were high, although post-deployment GHQ scores were low. Other variables did not appear to affect the cluster.

Appendix J

Statistical Analysis of Stepwise Multiple Regression

Stepwise multiple regression was conducted for the 40 Commandos pre-deployment data with the dependent variable of PCL (C). The GHQ 12 was entered first and explained 31% of the variance in the PCL ($F\ [df = 1, 83] = 36.47$, $p < 0.001$). No further variables were entered. The PCL (C) is therefore associated with the GHQ 12. Stepwise multiple regression was conducted for the 40 Commandos post-deployment data with the dependent variable of the PCL (C). The GHQ 12 was entered first and explained 40% of the variance in the PCL (C) ($F\ [df = 1, 71] = 47.71$, $p < 0.001$). Family emotional problems was entered second and explained a further 6% of the variance ($F\ [df = 1, 70] = 8.04$, $p < 0.05$). Marital status was entered third and explained a further 5% of the variance ($F\ [df = 1, 69] = 6.52$, $p < 0.05$). Emotional problems was entered fourth and explained a further 4% of the variance in the PCL (C) ($F\ [df\ 1, 68] = 6.03$, $p < 0.05$). The PCL (C) is therefore associated with the GHQ 12, family emotional problems, marital status and emotional problems.

Stepwise multiple regression was conducted for the Coldstream Guards pre-deployment data with the dependent variable of the PCL (C). The GHQ 12 was entered first and explained 30% of the variance in the PCL (C) ($F\ [df = 1, 65] = 28.23$, $p < 0.001$). Emotional problems was entered second and explained a further 12% of the variance in the PCL (C) ($F\ [df = 1, 64] = 12.83$, $p = 0.001$). Social support was entered third and explained a further 4% of the variance ($F\ [df, 1, 63] = 4.60$, $p < 0.05$). The PCL (C) is therefore associated with the GHQ 12, emotional problems and social support. Stepwise multiple regression was conducted for the Coldstream Guards post-deployment data with the dependent variable of the PCL (C). The GHQ 12 was entered first and explained 45% of the variance in the PCL (C) ($F\ [df = 1, 34] = 27.90$, $p < 0.001$). No further variables were entered. The PCL (C) is therefore associated with the GHQ 12.

Stepwise multiple regression was conducted for the 40 Commandos pre-deployment data with the dependent variable of the GHQ 12. The PCL (C) was entered first and explained 31% of the variance in the GHQ 12 ($F\ [df = 1, 83] = 36.47$, $p < 0.001$). Current stressors was entered second and explained a further 7% of the variance in the GHQ 12 ($F\ [df = 1, 82] = 8.78$, $p < 0.05$). No further variables were entered. The GHQ 12 is therefore associated with the PCL (C) and current stressors. Stepwise multiple regression was conducted for the 40 Commandos post-deployment with the dependent variable of the GHQ 12, the PCL (C) was entered first and explained 40% of the variance in the GHQ 12 ($F\ [df = 1, 71] = 47.71$, $p < 0.001$). No further variables were entered. The GHQ 12 is therefore associated with the PCL (C).

Stepwise multiple regression was conducted for the Coldstream Guards pre-deployment with the dependent variable of the GHQ 12, the PCL (C) was entered first and explained 30% of the variance in the GHQ 12 ($F\ [df = 1, 65] = 28.23$, $p < 0.001$). No further variables were entered. The GHQ 12 is therefore associated with the PCL (C). Stepwise multiple regression analysis was conducted for the Coldstream Guards post-deployment. The PCL (C) was entered first and explained 45% of the variance in the GHQ 12 ($F\ [df = 1, 34] = 27.90$, $p < 0.001$). No further variables were entered. The GHQ 12 is therefore associated with the PCL (C).

Section C - A Critical Review of the Literature:

Perspectives on Guilt within Post Traumatic Stress Disorder

Introduction and Aims

A traumatic event can be defined as one that violates fundamental beliefs about the self and the world, generating feelings of helplessness, horror and disgust, and that exerts increasing demands upon, and overwhelms an individual's capacity for coping (Flack, Litz & Keane, 1998). During a traumatic event situational pressures can lead to confusion and often actions during the trauma require immediate decisions. Under these extraordinarily powerful demands Wilson (2006) suggests that the individual may act in ways which are contrary to or atypical of their customary ways of being, which in turn can lead to feelings of guilt over actions conducted and violation of personal moral values. Research has shown that trauma-related guilt is a common occurrence in survivors of traumas such as combat (Shay, 1995) child sexual abuse and rape (Kubany, 1998; Kubany & Manke, 1995; Kubany & Ralston, 2006; Resick, 2001; Resick & Schnicke, 1993). This paper will critically address the theoretical perspectives on trauma related guilt, cognitions, affect and the impact upon the individual.

1.1 Definition of Guilt

Kubany (1998 p.126) has defined guilt as: “an unpleasant feeling accompanied by a belief (or beliefs) that one should have thought, felt, or acted differently”. This implies that guilt involves an act combined with a perception or feeling of culpability, although the word ‘unpleasant’ does not necessarily reflect the intensity of the affect that can be experienced in guilt. However, most researchers (e.g. Kubany, 1998; Kubany, Abueg, Brennan, Haynes, Manke & Stahura, 1996; Kubany & Watson, 2003; Kugler & Jones, 1992) tend to agree that guilt possesses both an affective component and interpretative or cognitive features. Indeed the cognitive aspect involves interrelated beliefs about ones role or actions in a trauma which in turn influences the emotional component. Gilbert (1997) asserts that this dual dimensional perspective on guilt accords with appraisal theories of emotion which suggest that negative emotions are linked with interpretations or explanations of the arousal. Kubany (1998) proposes that the affect associated with a thought leads to the belief that the thought is right. Therefore because an individual feels that something they did was wrong, or that they feel responsible, then this must be right. However, the intensity of affect does not signal that the thought is correct. Indeed this is one of the thinking errors identified by Beck (1995) as influencing emotional problems, and as Lewis (1971) asserts, guilt is often linked with difficulties in emotional self-regulation and psychopathology. Resick and Schnicke (1992; 1993; Resick, 2001) propose that post-trauma affect is often limited to fear, however could include a range of other strong emotions such as shame, guilt, anger, sadness, blame, and in line with Janoff-Bulman (1992) negative beliefs about the self, others and the world. Wilson (2006) suggests guilt involves personal assessment of ones actions which evokes the emotions of remorse, regret and embarrassment. This would tend to suggest that actions are evaluated in accordance with the expectations of others. In this respect guilt quite rightly involves a social element.

1.2 Social Perspectives on Guilt

Responses to trauma are influenced by social and cultural standards and expectations. Taylor (2006) posits that individuals live by a set of internalised personal standards and based on this assertion guilt can be accompanied by the belief that one should have thought, felt or acted in a particular manner. However Kugler and Jones (1992)

suggest that guilt can have both an adaptive and maladaptive purpose. In moderation levels of guilt can serve as an inhibiting factor in social behaviour or transgression of social rules guilt can stimulate restitution, thereby regulating social functions, although if guilt is excessive dysfunctional and disruptive experiences can occur (Lewis, 1971).

Gilbert (1997) suggests that guilt is measured in relation to moral standards, corresponding with the general views of Wilson (2006) although Gilbert (1997) specifically mentions within guilt a fear of hurting others and asserts that genuine guilt relates to sympathy for harm done and empathy for others, according with the thinking of Lee, Scragg and Turner (2001). In this respect Lee et al. (2001) posit that guilt is a self-conscious affect. Tangney (1995) suggests that guilt focuses on specific behaviours and correspondingly Wilson (2006) posits that the guilty person can feel culpable over personal actions and experiences a responsibility, unable to escape social and external scrutiny. However Wilson (2006) does not acknowledge private transgressions. If the act of wrongdoing was not made public and the offender remained anonymous then guilt can still be present, but hidden. Therefore the scrutiny would be internal and the individual would be unable to escape from personal recrimination. In respect of recriminations, guilt motivates the desire to repair harm rather than concealment, although one could argue that concealment does not always negate the motivation to reparation. Supporting this proposition, Lee et al. (2001) also suggest that guilt involves a sense of debt and a need to make amends and that guilt laden memories focus on a desire to confess wrongdoing, whether real or imagined, in an attempt to make reparation to the other. The researchers cited here tend to focus on ‘the other’. However they neglect the insight into guilt and the reasons for the desire to make amends. They neglect the need for social attractiveness within the group.

Gilbert (1997) in his seminal work on guilt and shame focuses on social acceptance and social standing. However he approaches guilt from a different perspective. He argues that guilt should be linked to the evolution of co-operative behaviour and caring, along with the cognitive-emotional components that serve those functions. He feels that guilt is rooted in a desire to keep the other functioning adequately, but of having failed to do so. However, Gilbert (1997) also notes that this guilt-induced helping behaviour can be influenced by wishing to maintain a positive self-image,

with the emphasis on social standing within the group. This is in support of an empirical review of the literature on guilt by Baumeister, Stillwell and Heatherton (1994) who found that guilt is associated with transgression of behaviour in interpersonal contexts; it varies significantly between contexts and is strongest in intensity in tightly knit communities where reciprocal mutual concern is expected and monitored. In this respect the tightly knit community identified by Baumeister et al. (1994) may reflect the military environment where high levels of morale and group cohesion are sought after and the need to be accepted by the group is strong. This, in itself, could influence the prevalence of guilt over any transgressions.

1.3 Dimensions of Guilt

Kubany (1998) posits that guilt was a significant feature of PTSD in the DSM III but was reduced to an associated feature in DSM IV (American Psychiatric Association, 1994) as guilt was thought to be narrowly restricted to 'survival' from the trauma. Many researchers (e.g. Wilson et al., 2006) assert that surviving a trauma that claimed the lives of others is the most common form of guilt. This is often encountered in combat and can elicit conflicting emotions of sadness at the loss of others lives contrasted with relief and happiness at being spared. Shay (1994) acknowledges the prevalence of survivor guilt asserting that it can lead to constant futile searches for why the victim survived whilst others died. Wilson (2006) asserts that if the dead person was valued, the more likely the survivor will feel that they have let the deceased down by living, supporting the views of Gilbert (1997) who also suggests that there will often be a wish to be in the deceased's place. Any feelings of inferiority or worthlessness can often exacerbate this feeling of guilt. In support of the focus on survival Khouzam and Kissmeyer (1997) suggest that trauma-related guilt may involve painful feelings about surviving when others did not or about the acts one had to do in order to survive. Gilbert (1997) goes further than other researchers in asserting that survivor guilt involves a feeling of not deserving to live a particular life or of not even having the right to feel good if others have died. In support of the concept of survivor guilt, Abueg (1993) whilst developing the combat related guilt survey, found that in a sample of 32 Vietnam Veterans with PTSD 88% reported guilt at having survived the war when others died. Liften (1967) acknowledges survivor guilt although uses the term 'death guilt' and adopts a slightly different perspective. It relates to the survivor finding difficulty in creating meaning to their survival in the

face of death and experiencing acute sensitivity and awareness of what they endured during the trauma. In this respect there is general agreement on the concept of survivor guilt.

In contrast, however other researchers (e.g. Kubany et al., 1996) assert that often trauma-related guilt concerns are unrelated to survival. Kubany and Manke (1995) suggest that trauma survivors experience guilt about many aspects of the trauma; things they did or did not do, feelings they had or did not have, and for having beliefs or thoughts that turned out to be untrue. Kubany and Watson (2003) have found from clinical work and research that trauma-related guilt can be observed in innocent witnesses and victims and therefore suggest that contextual variables of the situation are important influencing determinants of guilt. However Kubany (1998) and Kubany et al. (1995; 1996) rather than pursue the other dimensions of guilt in as much detail as researchers such as Wilson (2006) they focus on cognitions within trauma-related guilt, to be addressed later. In contrast Wilson (2006) neglects the role of cognitions but adopts a more experiential view, focussing on the guilty act and subsequent outcomes; the post-traumatic self. Wilson (2006) focuses more on the potentially positive aspects of functioning post-trauma and tends to be more general rather than specific in his assertions. Wilson et al. (2006) have identified psychosocial dimensions of post-traumatic guilt (see Appendix A). However, although these identify specific dimensions they are not entirely distinct. There is much overlap and many of the dimensions could be experienced within the same traumatic incident.

In looking at the dimensions in more detail, Wilson et al. (2006) assert that trauma-related guilt arises out of failed personal enactments, supporting the work of Kubany and Manke (1995) and can involve either acting badly or failing to act properly contrary to ones own personal standards or values, or as Lee et al. (2001) posit having done something against a code of conduct. Acting contrary to personal moral standards in situations of intense coercive situational forces can evoke emotions of guilt and wrongdoing, for example soldiers extracting revenge and retribution in return for acts committed to their own troops, such as the My Lai massacre in the Vietnam War in 1968 when suspected ‘enemies’ of elderly males, women and children were killed (Wilson et al., 2006). Wilson (2006) posits that realisation after the event of the horror and enormity of acts that were not justified can evoke

overwhelming feelings of guilt. Similarly Gilbert (1997) concurs that guilt can be induced through such vengeful acts perceived after the event as wrong. In this respect the powerful situational forces that existed, exerted pressure on the individual to act in a way that violated personal values and moral codes. Moral reasoning after the event can lead to the realisation that the acts committed are irreversible and consequently, one has to live with self-debilitating guilt of personal responsibility to committing such wrongful acts. Tangney and Dearing (2003) in support, suggest that guilt shares the same features of a response to negative events involving moral failures or wrongdoings, self-appraisals about behaviour, negative affect, cognitive attributions about behaviour, and supporting the work of Baumeister et al. (1994) the interpersonal context of occurrence.

Another form of guilt is bystander guilt which can occur over failure to assist others who are in need during or after a traumatic event. Wilson (2006) asserts that bystander guilt can be rational, in that the survivor is aware of actions they could have taken to help others but failed to do so. However in irrational bystander guilt survivors often feel that they should, or could have conducted specific behaviours during the event but failed to do so, albeit their fears may be unfounded. Actions taken during the trauma may be reasonable to others but the individual may continue to strongly reproach oneself.

These examples of psychosocial dimensions of guilt tend to suggest state-dependent guilt, or transitory guilt, arising as a result of influential situational determinants. This appears to be a realistic appraisal of guilt. However Kugler and Jones (1992) suggest that guilt may also be an enduring personality trait reflecting psychological factors, and this aspect is not addressed by the other researchers. Kugler and Jones (1992) do not adequately address as to how trait guilt evolves, although it is suggested that it may be influenced by neurosis. In that respect one could question as to whether trait-related guilt actually arises from previous traumas whereby transgressions or actions conducted either violated moral standards or were as a result of powerful situational determinants, thereby arising from state-dependent guilt. However if state-dependent guilt remains within the psyche for an extended period and affects functioning then this could be suggestive of a personality trait.

1.4 Trauma-Related Guilt within the Military

Kubany and Watson (2003) suggest that guilt and self-blame have been identified as common sequelae of many kinds of traumatic event such as childhood abuse and especially combat (Kubany, 1994). Guilt can be distinct in military combat, as a soldier can be a bystander or victim, as well as the aggressor and particularly important for veterans, Janoff-Bulman (1992) suggests, are themes regarding trust, self-control and guilt. Kubany (1998) posits that post-traumatic guilt can increase the risk for vulnerability for suffering PTSD and that trauma-related guilt and survivors explanations for their role within the trauma plays an important role in maintaining PTSD, corresponding with the views of Resick and Schnicke (1993). Research supporting this view (Kubany et al., 1996) using Vietnam Veterans and battered women found that PTSD and depression were significantly associated with trauma-related guilt on aspects of beliefs of causal responsibility, actions related to wrongdoing and pre-outcome knowledge. Kubany and Raltson (2006) further suggest that guilt is significantly related to PTSD severity and in their conceptualisation of chronic PTSD they suggest that beliefs associated with guilt contribute significantly to the persistence and chronic nature of the trauma-related distress. The individual will experience guilt charged intrusive images from the trauma which in turn will perpetuate the guilt affect. Lee et al. (2001) suggest that attempts to process the trauma will lead to pervasive high levels of guilt and in turn avoidance of thoughts and behaviours related to the trauma.

Research by Kubany et al. (1996) suggests that trauma-related guilt is pervasive in diverse survivor groups and that guilt is a frequent and severe factor in Vietnam Veterans with chronic PTSD. They found that in a mixed sample of Vietnam Veterans including treatment seeking and non-treatment seeking individuals, 65% reported experiencing moderate guilt and 32% reported experiencing considerable to extreme guilt. Only six out of the 149 people sampled reported no trauma related guilt (Kubany et al., 1996) indicating the scale of the problem and further supporting the link between PTSD and trauma-related guilt. Abueg (1993) found in a sample of 32 Vietnam Veterans suffering PTSD 91% reported guilt at not remaining in theatre for longer, even though this decision was out of their control.

Beckham, Feldman and Kirby (1998) posit that guilt has long been implicated in post-war adjustment. They conducted research on 151 help-seeking combat veterans over a one year period using the Trauma Related Guilt Inventory (TRGI: Kubany et al., 1996) as a measure of guilt. The study found that atrocities exposure was significantly related to overall PTSD severity, global guilt and in particular hindsight bias/responsibility and wrongdoing. However as the study design was correlational they suggest that no inferences into causation can be drawn and results cannot be generalised to other populations. Research by Breslau and Davis (1987) and Kulka, Schlenger, Fairbank, Hough, Jordan, Marmar et al. (1990) has shown that exposure to atrocities specifically related to the Vietnam era in relation to witnessing or participating in hurting, killing or mutilating the Vietnamese, eliciting the emotion of guilt, is related to the development of PTSD in combat veterans, and also may be linked to severity of PTSD in combat veterans (Yehuda, Southwick, & Giller, 1992). However these studies did not control for combat exposure and as there is overlap between exposure to combat and atrocities this may have influenced the findings.

The studies mentioned indicate agreement on the prevalence of trauma-related guilt within combat and indicate the relationship between PTSD and guilt, supporting the assertions of Kubany et al. (1996) and Kubany (1998). In contrast however, Wilson et al. (2006) assert that guilt proneness is not positively correlated with PTSD or PTSD severity, although they fail to expand on or provide evidence in support of this proposition. There appears to be confusion within the views of Wilson. Wilson (2006) suggests that this association between guilt and PTSD is variable rather than absolute, depending on which aspects of the self-structure are affected. However, in contrast, Wilson et al. (2006) further assert that there is no impact upon aspects of the self or personality, thereby limiting the effectiveness of their assertion. This is a point which requires further exploration.

1.5 Schemas in Trauma-Related Guilt

Resick (2001) posits that constructivist theories propose that people actively create their own internal representation of themselves and the world. New experiences are assigned meaning based on these representations. These schemas, or themes, are often as a result of early adverse childhood experiences such as childhood abuse or more recent post-trauma negative experiences.

Self-Identity

The experience of guilt can affect perceptions of the self. Brewin (2003) suggests that the meaning and impact of the trauma can reflect the wider consequences of a person's reactions during the trauma and in this respect can point to the kind of person they are. Brewin (2003) asserts that feelings of powerlessness and helplessness are regularly associated with two forms of experienced inferiority linked with the emotion of guilt. Powerlessness, helplessness and guilt occur when an individual believes that they ought to have performed specific acts which they omitted doing and that this omission may have prevented harm to others (Brewin, 2003) corresponding with the idea of failed enactments suggested by Wilson (2006). For example a soldier whose immediate response to a traumatic event was to freeze, and then makes a failed attempt to rescue a fellow comrade he was unable to reach. The soldier may feel guilt at his initial reactions and believe he should have tried harder or acted earlier and that this omission could have led to success. In this respect Wilson (2006) suggests guilt is a form of state-dependent affect in which the soldier will experience self-condemnation, regret and remorse.

Clinical Model of Guilt

In their clinical model of guilt Lee et al. (2001) posit that there are two routes to the development of trauma-related guilt. They suggest that schema congruence arises when the meaning of the trauma is congruent or confirms an individual's underlying guilt schemas that carry a deeper meaning about the self, for example seeing oneself as bad or unworthy. A traumatic event can re-activate latent schemas and become the dominant way of thinking, corroborating research by Beck (1976) on schema activation, and in turn this can elicit high levels of guilt. After a trauma repeated intrusive memories of responses to the event can lead to changes in views of the self and the world. As individuals we have conditional rules or dysfunctional assumptions to which we adhere. When we violate these rules then guilt may be activated along with activation of maladaptive core beliefs. Lee et al. (2001) posit that in trauma-related guilt both unrelenting standards and an over increased sense of responsibility are commonly found. During a trauma when a person acts in a way which fails to come up to previously perceived high standards the trauma may be viewed as a personal failure when compared with pre-existing unrelenting standards which

Brewin (2003) asserts have functioned to avoid the discomfort of experiencing an inferior self. This strategy may have worked well until the trauma. This perceived failure would tend to lead to the re-emergence of an inferior self causing rumination on perceived deficiencies (Brewin, 2003).

Shattered Assumptions

Traumatic circumstances can shatter a person's deeply held beliefs and assumptions about themselves producing discrepancies between old and new beliefs which need to be resolved (Brewin, 2003; Janoff-Bulman, 1992). Corresponding with the views of Lee et al. (2001) Horowitz (1990) posits that trauma-related information needs to be congruent with schematic representations that carry meaning about the self, the other and the world. Incongruence with internal and external worlds is related to emotional discord and psychological distress. Janoff-Bulman (1992) focussed her research on shattered positive assumptions, proposing three major assumptions that may be shattered as a result of the trauma a) personal invulnerability b) assumption that the world is predictable, controllable and fair and c) perception of one's self as positive and worthy. She found that individuals who had confronted trauma had more negative beliefs in those areas than non sufferers. If someone had prior negative beliefs about the self or the world then experiencing a trauma could lead to confirming or reinforcing those beliefs, supporting the work of Brewin (2003) and Lee et al. (2001) in relation to schema congruence. An example would be that if a soldier had low self-esteem then the trauma of failing to come to the aid of a comrade can tend to confirm the soldier to be worthless or bad. Having a history of trauma prior to a further a traumatic event is associated with increased vulnerability to PTSD (Brewin, 2003) therefore the pre-existing trauma may already have shattered positive assumptions. In this respect the subsequent trauma would then be schema-congruent.

Inferior Self

Traumatic events can lead to intense reflective thoughts in relation to actions or characteristics that are experienced as inferior or unworthy (Brewin, 2003). Exposure of these shortcomings could result in rejection by others and when reactions by significant others are punitive, rejecting or invalidating this can serve to consolidate an individual's negative view of the self. If one previously viewed the self as weak and when confronted with a trauma was unable to come to the assistance of others

then this would tend to confirm the negative view of the self. Brewin (2003) proposes that in addition if a person felt helpless or powerless in the situation this can endorse a weak and negative identity. If the consequences endorsed a prior held belief of a negative self then this can lead to the individual accepting responsibility and blame (Brewin, 2003). Ruminations following a trauma are often associated with these related consequences of self identity. Constant rumination on individual actions can lead to intense questioning and replaying of events, leading to negative thoughts of responsibility, blame and challenges to ones identity (Brewin, 2003). Horowitz (1990) asserts that this incongruence in self-perception forms the basis of intrusive activity in PTSD. In contrast if one did respond in a positive manner this could trigger an unexpected 'competent self' identity (Brewin, 2003 p. 71).

Positive Self

Experience of a trauma may contradict a previously held belief of a positive and optimistic self. Brewin (2003) proposes that if a person felt helpless or powerless in the situation this can serve to undermine a competent and positive identity. If an individual previously held the belief that they were brave and strong and would assist others when in danger, but when confronted with a trauma was simply paralyzed with fear and unable to assist, then this would produce contradictory information about the self leading to feelings of guilt or shame. In schema incongruence the trauma provides a mismatch of meaning with pre-existing schemas, which conflicts with the deeper meaning of the self. In contrast, Lee et al. (2001) assert that if one has a robust sense of self and during the trauma saved ones own life rather than others then this may only induce a sense of guilt associated with the trauma, thereby not affecting the whole experience of the sense of self. Correspondingly Wilson (2006) asserts that cognitive attributions experienced in guilt are external and focus on the faulty act rather than the badness of the self therefore there may be only minimal impact on the core dimensions of the self. Wilson et al. (2006) posit that there would be no loss of identity. Also Tangney (1995) asserts that guilt does not involve internal appraisal about the self. However I would strongly question that if an individual experiences one or a number of traumas which are schema incongruent then indeed the sense of self may be questioned. These repeated experiences would elicit concern over ones positive identity and in turn impact upon psychological functioning, supporting the views of Brewin (2003). Self-condemnation may occur and this can lead to

undermining a previous positive self identity. If there is loss of a positive self, then questions may arise as to responsibility for the pain caused to others.

Guilt can occur when an individual has committed an act that had serious consequences, for example causing the death of another through combat and when an individual has acted in a way that has harmed others this may interfere with their ability to see themselves as a caring responsible member of the community. Wilson (2006) suggests guilt may be evoked through transgressions that generate negative consequences at the expense of others, perceived after the event as selfish, or even perceived as a betrayal, such as a soldier failing to rescue a comrade in order to save himself. This may expose such cognitions such as "I thought about myself and my safety rather than helping others". Gilbert (1997) suggests that such overwhelming emotions of guilt can influence the desire for self-punishment. Pitman et al. (1991) suggest that negative affect laden cognitions of guilt can themselves function as a form of self punishment. However, counter-intuitively Wilson (2006) asserts that guilt has a low potential for suicidality, an area neglected by most other researchers. If there are negative consequences as a result of ones actions and those actions resulted in serious injury or death, I would indeed question the assertions of Wilson (2006) and posit that suicide can result from guilty transgressions, if the affect is overwhelming. That said, most researchers agree that the emotions of remorse and regret can influence motivations to make reparation for the damage done, to make amends.

1.6 Restitution

Lee et al. (2001) suggest that guilt-laden memories of the trauma increase the desire to confess either real or imagined wrong-doing in an attempt to repair the damage. They suggest that in combat-related guilt it may not always be possible to make amends if death is the outcome. Kubany (1998) suggests that if restitution is blocked then memories of the trauma become too emotionally painful, leading to increased avoidance reactions. This can lead to experiencing intense emotions along with negative self-cognitions. Therefore in chronic guilt where amends cannot be made, dysfunctional behaviours such as social isolation and increased alcohol abuse may be embraced in an attempt to manage or avoid the guilt. Memories of the trauma may continue to evoke pain over time as the guilt associated appraisals such as "I should

have taken some action" "I could have stopped it" "It was my fault" continue to evoke negative affect and maintain the trauma-related guilt. Gilbert (1997) also posits that guilt can involve a strong desire to seek redemption. Usually this involves efforts to repair the sense of self in order to feel good and whole again and develop self-acceptance. In support of this proposition Wilson et al. (2006) suggest that guilt highlights moral standards, creating a sense of control which supports the idea that there is order and meaning in the world, and that this strengthens reconciling with others and being forgiven for transgressions within the trauma.

1.7 Measures for Assessing Guilt within Trauma

Kubany et al. (1996) devised the Trauma Related Guilt Inventory (TRGI) using seven separate studies over a three and a half year period with Vietnam Veterans and battered women. They identified four primary factors of guilt; emotional distress, hindsight bias and responsibility, wrongdoing by violation of personal standards, and lack of justification for actions. The TRGI was found to correlate with PTSD and failure to adjust post-trauma. The findings support conceptualising trauma-related guilt as multidimensional and indicate the predominance of the role of cognitions within trauma-related guilt. However, clinical observations revealed that the multiple sources of severe combat related guilt were regularly undetected and therefore not treated. As a result Kubany, Abueg, Kilauano, Manke and Kaplan (1997) developed the TRGI – War-Zone version. The main intention was to raise awareness of war-related guilt so clinicians were better prepared to assess and treat sufferers. In the TRGI – War Zone Version there are 121 questions specifically related to events occurring in theatre. Questions relate to acts committed, omitted or witnessed in relation to comrades, enemy forces and innocent civilians. This is no doubt a better and more valuable tool for clinicians working specifically with combat personnel and a review of the literature suggests there appears to be no other tools of significance available.

1.8 Cognitive Model of Guilt

Kubany and colleagues appear to dominate the literature on cognitions within trauma-related guilt, although Brewin (2003) makes a significant contribution on cognitive processes within trauma, and Lee et al. (2001) proposed a similar cognitive model to Kubany (1998). Correspondingly this area has been neglected by other researchers

(e.g. Wilson, 2006; Wilson et al., 2006). Much of the research on the role of cognition within trauma has focussed on guilt and self-blame (Kubany, 1998). Kubany and Manke (1995) from their research into trauma-related guilt proposed that there are four kinds of faulty thinking that trauma survivors often engage in, all involving distortion of the cognitive component of guilt. Trauma survivors often exaggerate or misinterpret their significance in traumatic incidents and in turn experience irrational and inflated feelings of guilt. As a result a most significant contribution to the theoretical area of guilt within trauma, and which is of practical importance to the success of clinical work, Kubany (1998) devised a cognitive model of trauma-related guilt which identifies the faulty cognitions involved.

Hindsight Bias

Hawkins and Hastie (1990) propose that hindsight bias is the tendency for individuals with outcome knowledge of an event, to falsely believe that they would have or could have predicted the outcome, thereby influencing judgement on what should have been done. In this respect knowing the outcome of the trauma can bias recollection of what was actually known before the trauma occurred. Kubany (1998) suggested that in hindsight bias individuals believe that they 'knew' the trauma was going to happen even before it was possible to know, or that they ignored cues that suggested it was going to happen. Indeed, in clinical practice (e.g. Foa & Kozak, 1986; Follette & Ruzek, 1998; Kubany, 1998) many survivors of traumas often use phrases such as 'I should have known' and 'I could have prevented it' suggesting that clues indicating what was going to happen were present, when often they never existed. As a result this type of distorted thinking can lead to guilt in relation to failed personal enactments whereby individuals perceive they could have prevented the trauma or at least positively influenced the outcome. This faulty thinking can seriously hinder the outcome of any therapeutic recovery from PTSD.

Justification Distortion

Kubany (1998) proposed that in justification distortion many individuals feel that if an objective analysis of the event were conducted their actions within the traumatic event would be less than justified. During many traumatic events such as combat where time is precious often individuals fail to make allowances for the fact that split-second decision making is expected under stressful circumstances. Rarely does time permit

logical thought processes and this can lead to overwhelming the capacities of the individual, corresponding with the powerful situational determinants identified by Wilson (2006). Afterwards survivors rehash the trauma asking why the trauma occurred and why they took particular actions. Often the outcome of the trauma influences judgement of what they feel they should have done, leading them to disregard what they actually thought was going to happen at the time of the trauma, similar to hindsight bias. Kubany (1998) suggests that some survivors suffer self-recriminations for not acting on hunches or intuition. For example a survivor of combat criticised himself for not confronting a female civilian who later was exposed as a suicide bomber and whose actions injured a colleague. The soldier felt that his actions in allowing the female to continue with her journey were less than justified. He felt he 'should have known' what was going to happen even though there were no cues present to show that anything would happen. Justification distortion tends to overlap with the other distortions identified by Kubany (1998). In this respect justification could easily be subsumed under the other distortion headings.

Responsibility Distortion

In responsibility distortion many individuals feel that they share responsibility for the traumatic event and subsequent negative outcomes (Kubany, 1998). Often individuals inflate responsibility for the trauma and correspondingly dismiss or ignore the role others played in the event, either individually or in total. For example a childhood abuse survivor blamed herself for allowing the abuse to continue for some years and dismissed the fact that she had tried to inform her parents, had asked them not to leave her alone with her abuser, and had repeatedly asked the abuser to stop. Indeed some individuals feel that not only do they feel responsible for failing to prevent the trauma, but they feel that they actually caused the particular outcome. Kubany (1998) proposes that erroneous guilty thinking leads many survivors to wrongly equate 'not preventing the trauma' to meaning they 'caused the outcome of the trauma'. Responsibility distortion is a very real concern of many survivors of trauma and is encountered often in clinical practice.

Wrongdoing Distortion

In wrongdoing distortion many individuals believe they have violated personal and moral convictions, even though their actions and intentions supported their ethics

(Kubany, 1998) at the time of the trauma. Many individuals rate their actions upon the severity of the outcome. For example child abuse survivors may feel that they have done something wrong and feel dirty just because the act happened. Included in the wrongdoing distortion is failing to realise that emotional and physical responses are not always under voluntary control. Clinical practice (e.g. Taylor, 2006) shows that many combat veterans experience guilt for having fear reactions during combat which affected their subsequent actions. Abueg (1993) found that in the sample of 32 Vietnam Veterans 88% reported guilt at having felt scared in combat. 'Freezing' in response to a stressor which in turn prevented immediate action of rescuing a comrade in the field can lead to the individual feeling that by acting differently the wrongdoing could have been avoided. Negative appraisals of the event may lead to thoughts such as "I am weak" or "I am a useless soldier". However one does not choose to be afraid; emotional actions are not intellectual choices which are under conscious control. Kubany (1998) suggests that perceptions of wrongdoing violates strong values in failing to adhere to often unattainable personal standards, corresponding with the views of other researchers (e.g. Lee et al., 2001). Kubany & Ralston (2006) suggest that when paired with recollections of the trauma in the form of images or thoughts these negative affect laden appraisals can restructure the memories of the trauma with elevated distress.

Expansion of the Model

Kubany and Watson (2003) attempted to expand and elaborate on the previous model of guilt devised by Kubany (1998) and propose a more complex model. As guilt is conceptualised as multi-component they propose a model that is multidimensional, supporting the research into validation of the TRGI (Kubany et al., 2006). They suggest 5 factors. The initial component is distress about a negative outcome arising from the traumatic event. However this simply corresponds with the affect identified by other researchers (e.g. Gilbert, 1997; Kubany, 1998; Kugler & Jones, 1992) in the dual dimensional definition of guilt. Kubany and Watson (2003) identify 4 interrelated beliefs, similar to the original model devised by Kubany (1998) of, a) perceived responsibility for causing a negative outcome, b) perceived insufficient justification for actions taken, c) perceived violation of values, and d) belief about forseeability and preventability. Again the concept of justification could easily be

condensed within the other beliefs. The other concepts correspond with the original model of Kubany (1998).

These variables have been identified through clinical work, a review of the literature, and analyses of interviews of trauma survivors. Notions of wrongdoing and responsibility are identified as critical features of guilt, again supporting the earlier work of Kubany (1998). Lack of justification has been observed by Kubany et al. (1996) as a moderator of guilt. Kubany and Watson (2003) identify eight contextual variables that promote distress and highlight social and situational factors. In this respect, although the social function of guilt was not explored, the extended model is a more social model, corresponding with the views of Gilbert (1997) that guilt is a social phenomenon. The model in itself is complex and although theoretically it provides an in-depth exploration on cognitions within trauma it does not provide anything further in respect of the earlier model when confronting trauma-related guilt within clinical practice.

1.10 Conclusion

A review of the literature has shown that trauma-related guilt is prevalent in survivors of trauma such as childhood abuse (Resick, 2001) and combat (Shay, 1994). Research has focussed on different concepts within guilt. Trauma-related guilt is perceived to contain a social element and most researchers (e.g. Gilbert, 1997; Wilson 2006) agree on this proposition. In this respect guilt can motivate the desire to make amends. There are contradictions around the subject of identity and the sense of self. Brewin (2003) and Janoff-Bulman (1992) assert that guilt can affect perceptions of self-identify, confirming a negative or inferior self, or questioning or enhancing a previous positive self. However Wilson (2006) Lee et al. (2001) and Tangney (1995) assert that the sense of self is not affected. I question that assertion and posit that identity and the sense of self can be affected in response to repeated schema-incongruent traumatic events. The cognitive functions of guilt are neglected by many researchers (e.g. Wilson, 2006; Wilson et al., 2006) although Brewin (2003) and Kubany and colleagues make significant contributions to this area of research. The cognitive model of Kubany (1998) has had a significant effect within clinical practice by illuminating faulty thinking errors. The thinking errors identified, although significant, may easily allow compression of the justification distortion. That said,

however, the model of Kubany (1998) facilitates cognitive restructuring within the traumatic event to confront the errors in thinking that prevent recovery from trauma-related guilt. Indeed this model has been a most important contribution to alleviating trauma-related guilt within therapy and there are no other models of note. In this respect trauma-related guilt is recognised as an important factor to be addressed within recovery from PTSD.

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Appendices

Appendix A

Dimensions of Post-Traumatic Guilt

1. Self recrimination for failed personal enactments.
2. Survivor guilt over surviving perils of trauma.
3. Death guilt over being alive when others died or were injured.
4. Bystander guilt for failure to help others in need.
5. Personal guilt for acts of transgressions with negative consequences for others.
6. Situational guilt for acting contrary to personal values under coercive processes.
7. Moral guilt for failed enactments inconsistent with personal ethics and moral responsibility.

Sourced from Wilson (2006).

Section D – Professional Clinical Practice:

Trauma-Focussed Therapy - Post-traumatic Stress Disorder (PTSD) and Trauma-Related Guilt

1.0 Section A – Case Presentation and Commencement of Therapy

1.1 Introduction:

I have chosen to present this client material as it demonstrates how techniques of reliving and cognitive restructuring for childhood sexual abuse led to a reduction and subsequent extinction of symptoms of post-traumatic stress disorder (PTSD) and trauma-related guilt. However, during therapy it became apparent that my client was suffering from symptoms of chronic fatigue syndrome (CFS) also known as myalgic encephalomyelitis (M.E.). Cognitive behaviour therapy (CBT) facilitated a significant reduction in CFS symptoms and success in challenging negative thoughts. Therapy was challenging as my client's emotional and catastrophic reactions to her illness, and anxieties within my own experience of CFS, brought intensity to our relationship. Initially I was reluctant to include material from my own experience of CFS as I felt it would be an indulgence. However I realised that my own feelings and motivations were an integral part of the therapeutic experience. A strong therapeutic relationship provided support and served to limit the negative effects of conflict within an intimate relationship that threatened the progress of therapy. I felt that my knowledge and experience of PTSD increased enormously. Names and some details have been changed to protect anonymity.

1.2 Theoretical Rationale:

Cognitive behaviour therapy (CBT) was chosen as the most suitable framework for intervention for PTSD, an anxiety disorder, as evidence based research (e.g. Ehlers & Clark, 2000; Ehlers, Clark, Hackman, McManus & Fennell, 2005; Grey, Young & Holmes, 2002) demonstrates that this is the preferred option and which accords with NICE Guidelines (2005). CBT is an integration of cognitive therapy developed by Beck (1976) whereby dysfunctional thoughts are identified and challenged, and behaviour therapy, involving directly tackling problematic behaviours. In PTSD the threat from the memory of a past event experienced as traumatic is perceived as in the present, leading to anxiety. Insufficient processing of the trauma memory at the time of the trauma leads to lack of integration with other autobiographical memories (Ehlers & Clark, 2000; Grey et al., 2002) and research by Brewin (2003) suggests that this inadequate elaboration of the trauma memory leads to poor intentional recall. Memory is disjointed and there are gaps. However as Brewin (2003) asserts, memory fragments are unintentionally triggered by a variety of low level cues appearing in the form of flashbacks, intrusions and nightmares. Grey et al. (2002) propose that negative appraisal of the trauma serves to increase the current threat and often leads to comorbid depression.

Studies conducted by researchers (e.g. Dancu & Foa, 1992; Foa & Meadows, 1997; Riggs, Cahill & Foa, 2006) have indicated that the most effective therapies for PTSD appear to be those that concentrate on repeated exposure to the trauma memory in order to facilitate the habituation of anxiety; either in vivo, or as suggested by Resick and Calhoun (2001) in imagination or writing a narrative, and as has been shown by clinical practice, by incorporating cognitive restructuring during reliving (Ehlers et al., 2005; Grey et al., 2002; Moore, Zoellner & Bittinger, 2004) to modify negative appraisal of the feared situation. Trauma-related guilt is a common problem in survivors of traumas such as sexual abuse (Kubany, 1998; Kubany & Manke, 1995; Kubany & Ralston, 2006). Cognitive dimensions of guilt have been identified by Kubany (1998) which can also be targeted using cognitive restructuring techniques (Lee, Scragg & Turner, 2001) in an attempt to reduce the negative appraisal of the self and the situation and substitute for more realistic appraisals.

In relation to the CFS, causes are poorly understood. Studies by eminent CFS researchers (Burgess & Chalder, 2005; Dobbins, Natelson, Brassloff, Drastal & Sisto, 1995; Wessely, Hotopf & Sharpe, 1998) have suggested that CFS is the result of the body's reaction to excessive mental and physical stresses. Research by Heim, Wagner and Maloney (2006) has suggested that childhood trauma predisposes individuals to suffering from CFS although there is no further research to support this proposal. Cognitive behaviour therapy (CBT) was chosen as the most suitable framework for intervention for CFS as randomised controlled studies by pioneering CFS researchers (Deale, Chalder, Marks & Wessely, 1997; Price & Cooper, 1998; Sharpe, Hawton, Simkin, Surawy, Hackmann, Klimes et al., 1996) and a review of clinical evidence of CFS research (Reid, Chalder, Cleare, Hotopf & Wessely, 2000) have demonstrated that CBT, along with graded exercise, benefits physical and psychological functioning within CFS. This approach also accords with NICE Guidelines (2006) as the treatment of choice.

1.3 Context and Referral:

Therapy was undertaken within Defence Community Mental Health. My client 'Jane' had been referred through her Medical Centre having been initially assessed by a Defence GP as requiring therapy for PTSD, fatigue and depression. She was also experiencing muscle and joint pain and investigations into the cause of this pain were to be conducted by medical tests. Psychometric assessment had not been conducted and she was referred for a more thorough assessment. Jane had been on sick leave for approximately four months prior to our appointment. She was prescribed Amitriptyline to assist with depression and sleep disturbances. Referral was in anticipation of a reduction in PTSD and depressive symptoms, an increase in psychological functioning and a subsequent return to work.

1.4 Biographical Details:

Jane is 34 years old, white, female, and has currently served 14 years in the Armed Forces. Her partner of 6 years, Peter, is also a serving soldier. They reside in their own house near to military premises. However at the commencement of therapy Peter had been serving abroad for 5 months therefore Jane was dividing her time between her own and her mother's house. Jane has six siblings, two younger sisters, three younger step-sisters, and one younger step-brother, all with whom she has a poor

relationship. Jane's natural father left the family home when she was 2 years old. Contact is rare. Her mother re-married Jane's step-father when Jane was around 6 years old. This marriage lasted up until 6 years ago. There is no contact between Jane and her step-father. Jane reports a superficial relationship with her mother (see Genogram Appendix A). At the outset of therapy Jane was residing with her mother in an environment she described as chaotic and volatile.

1.5 Initial Assessment Sessions:

The initial assessment and formulation of the treatment plan occurred over two sessions. Jane experienced mobility problems, resulting in her walking extremely slowly and carefully to the therapy room. I introduced myself and explained the nature of therapy conducted within the setting. Jane was dressed casually. She was tearful throughout the initial sessions, although eye contact was good. She was open in explaining what she saw as her problems. Jane appeared motivated towards recovery and had requested therapy at this particular time as she wished to return to work.

Jane had been functioning adequately up until two years previously when she completed a tour abroad and perceived she was bullied by colleagues. Extensive efforts to expose the bullying were rejected by her supervisors. She continued working and became isolated from the group. Some weeks later she began to experience low mood, disrupted sleep patterns, tearfulness and fatigue and subsequently retired sick from duty. Shortly afterwards Jane recalled memories of childhood sexual abuse by her step-father occurring up until the age of 14 years, when she realised that the abuse was wrong. Efforts to expose the alleged abuse at that time were rejected. She was subsequently disowned by her family. As negative feedback from people who matter can shatter prior beliefs of safety and security (Janoff-Bulman, 1992; Kubany, 1998) this response prevented Jane from discussing the abuse as she felt that no-one could be trusted. However despite this she still attempted to expose the more recent bullying.

Recall of the childhood abuse led to Jane suffering from intrusive distressing recollections of the abuse, nightmares, increased arousal such as irritability, becoming easily startled and hyper-vigilant whilst out in public. She experienced detachment

from others, a diminished interest in activities, an inability to concentrate and no hope for the future. In respect of this latter point I conducted a risk assessment. I established that Jane had no thoughts of self-harm and had not made any plans to end her life. We developed a plan of protective factors whereby if she felt low she would contact nominated friends and family whom she could trust, or specified members of mental health services, to which she readily agreed. In order to control her symptoms Jane engaged in avoidance strategies of ignoring TV advertisements or programmes on child abuse, not engaging in conversations with specific siblings and avoiding certain locations. She also engaged in angry rumination on the consequences of the abuse and on exacting revenge especially as the abuser remained integrated within the family sphere. Jane was unable to confront the distressing memories and in turn tried to avoid all recollection of the abuse, all strategies of which serve to perpetuate and maintain the PTSD. PTSD is often comorbid with other emotional disorders such as depression and anxiety (Brewin, 2003; Grey et al., 2002; Resick & Calhoun, 2001). Psychometric assessment indicated severe levels of depression, high levels of anxiety and elevated scores in the PTSD Checklist (PCL-C) (Weathers, Litz, Huska & Keane, 1994) the latter meeting the DSM IV criteria for PTSD (American Psychiatric Association, 1994).

A cognitive model of PTSD devised by Ehlers and Clark (2000) has been adapted to incorporate Jane's cognitions, emotions and behavioural strategies.

Nature of Trauma	**Negative Appraisal**
Childhood Sexual Abuse	**I could have stopped him** **I can't let anyone get close to me** **I am soiled and dirty**

Matching Triggers

Footsteps on the stairs
Sound of toilet flush
TV programmes on abuse
Sibling conversations about step-father

Current Threat

Intrusions, a sense of reliving, nightmares
Increased arousal symptoms
Strong negative emotions –
anger, sadness, disgust

Strategies intended to control Threat/Symptoms

Avoid sibling contact
Avoid locations/conversations/TV programmes
Attempt to keep recollections out of memory
Angry rumination on revenge

(Adapted from Ehlers & Clark, 2000)

Following the initial assessment I shared the formulation with Jane. I began by explaining that PTSD symptoms such as she was experiencing were common reactions to trauma (Brewin, 2003; Ehlers & Clark, 2000; Resick & Schnicke, 1993) in order to normalise her experiences. The experience of childhood abuse had been perceived by her as traumatic and due to dismissive responses by significant others she had been unable to discuss what had happened which led to the memory of the

abuse not being integrated along with other memories of that period in her life. As shown by previous research (e.g. Foa & Kozak, 1986) recounting of events can facilitate psychological processing and thereby reduce levels of PTSD. To explain fragmented memory and intrusive symptoms I used the analogy of memory as a scattered jigsaw puzzle which required examining piece by piece and fitting back together. Jane was relieved to discover that she was normal and that she could dismiss thoughts of 'going mad'. She also felt relieved that there was hope for the future in getting better.

I explained that research (e.g. Kubany, 1998) indicated that delayed onset of PTSD can occur when stimuli from a later event gives the original trauma a more threatening meaning or exposure to more significant reminders of the trauma. The original abuse memory had not been retained in conscious memory, although was still affecting her behaviour, until the circumstances of rejection of the bullying allegations had been so similar as to trigger the original memory. Maladaptive strategies to deal with the memories, such as avoiding talking about the memory in a therapeutic way, avoiding people, places and programmes, attempts to keep recollections out of memory, and rumination on revenge all served to maintain the PTSD. Jane readily agreed with the formulation.

Therapeutic aims were discussed; reduction of PTSD symptoms and a reversal of maintaining factors, which involves reactivating and updating the memory by processing the trauma through reliving and re-structuring any cognitive distortions as advocated by research (e.g. Ehlers & Clark, 2000; Ehlers et al., 2005; Grey et al., 2002). Immediate and medium term goals included regaining participation in sports in graded steps beginning with swimming twice weekly and walking on a daily basis, re-establishing previous friendships that had lapsed, a reduction of anxiety whilst in the presence of her siblings, exploring and challenging issues of anger within the family relationships with the result of defusing specific situations with siblings and progressing to confronting the trauma memories,. Having provided Jane with a clear rationale for therapy I emphasised the collaborative and active participation necessary in CBT. I then provided psycho-education in the form of a handout obtained from Grey (2007). Jane was offered 12 weekly 90 minute sessions as advocated (Ehlers and Clark, 2000; Grey et al., 2002) to be reviewed at the eighth session.

2.0 Section B - Development of Therapy

2.1 Session Progression

Rapport building was conducted within the initial sessions in order to facilitate an environment of openness, trust, and where we could work collaboratively within a sound therapeutic alliance. The main techniques used within the CBT framework for PTSD were psycho-education, identifying triggers for the intrusions, reliving with cognitive restructuring, constructing a narrative account and imagery techniques. Regular identification of thinking errors (Beck, 1995) was encouraged, as was the use of anxiety management techniques (Clark, 1989).

Jane experienced difficulty relaxing and as anxiety management was one of her goals part of session three was dedicated to deep breathing techniques and psycho-education on progressive muscle relaxation, as advocated by Clark (1989) for anxiety states, although Grey (2007) asserted that this was not deemed necessary prior to reliving. In contrast, I felt strongly that anxiety management was a necessary intervention and in this respect I stressed to Jane that this was to assist in general relaxation rather than give the message that revisiting the trauma memory was dangerous.

Practitioners (e.g. Ehlers & Clark, 2000; Ehlers et al., 2005; Grey, 2007; Grey et al., 2002) advocate conducting reliving after the initial assessment session. In this respect I experienced conflicting emotions as I felt that reliving at this stage of therapy was too rushed and that the therapeutic relationship, and trust in disclosing to a therapist, needed time to develop. I decided to postpone the reliving until a more appropriate time. Jane and I collaboratively agreed that she would provide an overview of the abuse in the past tense, albeit this may not necessarily connect with high affect, and to identify negative thoughts. However Jane was unable to contextualise events in time and as the trauma memory needs to be elaborated and integrated within preceding and subsequent life experiences (Ehlers & Clark, 2000; Ehlers et al., 2005; Grey et al., 2002) for homework Jane was asked to construct a timeline of addresses at which she had resided and milestones in her development in order to assist in recalling memories. During session 4 Jane identified triggers for her anger within the family

home. There was increased tension between family members and Jane found as her anxiety increased her threshold for irritation with her siblings reduced therefore she was provided with information on anger management verbally and in the form of a handout and we facilitated role plays of scenarios she feared within the family setting. This focus was in an attempt to provide a more supportive environment whilst Jane was confronting her trauma memories. Jane reacted positively to these interventions.

By session 5 Jane felt she had successfully mastered the deep breathing techniques, providing increased relaxation, and had constructed the timeline of events which she found helpful in ordering events. Jane was ready to relive the trauma and I also sensed that the timing was now more appropriate. Foa and Rothbaum (1998) provide a general format for reliving and Jane was able to relive the most prominent memory of her abuse, predominantly in the present tense and with high affect. During the reliving I prompted with questions of her thoughts and emotions and of the five senses thereby facilitating recall of additional details she had forgotten. Jane rated her subjective units of distress (SUDS) (Foa & Rothbaum, 1998; Grey et al., 2002) at various points, which reduced throughout reliving. I noted any visible changes in affect to help identify emotional hotspots. Parts of the memory that provoked most distress were explored in more detail through Socratic questioning to identify meanings that Jane had assigned to them and to facilitate cognitive restructuring.

Practitioners Ehlers and Clark (2000) propose that intrusive memories can be accompanied by feeling that worse is to come and Jane found that some details of the trauma were still missing, which she interpreted as something worse that had happened that she would find unbearable. As research (e.g. Ehlers & Clark, 2000; Foa & Rothbaum, 1998; Resick & Schnicke, 1993) suggests dysfunctional appraisals need to be modified to reduce the sense of current threat we conducted cognitive restructuring to establish possible alternative perspectives. Jane suggested other more realistic options which she believed, having made reference to the psycho-education on PTSD. We collaboratively agreed that Jane would write a narrative account of the trauma for homework and read it over to herself whilst feeling safe. Researchers (e.g. Ehlers & Clark, 2000; Kimble, Riggs & Keane, 1998; Resick & Calhoun, 2001) have found that this strategy is beneficial if the trauma takes place over a period of time and provides direct exposure to the traumatic cues as well as feelings such as guilt and

anger. I educated Jane on imagery techniques advocated by Ehlers and Clark (2000) which can assist in changing the meaning of the trauma to assist in dealing with the intrusions and we elaborated on various scenarios to use between sessions.

To help contextualise the memory Jane was encouraged to re-claim her life (Ehlers & Clark, 2000; Foa & Rothbaum, 1993; Resick & Schnicke, 1993) by re-investing in manageable activities she had previously enjoyed and contacts she wished to renew, corresponding with goals she had originally chosen. Jane's partner was due home after a long period away and she was anxious as to how he would view her condition. I again normalised PTSD symptoms and suggested that he could read the leaflet previously given to Jane providing education on PTSD.

In session 6 Jane reported reduced intrusions and flashbacks. Imagery techniques of specific people providing support when confronting the step-father in imagination reduced anxiety and increased self-confidence. Jane had written a narrative account of her experience of the abuse but had not re-read it. Peter had returned from his tour abroad and they were experiencing difficulty in re-adjusting to being back together after a long period apart, exacerbated by Jane's current functioning. My intention was to conduct reliving emotional hotspots however relationship issues interfered with Jane's ability to focus on therapy. The breathing exercises had reduced her overall anxiety and she was more relaxed. However with Peter in the house she found her anxiety increasing whilst at home and she found difficulty in relaxing. In this respect I felt that Jane had not fully mastered the techniques of anxiety management therefore we collaboratively decided to concentrate on progressive muscle relaxation to continue anxiety reduction. Jane felt that this additional practice in anxiety management was successful in increasing her confidence of the techniques. If relationship problems remained Peter could be invited to attend the next session in order to increase his understanding of the situation.

Jane's partner attended session 7. Psycho-education on PTSD and its treatment were provided and he was given a chance to ask questions, which he did. Emphasising his integral role, he was offered information on facilitating Jane's recovery by respecting her privacy but at the same time allowing her to talk, and offering support.

Session 8 was dedicated to reliving the emotional hotspot of the main incident, which exposed the emotion of guilt. We explored the appraisals Jane had assigned to this part of the abuse. Jane blamed herself for allowing the abuse to continue, inflating her role in the responsibility, choosing to ignore that she had protested to the abuser and attempted to avoid being alone with him. Kubany (1998) proposes that trauma-related guilt plays an important role in maintaining PTSD and depression and this was borne in mind when reformulating to include in the current threat the emotion of guilt and in re-evaluating the treatment plan. We collaboratively decided to dedicate the next session to dealing with these issues. A review of therapy was conducted and although progress was evident we agreed to review again at session 16 due to relationship difficulties interfering in therapeutic gain. The PTSD symptoms had subsided sufficiently for Jane to re-engage with life and Jane felt ready to return to work on light duties and as pressure was increasing for her return a plan was negotiated for her to return 2 days a week. This was felt to be beneficial to her progress.

Trauma-Related Guilt

Session 9 was dedicated to trauma-related guilt. Lee et al. (2001) propose that the cognitive dimensions of guilt identified by Kubany (1998) can be targeted and modified using techniques of cognitive re-appraisal and cognitive restructuring. The task for recovery is to reconstruct fundamental schemas or core beliefs by reinterpreting the traumatic event in order to reduce the discrepancy between prior beliefs (if they were more positive) and the new beliefs. Reconstruction of events and an objective assessment of actions can reveal to the survivor of the abuse that their perceptions of worthlessness or badness are unfounded, in turn leading to a reduction of trauma-related guilt. Using the cognitive model of Kubany (1998) to approach the trauma-related guilt, we explored the cognitions involved in hindsight bias, justification distortion, responsibility distortion and wrongdoing distortion.

Corresponding with the ‘hindsight bias’ distortion identified by Kubany (1998) whereby individuals believe they ignored cues that suggest the event is going to happen, Jane believed that she should have known that, as the abuser was in the house, when she went into her bedroom then naturally he would follow. We explored the frequency with which this had occurred without any abuse and the fact that it was a normal occurrence for a young child to be in her bedroom. In relation to the

justification distortion Jane did not feel that her actions in remaining in the house with the abuser were justified. She felt that she should have run away from home much earlier. We explored the implications of this action and the justification in running away. Jane felt responsible for the abuse and the outcome in relation to her current level of functioning therefore we constructed a 'responsibility pie' (Beck, 1995) which was used to allocate individual percentages to those involved in the abuse and its repercussions. The 100% target was surpassed easily. Jane also felt that she was wrong in not aggressively confronting her abuser. The options which she considered at the time in relation to her responses were addressed. Fighting back, screaming, or facing her abuser with direct eye contact could have resulted in a more negative outcome, violence to her, or to her mother if she intervened. They had both suffered violence at the hands of the abuser in the past and this had induced fear in Jane at the time and more recently during therapy. Cognitive restructuring was conducted and Jane's responsibility for the abuse reduced dramatically in-session. This exploration continued into session 10 and after further cognitive restructuring Jane's belief in her guilt reduced considerably, although further work was needed.

Chronic Fatigue Syndrome

During therapy the results of investigations into the muscle and joint pains revealed no physical cause. The symptoms suggested to me CFS. However research by Huibers and Wessely (2006) into the act of diagnosis has suggested that individuals with the label of CFS may have a worse prognosis than individuals without such a label. This strongly influenced when I suggested to Jane my perceptions on her illness. I was sensitive to Jane's vulnerability and I felt that during the earlier sessions whilst confronting the abuse, knowledge of CFS would lead to an emotional overload. Although there was an ethical issue of whether to withhold this information, I waited until I felt Jane was strong enough to withstand further distress. However she increasingly questioned her symptoms and I therefore felt that confronting her illness would be beneficial at this stage. I therefore conducted a comprehensive assessment in session 10 for chronic fatigue syndrome. The history of onset of CFS coincided with the onset of depressive symptoms. Jane had been suffering from fatigue of over 6 months duration, not resulting from ongoing exertion and not reduced by rest, muscle and joint pain, headaches, dizziness and un-refreshing sleep. Jane's current level of functioning revealed she had previously been extremely active, an achievement of

which she was proud, but was limited in her ability to exercise, she still found difficulty in socialising, and was only regaining motivation for pleasurable activities. The CFS was maintained by cognitive beliefs of pushing herself to the limit with excessive activity followed by extended rest periods in an attempt to alleviate the symptoms, sleep disturbance, and current depression, including frustration and anxiety over her illness. Jane's depressive cognitive triad was evident, "There's something seriously wrong with me", "No-one will want me at work", and "I'm never going to get better". Blood tests in order to rule out any other causes subsequently revealed no abnormalities. These symptoms caused Jane significant functional impairment in her daily activities.

Disclosure in session 10 led to an immediate catastrophic interpretation of an illness that was long-term and which could not be alleviated. Jane was distraught and overwhelmed with emotion. Work by practitioners Fennell and Bateman (2005) with sufferers of CFS suggests that individuals can sometimes be traumatised by this illness experience. My immediate concern was to minimise the possibility of further traumatisation by divulging my own experience of CFS. However I faced a dilemma. What was my motivation for disclosure? Would I be serving the interests of my client or would disclosure be self-indulgent? My disclosure could unnecessarily transfer the focus away from Jane onto me. However Beck (2005) suggests that selective and focussed use of self-disclosure can help strengthen the therapeutic alliance and also provide a vehicle for learning. I genuinely felt that in disclosing my own experiences I would be in a better position to help Jane understand and accept the illness, and provide support and realistic hope for her future. Therefore in order to reduce any pre-determined misperceptions of CFS, I disclosed my own experience of CFS, emphasising that not everyone is severely disabled for life. Jane questioned my illness and recovery and became more relaxed in her presentation. She thanked me for my disclosure. Any confusion that I previously felt in relation to this disclosure had disappeared completely. I sensed that the therapeutic relationship had moved to a new level and that rapport had deepened. However I also realised that I needed to remove myself from the therapeutic space, and delicately balance the role of 'expert' that I had imposed within therapy, with respecting Jane's individual and unique position.

Psycho-education was conducted on CFS, Jane was socialised into the CBT model of CFS and the treatment plan was formalised. Sleep management was challenged. Exercise was formally structured and commenced with 20 minutes walking daily and 20 minutes swimming, twice a week, and mental stimulation which included reading, computer work and television was punctuated with regular rest periods. However, as noted on previous homework assignments, once a plateau in symptoms had been reached Jane often fluctuated between excessive exercise and inactivity and this was addressed by psycho-education and exploration of previous set-backs.

Sessions 11 to 14 were focussed mainly on stabilising the CFS symptoms. By session 14 Jane had conducted 30 minutes swimming, twice weekly and was walking 30 minutes daily. She increased her hours at work to 3 days a week. Jane had become competent at identifying and challenging her negative thoughts using cognitive techniques advocated by Beck (1995) and Greenberger and Padesky (1995) and was becoming more positive about her future. On the occasions that Jane conducted gradual graded exercise her progress was notable and she was progressing steadily.

Wrongdoing Distortion

In sessions 15 onwards, although at the beginning of each session we noted progress on the CFS and set further homework for increases in activity incorporating rest periods, we returned to conduct trauma focussed therapy. Cognitive restructuring was conducted in relation to themes of being overpowered, lacking control, feeling dirty and feeling disgust. Updating of the memories was successfully facilitated during reliving. However a further issue of guilt in relation to Jane's physical response to the abuse was exposed and we revisited the trauma-related guilt model of Kubany (1998) specifically in relation to the 'wrongdoing distortion'. Jane felt that she had violated personal and moral convictions. However she failed to realise that her emotional responses, in relation to a child needing a father figure and therefore seeking him out for reassurance and comfort were normal, and that her physical responses to the abuse were not under voluntary control. Sessions 19 and 20 were dedicated to this issue and with psycho-education on trauma and psychophysiology, along with exploration of the incident, Jane's guilt reduced substantially.

Sessions 21 to 23 were dedicated to consolidation of the techniques Jane had learned, relapse prevention and endings. We have now concluded therapy after 23 sessions. Jane is back to work full-time on light duties and she has significantly improved. Jane no longer experiences any of the distressing symptoms of PTSD. However she continues to suffer moderate fatigue along with significantly reduced muscle and joint pain. Jane has been discharged from my caseload after one follow up session two months from ending therapy. Jane is still coming to terms with finding meaning in her illness and forging a new sense of identity. She is currently struggling with a major life decision in relation to remaining in the Army as clinical practice and research (e.g. Jones, 2008) has shown that excessive stress can influence the return of CFS symptoms.

2.2 Approaches to Difficulties and Supervision

On occasions I experienced some difficulty in keeping Jane in the present tense whilst reliving. Constant reminding seemed punitive. Certain aspects of reliving that generated high affect were rushed, and as suggested by Grey et al. (2002) indicates avoidance of distressing emotional memories. To gain maximum exposure to emotions we explored whether the events were happening to her or she was observing, and used techniques of rewind and hold to retain focus, as advocated by Grey et al. (2002) and obtain additional details of the trauma.

Although the sessions as a whole appeared to progress in a structured manner, it became evident that Jane was overly anxious regarding Peter's appraisal of her condition. There was regular conflict between them and Jane reported that he was unsympathetic towards her illness. His inclusion in therapy allowed psycho-education and potential increase in support for Jane, although later she described it as 'regimented and forceful' support. This required careful negotiation in limiting the intrusion of this barrier to progress and continued throughout therapy. I had reformulated to include her partner's appraisal as a maintaining factor in Jane's PTSD.

Jane's motivation reduced around the time of Peter's return and her thoughts became significantly more negative. Jane had grasped the concept of challenging negative thoughts and we explored her extreme dependency on Peter. This revealed negative

automatic thoughts of ‘I can’t do my homework so I’m incompetent’ and ‘I’ll never get better’. The downward arrow technique (Beck, 1995; Greenberger & Padesky, 1995) revealed core beliefs of ‘I’m worthless’. I hypothesised that childhood emotional neglect and criticism had contributed to her not feeling valued or unconditionally accepted. When Jane realised that the abuse within childhood was wrong she felt that she had further lost value both in her own and others eyes. The meaning of the abuse may have been congruent with her underlying schemas of being worthless, increasing her sense of a de-valued self. These schemas may have been re-activated by the later rejections and perceptions of injustice within the Army. These issues were adequately addressed using cognitive techniques of modifying core beliefs and restructuring early memories as advocated by Beck (1995).

Supervision was supportive and provided additional guidance on PTSD techniques and on military procedures for staff on sick leave. During the early stages of therapy pressure was increasing on Jane to return to work. I liaised with various Officers in order to reduce the pressure until I felt that Jane was ready to return to work. I had implemented a prospective plan for a graded return to light duties, which was accepted, and successful in re-integrating Jane into the workplace. At times I found myself in a dilemma in focussing on the main issue of PTSD and when to integrate techniques for CFS. Supervision provided direction on remaining with trauma focussed therapy, combining when the time was appropriate.

3.0 Part C – Conclusion of Therapy and Review

3.1 Therapeutic Relationship and Ending

The therapeutic relationship is recognised as important in the effectiveness of therapy (Mearns & Cooper, 2005) and Jane and I had built up a strong therapeutic relationship over time. During the sessions I felt I was 'being with' and understanding Jane during times of increased emotion, providing genuine empathic regard. Therapy for CFS allowed us to share personal experiences and develop a special bond which other therapists may not have had the opportunity to do. From the outset I was concerned not to impose too much of myself in Jane's therapy, however this was a difficult balance. Jane was naturally inquisitive as to my recovery, and as we were both previously extremely active prior to CFS she was keen to pursue the same programme that I had taken. Although graded exercise is a crucial part of recovery in CFS, during my own recovery from CFS this was my most difficult limitation to accept. This influenced how I structured Jane's sessions. Guy (1987) suggests that therapists may seek self-healing through their work. Although I felt that my own issues had been overcome, memories were re-ignited and this impacted upon my focus. I was keen for Jane not to make the same mistakes as I had done. However as Jane communicated this as her most difficult limitation to accept I felt that this preoccupation may have been warranted, and was not *entirely* an unresolved need of mine to heal.

Ending therapy was approached from the second review, session 16, and flowed smoothly. Jane was increasing in confidence and becoming less dependent upon the therapeutic relationship. Return to work facilitated an increase in her self-esteem. Jane was realistic in her ability to cope on her own. She was making plans to cope without her partner should the need arise. At the end of therapy Jane was confident at her level of independence. She took the opportunity for a follow-up session and demonstrated a good level of coping skills.

3.2 Review of Therapy

Working within a specific framework of CBT for PTSD as suggested by practitioners (e.g. Ehlers & Clark, 2000; Ehlers et al., 2005; Grey et al., 2002; Kubany, 1998) provided a solid structure to which to adhere, guided by empirical research. This

facilitated the successful integration of practice with theory. The main problem areas discussed in the assessment were challenged with initial successes. Positive gains were demonstrated from interventions focussed on reducing anxiety and depressive symptoms, although depression measures fluctuated depending on the state of Jane's intimate relationship. Providing a thorough explanation of the treatment rationale for exposures to the traumatic memories was crucial for Jane to be able to understand and engage in the techniques of reliving and confront the fears she was repeatedly avoiding.

In recovery from trauma-related guilt Horowitz (1990) has suggested that there is a conflict between the need to resolve and reconcile the event into that person's life, along with the desire to avoid pain. Images of the event, the meaning of the trauma and the emotions become overwhelming therefore psychological defences take over and the person exhibits numbing and avoidance (Wilson, 2006) which may interfere with the process of natural recovery due to insufficient exposure duration. Wilson (2006) suggests that in order to function adaptively one may engage in denial, rationalisation and minimisation of the act itself in order to protect the self, although in time this can resurface, often as guilt. Jane had avoided the memories because of the pain involved. Suppression had worked in the short term. However trauma-focussed therapy in the form of reliving and cognitive restructuring of the memories allowed the PTSD symptoms and the trauma-related guilt to reduce substantially to an acceptable level whereby Jane was able to re-engage with life during therapy, and subsequently terminated. Using the cognitive model of guilt (Kubany, 1998) successfully addressed faulty thinking errors. Using a pie chart to facilitate sharing of responsibility as advocated by Beck (1995) I found to be an excellent tool. This successfully confronted the responsibility involved in the abuse.

The directive CBT approach was beneficial for Jane, and this she communicated to me, although at times she may have perceived me as another 'authority figure' and this is an area that could have been explored. Increases in exercise in CFS recovery are suggested by practitioners such as Jones (2008) to be limited to 20%. However increases were manageable for Jane as a unique individual and led to stabilisation of exercise and rest, and reduction of symptoms. Had increases been restricted to 20% with Jane, it would have led to non-adherence of homework and goals. I doubt

whether Jane would have recovered to such a degree that she did, and this also applies to my own personal recovery. I question where the figure of 20% came from and any research that guides it. Is it an arbitrary figure? In view of this I strongly stress that treatment must be individualised, a point rightly asserted by Fennell and Bateman (2000) that I echo. Practitioners *must* listen to the individual client rather than being constricted by figures, and work more in collaboration with the client.

Although homework was not always completed when Peter was present, I conducted techniques of challenging negative automatic thoughts within sessions to compensate. As therapy developed Jane became more competent in automatically modifying dysfunctional thoughts and substituting more realistic appraisals. When Jane lost motivation I felt that my own positive attitude and encouragement helped provide a role model for self-efficacy and independence. The therapeutic alliance was strong and Jane attended every session. Jane was emotional at the outset of most sessions and she relied on me for support during times of conflict with her partner and pressure from work. The relationship was intense at times and disclosures were emotionally exhausting. When Peter attended therapy at Jane's instigation I sensed her vulnerability. Contact between sessions revealed her subsequent discomfort in his presence, therefore I sensitively cancelled any further attendance. I continued to provide a safe and supportive environment for Jane to engage in therapeutic exposures when the atmosphere at home was not conducive. As therapy developed, with support and exploration Jane increasingly accepted and valued her own appraisal of her illness.

3.3 Self Evaluation

Although at the initial stages of therapy my experience of working with clients suffering with PTSD was only moderate, I felt confident in working within a solid evidence-based framework. This experience was supplemented by attending external professional training for treating PTSD with Grey (2007) through the British Association of Behavioural and Cognitive Therapy. However I experienced a dilemma in expecting my client to relive in the early sessions after assessment as advocated by practitioners (e.g. Ehlers & Clark, 2000; Ehlers et al., 2005; Grey et al., 2002) as the therapeutic relationship was still being developed, and in contrast this is noted by Grey (2007) as having the ability to interfere with full reliving. I realise that

initially this was my own anxieties about causing distress to my client and I am aware that as my experience has increased this anxiety has disappeared. However I strongly feel that a better timing for this intervention would be when trust in the therapeutic relationship has begun to emerge and this will influence any future treatment planning within my clinical practice.

Previously I have experienced both external and internal pressure to gain results, the latter possibly indicating a need to succeed, however I am now relaxed in travelling at my client's pace. This was helped by having an experienced and supportive supervisor. A non-judgemental attitude towards my client and an increasing focus on enhancing interpersonal skills facilitated a trusting and positive therapeutic relationship in which to attempt change.

On reflection, working with Jane was an emotional time for me. Therapy, her progress and her emotional set-backs evoked many of my own personal memories and anxieties. I found therapy informative, challenging and extremely satisfying. I am aware that my knowledge and experience of therapy for PTSD and trauma-related guilt and the therapeutic relationship has been strengthened. My competence and confidence as a Counselling Psychologist has been consolidated as a result of both the research within PTSD and trauma-related guilt as illustrated and from clinical practice as evidenced within this current clinical presentation.

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Appendix A

Working Genogram