Determining the impact of trauma and daily organisational hassles on psychological distress and burnout in New Zealand police officers; and the moderating role of social support.

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Abstract

Throughout the course of their career police officers are exposed to traumatic events and work hassles. Work hassles which are minor irritating aspects of work, such as work overload, have been found to have a stronger association with pathogenic outcomes than traumatic events. Among police samples work hassles have been commonly studied in relation to psychological distress, and traumatic events have been commonly studied in relation to posttraumatic stress disorder and psychological distress. There have been fewer studies with burnout as an outcome, even though work hassles have been strongly associated with burnout in other occupations. Traumatic events are rarely studied in relation to burnout among police samples, even though they have been related to exhaustion, which is one of the core components of burnout. In relation to traumatic events and work hassles, social support has been found to have a moderating effect on both psychological distress and burnout. The moderating role of supervisor, colleague and family/friend social support was evaluated in this study, and an understanding of social support was further extended by exploratory research, which explored police officers preferences for sources of social support across different work events.

The sample in this study consisted of 603 New Zealand police officers from three separate districts, who completed a web based survey. Evaluated in this study was the impact of traumatic event exposure on psychological distress and burnout, and the impact of work hassles on psychological distress and burnout, along with the moderating role of social support. It was found that traumatic event exposure and work hassles were associated to psychological distress. Traumatic event exposure was associated to exhaustion, and work hassles were associated to exhaustion, cynicism and lower levels of professional efficacy. The

exploratory research found that police officers preferences for social support did change across events.

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To my supervisor Dr Ian de Terte thank you for your academic guidance, insightful feedback and timely encouragement. Your interest and knowledge in the area of police wellbeing has been hugely beneficial to me throughout this process, and I feel very fortunate to have had you as a supervisor.

Personal Statement

I (the principal researcher) am an ex sworn member of the New Zealand police, and a current police employee. I have worked for the New Zealand police for approximately 17 years in a variety of roles and I am making this disclosure as I am aware that some of my personal experiences and biases may have influenced this research.

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Introduction

Policing has been widely studied by researchers and there has been a strong emphasis on the relationship between traumatic events and pathogenic outcomes, such as Post Traumatic Stress Disorder (PTSD), psychological distress and depression (Andrew et al., 2008; Carlier, Lamberts, & Gerson, 1997; Menard & Arter; 2013). Daily organisational hassles, or "work hassles" have also been studied with police, often in relation to their association with psychological distress. While both traumatic events and work hassles have been negatively associated with pathogenic outcomes, it has been argued that policing is no more stressful than other occupations (van der Velden et al., 2013). In fact, the prevalence of PTSD, psychological distress and depression has been found in some studies to be similar to the prevalence of this disorders in the general population (Carlier et al., 1997).

However, organisations in New Zealand, and other countries, have an increasing legal responsibility to prevent and manage physical and psychological injuries (Randall & Buys, 2013). Therefore there needs to be less emphasis on comparing police to other organisations, and more emphasis on understanding what aspects of policing contribute to pathogenic outcomes. Traumatic event exposure is an inherent part of policing, for example, Huddleston, Stephens and Paton (2007) found that 72% of police officers had experienced a work related traumatic event after 12 months of policing. While many people experience traumatic events, the majority do not go onto develop psychological disorders or impaired functioning (Kessler et al., 2012). However there is increasing evidence to show that exposure to multiple traumatic events has been associated with higher levels of distress. In a general population study in South Africa, participants who been exposed to six or more traumatic events, were

five times more likely to experience psychological distress, than participants who had experienced less than six (Williams et al., 2007). Among police officers who worked at the World Trade Centre (New York) following terrorist attacks in 2001, each exposure to the site increased the risk of PTSD (Bromet et al., 2016).

Work hassles, which are minor negative work experiences that occur frequently, have also been associated with negative outcomes such as psychological distress, among police samples (Huddleston et al., 2007). However, among other occupations, such as nursing it has been shown that work hassles are strongly associated with burnout (Crabbe, Alexander, Klein & Sinclair, 2002; Winstanley & Whittington, 2002). Burnout, which occurs in response to chronic work demands is characterised by emotional exhaustion, cynicism and reduced professional efficacy (Maslach & Leiter, 1981). Furthermore, it has been strongly associated with depression (Ahola et al., 2005; Bianchi, Schonfeld & Laurent, 2015).

Burnout has not been widely studied with police, despite its strong association with work hassles. However, the consequences of burnout are quite relevant to police, such as absenteeism (Swider & Zimmerman, 2010; Ybema, Smulders, & Bongers, 2010), poor job performance (Taris, 2006) and the association between burnout and reduced organisational safety behaviours (de Oliveira et al., 2013; Shanafelt et al; 2010). This is especially pertinent to police organisations, where officers have to make sound decisions relating to the safety of others, drive at speed, and handle weapons such as tasers and firearms.

In the current study work hassles will be studied in relation to psychological distress and burnout, which will allow the two outcomes to be compared. Furthermore, traumatic event exposure will also be studied in relation to psychological distress and burnout. While

traumatic events have not been widely studied in association with burnout among police, evidence from studies with nurse's shows that traumatic event exposure has been negatively associated with burnout.

Social support has been found to reduce the negative outcomes of both psychological distress and burnout (McCarty & Skogan, 2013; van der Ploeg & Kleber, 2003). In relation to organisational stress, studies have found that colleagues and supervisors are preferred sources of support, over family and friends (Lambert, Altheimer, & Hogan, 2010). Colleagues and supervisors are able to provide support that is based on actual experience, such as suggesting a solution to a problem, which in turn can reduce stress. However, police officers can experience extremely distressing events and previous research has shown that emergency service workers do rely on family and friends for emotional support, in relation to such events (Evans et al., 2013; Regehr et al., 2002).

The current study will add to the literature by exploring the association of traumatic event exposure and work hassles to psychological distress, and burnout. Burnout in particular is not widely studied in police, and even less so in relation to traumatic event exposure. Furthermore, the role of social support in reducing the impact of traumatic event exposure and work hassles, will be investigated. Additionally, there will be some exploratory research undertaken to to see whether police officer's preferences for social support change across different operational and organisational events, and whether family and friends contribute to this support.

Literature Review

The topics of interest in this research are traumatic events, work hassles, psychological distress, burnout and social support. The focus of this chapter is to provide a review of the literature in relation to these topics, and to identify areas where further research would add to the understanding of the topics of interest.

Traumatic Events

Development of Trauma Research

Psychological trauma increasingly became of interest last century due to the observation of post war effects in soldiers returning from World War 1, including shellshock and subsequent conflicts (Luckhurst, 2008). With the inclusion of Post-Traumatic Stress Disorder (PTSD) in the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III), (American Psychological Association [APA], 1980) research has exponentially increased. Early studies of PTSD were primarily focused on Vietnam War veterans, victims of certain traumatic events such as rape, and disaster victims (Breslau, 2002). Trauma research within police populations also started appearing around this time (Stratton, Parker, & Snibbe, 1984; Terry, 1981; Violanti, Marshall, & Howe, 1983). Early studies tended to appear in police publications, but as interest into police trauma increased, such studies began to appear in academic journals (Robinson, Sigman, & Wilson, 1997).

Definition of Traumatic Event

The word trauma originates from the Greek word "wound", and its original meaning refers to "bodily injury caused by an external agent" (Luckhurst, 2008, p. 2). In the nineteenth century, the word trauma gradually became associated with psychological trauma, as well as physical trauma. According to Luckhurst (2008), this was a natural progression as physical and psychological trauma had been found to strongly overlap, or "leak" into one another. Similar terms in use are critical incident and stressful event; however, the term traumatic event will be used for this review. Traumatic events have been defined in different ways and with the inclusion of PTSD in DSM-III and subsequent manuals, the DSM definition has been widely used (Weathers & Keane, 2007). The fourth edition of the DSM (DSM-IV), (APA, 2000), defines a traumatic event as one that provokes fear, helplessness, or horror in response to the threat of injury or death. Although the DSM-IV has since been revised, many of the studies in this review have used this definition. One criticism of the DSM-IV is that it did not recognise the impact of cumulative trauma (Carlson & Dalenberg, 2000; Green, 1994). This has since been revised to include "repeated or extreme exposure to traumatic events" in the criteria for PTSD (APA, 2013). This now fits with the definition of cumulative trauma as "the exposure an individual has to multiple potentially traumatic events" (de Terte, 2012, p. 8). The impact of cumulative trauma will be discussed in a later section of this review.

Traumatic events have also been defined specifically in relation to emergency service work. Mitchell (1983) defined a traumatic event as "any situation faced by emergency personnel that causes them to experience unusually strong emotional reactions either at the scene or later" (p. 36). A traumatic event was defined by Alexander and Klein (2001) as "an

incident that is sufficiently disturbing to overwhelm the individual's usual method of coping" (p. 76). Halpern, Gurevich, Schwartz, and Brazeau (2009), found in a study of ambulance officers that they considered a traumatic event to be one that evoked strong emotions, which resulted in uncomfortable sequelae, and was characterised by anger or sadness.

Traumatic Event Exposure - General

Traumatic event exposure is common and most people will be exposed to at least one event in their lifetime (Ogle, Rubin, Berntsen, & Siegler, 2013). In a large cohort of children, it was found that over two thirds had experienced a traumatic event by the age of 16 years (Copeland, Keeler, & Angold, 2007). Among a sample of young adults, Breslau and Anthony (2007) found that 82.5% had been exposed to one or more traumatic events. In a community sample of New Zealand adults, 51% of participants had experienced a traumatic event, and 9% had experienced one in the previous 12 months (Flett, Kazantzis, Long, MacDonald, & Millar, 2002). Among adults who were over 60 years of age, 90% had experienced one type of traumatic event and 78% had experienced two or more types. As could be expected in an older sample prevalence rates were highest for the unexpected death of a loved one (Ogle et al., 2013).

Higher traumatic event exposure among males is a consistent finding in the literature, whereas females typically report higher levels of distress (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Norris, 1992). One explanation for this is the finding that females report higher exposure to sexual assault and rape, and these events are associated with higher levels of distress (Frans, Rimmo, Aberg, & Fredrikson, 2005; Ruchkin, Henrich, Jones, Vermeiren, & Schwab-Stone, 2007).

Traumatic Event Exposure in Police

In addition to exposure to traumatic events in the external world, police officers are routinely exposed to traumatic events within the workplace (Violanti, 2006). It is typical for new police recruits to start their careers on the "frontline", doing emergency response work and therefore, exposure to high-risk situations is to be expected (Stephens & Miller, 1998). Stephens and Miller (1998) found that 86% of New Zealand police officers had been assaulted, injured or had their life threatened, while 79% had been exposed to serious accidents and 46% reported being exposed to other distressing experiences, such as cot deaths and suicides.

Huddleston, Stephens, and Paton (2007), evaluated 314 police recruits after 12 months of service, which included five months of initial police training, and found that 72% had experienced at least one work related traumatic event during that time, and 40% had been assaulted. Ten years later, de Terte, Stephens, and Huddleston (2014) completed a study with 176 of the same recruits. Of the recruits only 24% reported being assaulted in the intervening years. It is probable that after 10 years of experience some of the recruits would have moved into different roles and therefore may have had less exposure to high risk situations. Experience has also been found to be a protective factor for police officers in dangerous situations. Gavigan (2011) found that experienced police officers learnt how to assess situations, "read" people, and to expect the unexpected. This enhanced their ability to adapt their responses to different situations, and crucially they learnt when to back away from a dangerous situation.

The Impact of Traumatic Event Exposure - General

As demonstrated, traumatic event exposure is common among the general population, and police officers. However, while exposure is common, most individuals do not develop a trauma related disorder such as PTSD or depression. In a general population study in Switzerland, there were no full cases of PTSD (Hepp et al., 2006), whereas the lifetime prevalence was 5.7% in the United States (Kessler et al., 2012) and 6% in New Zealand (Oakley Browne, Wells, Scott, & McGee, 2006).

Disaster research has provided an insight into the trajectory of disorders such as PTSD and depression (Bryant et al., 2014; Neria, Nandi, & Galea, 2008; Norris, Murphy, Baker, & Perilla, 2004; Norris, Sherrieb, & Galea, 2010). While the prevalence of PTSD and depression can be high immediately following a disaster, for the majority of individuals these levels decrease over time (Norris et al., 2004). However, while the prevalence of PTSD and depression generally decreases, for some groups of individuals it still remains higher than the prevalence in the general population (Bryant et al., 2014; Norris et al., 2004). Two years after severe flooding and mudslides in Mexico, it was found that PTSD had decreased from 46% to 19% in one sample of disaster victims and from 14% to 8% in another, which was higher than the general prevalence of PTSD in Mexico (Norris et al., 2004). Recovery following a disaster has been associated with factors at the time of the disaster, such as level of exposure, and also by post disaster factors such as job loss, housing issues and other life stressors (Ruggiero et al., 2012)**.** Three to four years after devastating bushfires in Australia the prevalence of PTSD was 15.6% in high affected communities, compared to only 1.0% in low affected communities (Bryant et al., 2014).

The Impact of Traumatic Event Exposure - Police

Despite high levels of traumatic event exposure, it has been found that prevalence rates for pathogenic outcomes among police officers is similar to those in the other occupations and the general population. van der Velden et al. (2013) found that levels of anxiety, depression and hostility among police officers were not significantly higher than employees in other occupations, such as banks and supermarkets. However, this study did not measure traumatic event exposure, and while one of the two groups of police officers had been involved in a fireworks disaster in the Netherlands, this disaster occurred 11 years before this study (van der Velden et al., 2013). In a longitudinal study, Carlier, Lamberts, and Gerson (1997) found that 7% of police officers had PTSD and 34% had post-traumatic stress symptoms (PTSS) at some time during their 12 month longitudinal study. The prevalence of PTSD is only slightly higher than the lifetime prevalence rate of 5.7% in the United States (Kessler et al., 2012). Alternatively, Andrew et al. (2008) found that 28.5% of female police officers, and 31.7% of male police officers had symptoms of PTSD, whereas the prevalence of depression was higher among female police officers (12.3%) than for male officers (6.3%). Among a sample of American police officers, Menard and Arter (2013) found that 18.5% of participants met criteria for PTSD, and 16.7% demonstrated problematic alcohol consumption.

Comparisons with other populations and occupations are useful in that they can guide research. For example, if police officers are psychologically healthier than fire fighters, then it is useful to understand the reasons for this difference. However, in countries, such as Australia and New Zealand, organisations have a legal obligation to prevent, and manage physical and psychological injuries (Randall & Buys, 2013). If this is to be achieved, there needs

to be a comprehensive understanding as to what factors put police officers at risk, regardless of how stressful policing is compared to other occupations. According to Maguen et al. (2009) there are two work factors which have been associated with mental health problems in police. The two factors are regular exposure to traumatic events, and routine work environment stress, and it is these two factors which will be discussed in this review.

Cumulative Trauma

There is increasing evidence to show that cumulative trauma can lead to higher levels of distress among individuals (Harvey et al., 2016; Nilsson, Dahlston, Priebe, & Svedin, 2015; Williams et al., 2007). In a general population study in South Africa, participants who been exposed to six or more traumatic events, were five times more likely to experience psychological distress (Williams et al., 2007). The prevalence of depression and PTSD in firefighters was 10% higher for those who had attended 21 or more fatal incidents during their career, than those who had not (Harvey et al., 2016).

Police officers routinely attend many different types of traumatic events (Violanti, 2006). Gershon, Barocas, Canton, Le, and Vlahov (2009) found that 92.7% of police officers had been exposed to one or more traumatic events, ranging from violent arrests to chemical spills. Menard, Arter, and Khan (2016) compared police traumatic event exposure across countries and found the mean scores to be as follows; United States (12.3), Australia (11.4), New Zealand (10.9), Canada (10.0) and the United Kingdom (8.0). However, while cumulative trauma has been associated with higher levels of distress in the general population (Nilsson et al., 2015; Williams et al., 2007), it has been argued that regular traumatic event exposure helps police officers adjust to dealing with traumatic events (Gavigan, 2011; Perrin et al.,

2007). Alexander and Wells (1991) studied a sample of police officers (n = 71) who had been involved with body recovery and mortuary procedure following an oil rig disaster in the North Sea. Three months later only one police officer reported being under stress, whereas 87% of the officers felt that the experience would actually be helpful to them in the future.

Following a study of police and other occupations that responded to the 9/11 terrorist attacks at the World Trade Centre, Perrin et al. (2007) argued that the police officers training and prior experience with trauma, had inoculated them from developing PTSD. The lowest level of PTSD was among police officers (6%) while the highest level was among volunteers (21%). However, the attending firefighters were twice as likely to develop probable PTSD as attending police officers. This could suggest some inconsistencies with the argument for inoculation, as firefighters would have had previous exposure to traumatic events in the course of their service. Nonetheless, the WTC attacks were considered an extreme event for emergency service workers even with previous exposure to traumatic events. One medical examiner stated that they had, “worked in homicides for many years, but never saw anything like this. Beyond anybody’s imagination”, (Bills et al. 2009, p. 182). Given the extremity of 9/11, it is unlikely that either police officers or firefighters were prepared for this event and there may have been other contributing factors to consider here.

Stress Sensitization

Alternatively, there is evidence to show that regular exposure to traumatic events sensitizes individuals to subsequent stressors (Smid et al., 2013; Vasterling et al., 2010; Wooten, 2012). This effect was initially observed in animals. Yuhuda and Antelman (1993) found that rats who had been exposed to an inducing stressor, displayed significantly altered

behavioural and physiological responses when exposed to the stressor a second time, compared to rats with no previous exposure. Stress sensitisation has been defined by Collip, Myin-Germeys, and Van Os (2008) as "… the observation that individuals who are repeatedly exposed to an environmental risk factor may develop progressively greater responses over time, finally resulting in a lasting change in response amplitude" (p. 220). In another 9/11 study, there was evidence to support stress sensitization and the negative impact of cumulative trauma. Police and non-traditional responders were assessed for PTSD, and other psychological and health factors, 11 to 13 years after the event (Bromet et al., 2016). The study showed more police participants (28%) reported five or six separate exposures compared with non-traditional responders (12%), with each exposure increasing the risk of PTSD. Bromet et al. (2016) also found that of the 20% of police officers who were diagnosed with PTSD following the attacks, 10% of them still had active symptoms 11 to 13 years later.

Exposure to highly traumatic events can also alter how individuals respond to subsequent stressors of less intensity, not just traumatic events. Among a sample of Dutch soldiers who had been diagnosed with PTSD on return from deployment, those who had experienced high levels of combat were less resilient to subsequent life stressors such as relationship issues (Smid et al., 2013). Posttraumatic stress disorder persisted in this group, whereas this was not found in soldiers who also experienced post deployment stressors, but had only experienced low levels of combat exposure (Smid et al., 2013). This finding has been replicated in other military studies (Vasterling et al., 2010; Wooten, 2012).

Kira et al. (2008) propose that police officers are exposed to what they refer to as "core" traumatic events, which sensitizes them but eventually a "triggering" traumatic event occurs

that initiates a psychological response. Tuckey, Winwood, and Dollard (2012) identified two possible trajectories to psychological injury within police, a post-traumatic stress pathway which is preceded by a traumatic event, or a more commonly experienced slow erosive stress pathway. One officer described an experience consistent with both core and triggering events (Kira et al., 2008). The officer felt that he has adjusted well to the "shock'' of operational policing, however, a traumatic event occurred in which his own life was threatened and two members of the public died. Despite the devastating event, he was confident that he would "get it out of his system" and everything would return to normal, unfortunately this never happened and he left the police force (Tuckey et al., 2012).

Work Hassles

As well as exposure to traumatic events, police officers are also exposed to ongoing daily organisational hassles, or work hassles. Work hassles are minor negative experiences which occur at work on a frequent basis, such as excessive paperwork and work overload (Stefanek, Strohmeier, Fandrem, & Spiel, 2012). They are present in all organisations and frequently experienced by all employees. Work hassles can have negative organisational outcomes such as, low morale and reduced job satisfaction among employees (Stinchcomb, 2004). They have also been associated with physiological, psychological, and behavioural problems in individuals (Gershon et al., 2009).

It has also been found that work hassles can be stronger predictors of pathogenic outcomes than traumatic events (van der Velden, Kleber, Grievink, & Yzermans, 2010). Huddleston et al. (2007) found that both traumatic events and work hassles predicted PTSD and psychological distress, however work hassles were the strongest predictor. As well as

being a source of stress in themselves work hassles may impact on the relationship between traumatic events and pathogenic outcomes. Huddleston et al. (2007), found that participants who had experienced significantly more traumatic events, experienced more work hassles, than participants with less exposure to traumatic events. This is consistent with the stress sensitization hypothesis is which cumulative exposure to one stressor can make individuals less resilient to other types of stressors (Smid et al., 2013).

Work Hassles in Police

Despite the negative individual and organisational impact of work hassles, it has been found that only around 4% of policing research focuses on organisation stress (Beckman, Gibbs, Beatty, & Canigiani, 2005). Policing has traditionally been viewed by the public as inherently stressful and according to Hart, Wearing, and Heady (1993), this view has been reinforced by popular media who portray policing as an action packed job that is full of danger. Hart et al. (1993) recognised the need for valid ways of measuring police stress so that it could be determined whether policing was stressful, and they hypothesised that organisational hassles could be a greater source of stress than traumatic events.

To advance this area of research with police, Hart et al. (1993) developed the Police Daily Hassles and Uplifts scale, which consisted of operational hassles, such as going to dangerous calls, and organisational hassles such as excessive workload. The Police Daily Hassles and Uplifts scale was validated in a study of Australian police officers (Hart, Wearing & Heady, 1994), which found that organisational hassles and uplifts, and neuroticism were significant predictors of a police officer's perceived quality of life, however operational hassles were not. Further to this, Hart et al. (1993) made a significant contribution to police

research by developing a measurement scale specifically for police, rather than adapting scales that had been developed for different populations.

Biggam, Power, Macdonald, Carcary, and Moodie (1997) were among the first researchers to evaluate the impact of operational *and* work hassles. Among a sample of Scottish police officers they found the five most frequent work hassles to be staff shortages (81%), inadequate resources (78%), time pressures (74%), work overload (71%) and lack of communication (70%). Biggam et al. (1997) found significant gender differences, primarily for the work hassles, although one operational stressor, change of work location, was also significant. Females reported court duty, violent arrests, and dealing with victims of violence and sexual assault as greater sources of stress than men.

In respect of dealing with victims it may not have been the nature of the work that was stressful. According to Archbold and Schulz (2012) female police officers were historically assigned to work with victims, as it was assumed that they were better suited to dealing with women and children due to their caring natures. However, female victims of sexual assault and rape have described some female police officers as harsh, hostile and uncaring (Jordan, 2002). Therefore, in the study by Biggam et al. (1997) the female officers may have found these activities stressful, perhaps as they always had to deal with victims, or they did not feel suited to this work. In two studies of police child abuse investigators the nature of the work was not found to be stressful, however work hassles such as interagency tensions were (Powell, Guadagno & Cassematis, 2013; Wright, Powell, & Ridge, 2006).

It was found by Biggam et al. (1997) that operational stressors were more salient for constables, whereas sergeants reported work hassles as higher sources of stress. The most

stressful work hassles for sergeants were lack of support from senior officers, poor communication and too much responsibility (Biggam et al., 1997). Based on in-depth interviews, Butterfield, Edwards, and Woodall (2005) found that police sergeants had increasing administrative responsibilities, which kept them in the station, yet surprisingly, they were still expected to be the experts on operational policing. Consequently, the sergeants within the study, reported role overload as they tried to meet the expectations of both constable's and inspectors. They also reported that while they had increasing responsibility for performance appraisals, they never spent time with the officers that they were actually appraising.

There has subsequently been a number of police studies about the prevalence and impact of work hassles. Liberman et al. (2002) found the work hassles that were most salient to police officers to be low pay, public criticism, and administration/management. Public criticism and administration/management have been reported as sources of stress in other police studies (Nilsson, Hyllengren, Ohlsson, & Kallenberg, 2015). Among a sample of American police officers, Shane (2010) found factors relating to leadership and supervision to be the most frequent sources of stress among police officers, most specifically, inconsistent leadership style, overemphasis on the negatives in staff evaluations, public complaints, favouritism and dealing with supervisors. Inadequate equipment, lack of training on new equipment and lack of resources were not sources of stress. Lack of training and lack of resources may not have been endorsed as a source of stress in Shane (2010), as participants received sufficient training and had the resources they needed. Alternatively Lazarus and Folkman (1987) postulate that if an individual is unable to solve a problem, they may utilise

emotional coping skills and change the way they think about a problem. If lack of training and resources was a problem participants may accept that this is outside of their control, therefore, not perceive it as a source of stress.

Models of Organisational Stress

Larsson, Berglund, and Ohlsson (2016) reviewed articles regarding work hassles in first responder occupations (firefighters, military, paramedics and police officers). An overarching criticism of the studies were the use of inconsistent measures, the lack of longitudinal studies and the fact that very few of the studies were guided by theory. Abdollahi (2002) has also raised the limitation of such studies due the absence of a theoretical framework. This highlights the importance of utilising sound theoretical models to ensure the reliability and consistency of any results. There are a range of well-known models of organisational stress, which include Jobs Demand– Control-Support (Karasek, 1979), Person-Environment Fit (Edwards, Caplan, & Harrison, 1998), Conservations of Resources (Hobfoll, 1989), Job Demands – Resources (Demerouti, Bakker, Nachreiner, & Schafeli, 2001) and Lazarus and Folkman's transactional model of stress (1987).

Job Demands – Resources Model

The Job Demands – Resources (JD-R) model is an enduring model of organisational stress. It was developed by Demerouti et al. (2001) as a way of extending the understanding of the burnout process, in particular how job characteristics influenced the development of exhaustion and cynicism (two core components of burnout). Job demands were defined by Demerouti et al. (2001) as "those physical, social, or organizational aspects of the job that require sustained physical or mental effort and are therefore associated with certain

physiological and psychological costs" (p. 501). Common job demands include work overload, time pressure, shift work, computer problems and work-home conflict (Schaufeli & Taris, 2014). It was proposed by Demerouti et al. (2001), that when job demands were high, employees had to exert more effort to maintain performance and meet work goals. However, without consideration to sufficient recovery time, fatigue and irritability could set in, which, in turn, could lead to exhaustion.

On the other hand, job resources help in the attainment of work goals. Common job resources include positive feedback, support from colleagues and supervisors, job control and job security (Schaufeli & Taris, 2014). It was proposed by Demerouti et al. (2001), that a lack of job resources interfered in the attainment of work goals and if this continued employees could become disillusioned and cynical, of which cynicism is another component of burnout. Job resources are defined by Demerouti et al. (2001) as:

Those physiological, social, or organizational aspects of the job that may do any of the following: (a) be functional in achieving work goals; (b) reduce job demands and the associated physiological and psychological costs; (c) stimulate personal growth and development. (p. 501).

A criticism of the JD-R model is that while it identifies the relationship between job demands and resources with outcomes, such as burnout, it does not explain why some job characteristics are perceived as demanding or considered to be resources (Schaufeli & Taris, 2014). Demerouti et al. (2001) acknowledge that this is a limitation of the model, but argue that other organisational stress models can be utilised to bridge this gap. Lazarus and

Folkman's (1984) transactional model of stress is a model suited to bridging some of these gaps.

Transactional Model of Stress and Coping

Lazarus and Folkman's (1987) transactional model of stress, which considers stress to be a transaction between the individual and their environment, is a model suited to bridging some of these gaps found with the JD-R model. According to Lazarus and Folkman (1987) individuals are continually appraising their environment for stressors or demands that could negatively or positively affect their wellbeing. Individuals make a primary appraisal to assess whether harm has already occurred, whether there is a threat of harm, or whether there is something challenging in the environment, that could result in something beneficial if successfully overcome. However, Webster (2014) argues that if harm or loss has already occurred, then this is now part of the situation, rather than something that is part of the primary appraisal process. A demand is defined by Webster (2014) as "… anything in an individual's environmental situation that, if not altered, has the potential to result in a direct harm or loss to the individual or in the lost opportunity for reward" (p. 842).

According to Lazarus and Folkman (1987), if something is identified in the primary appraisal as potentially harmful or challenging then a secondary appraisal is made to determine what coping strategy needs to deployed in order to get the desired outcome. Two coping strategies are proposed; problem focused coping (changing the environment) and emotion focused coping (changing thoughts about an environment). Problem focussed coping is deployed if an individual perceives that they can change something in the environment, whereas emotion focused coping, specifically acceptance, is used in situations where an

outcome cannot be changed (Lazarus & Folkman, 1987). How an individual copes with a demand is influenced by factors such as previous experience and personality differences in which some individuals are more likely to view demands as a challenge to be overcome (Mark & Smith, 2011). Problem focused coping is not superior to emotion focused coping, as there are some situations which cannot be changed, therefore the way it is thought about is more appropriate (Lazarus & Folkman, 1987). Among a sample of police officers who were involved with body recovery and mortuary procedure following a disaster, Alexander and Wells (1991) found that participants thought about the positive benefits of what they were doing (e.g., identifying a deceased for loved ones) rather than thinking about the task, as a way of coping. Social support, which will be discussed later in this review, can be utilised as a coping strategy (Lazarus & Folkman, 1987).

Burnout

Burnout has been briefly discussed earlier, however, burnout occurs in response to chronic job demands (Schaufeli, Leiter, & Maslach, 2009). It is considered to be a syndrome, rather than a psychological disorder, and can prompt a stress response (Cordes & Dougherty, 1993). The "pioneers" of burnout were Freudenberg and Maslach (Schaufeli, 2003). Freudenberg, adopted the concept to describe the observed depletion of emotional energy, decreased motivation and commitment in volunteers at a drug clinic. As a psychiatrist and clinician, Freudenberg considered burnout to be caused by personality characteristics, such as a lack of coping skills (Schaufeli, 2003). Alternatively, Maslach encountered burnout when conducting research with human service workers, such as social workers and counsellors. Her interest lay in how workers coped with emotional exhaustion by adopting cognitive strategies,

such as detachment (Schaufeli, et al., 2009). Maslach had a scientific view of burnout and attributed it to a combination of interpersonal, social and organisational factors. Maslach's early attempts to publish articles on burnout were rejected on the grounds that burnout was viewed as *pop psychology* (Schaufeli, 2003). However, once tools were developed to measure burnout it advanced from being considered *pop psychology* to a topic, which has been the subject of much scientific research.

The Three Components of Burnout

Maslach and Jackson's (1981) conceptualised burnout as consisting of three components; emotional exhaustion, depersonalisation and reduced personal accomplishment. These components were seen to develop in employees who were involved in people orientated work, and had close and frequent interactions with "energy draining" clients. Researchers also began to find that burnout was prevalent among workers in organisations that did not involve *people work* and occurred in response to more generic job demands such as work overload (Leiter & Schaufeli, 1996). In relation to general occupations the three components of burnout are more commonly known as exhaustion, cynicism, and professional efficacy. It is the latter terminology which will be used throughout this thesis.

Maslach and Jackson (1981) proposed that burnout is a sequential process, which initially manifests itself in individuals as exhaustion in response to excessive work demands. In such cases, individuals cope by emotionally distancing themselves, or withdrawing from work. In addition, they appear to become cynical about their work and the organisation, resulting in a loss of motivation. While individuals may psychologically withdraw from their work, behaviourally they might actually maintain close contact with colleagues and talk a lot,

drawing to draw attention away from the fact that they are doing very little work. The final component of burnout is reduced professional efficacy (Maslach & Leiter, 1981). As employees become more detached from their work, they may question their personal ability to do the job, which can also be driven by increasing negative feedback from supervisors that is in response to the employees reduced performance (Cordes & Dougherty, 1993). Burnout is considered on a continuum where high levels of exhaustion and cynicism, and low levels of professional efficacy are observed. This contrasts with psychological disorders, which are considered by clinicians to be either present or not (Maslach & Leiter, 1981).

The three dimensions of burnout as conceptualised by Maslach and Leiter (1981) have been widely debated. For example, Shirom and Melamed (2006) argue that exhaustion *is* burnout and they disregard the role of cynicism and professional efficacy. Maslach, Schaufeli, and Leiter (2001) refute this and argue that exhaustion only becomes burnout when it prompts the cognitive response of distancing and withdrawal. In addition, the sequential process of the three components (exhaustion to cynicism, cynicism to diminished professional efficacy) has also been debated (Diestel & Schmidt, 2010). However, there is common agreement that exhaustion occurs first, and that the two main components of burnout are exhaustion and cynicism (Lee & Ashworth, 1993; Leiter & Maslach, 1988; Taris, LeBlanc, Schaufeli, & Schreurs, 2005). It should be noted that the pathway to lack of professional efficacy is less clear with some researchers finding that it progresses on from cynicism (Leiter & Maslach, 1988), while others argue that it develops in parallel, or independently of the other two dimensions (Diestel & Schmidt, 2010).

Burnout and Depression

It has been argued that burnout only develops in a work context, therefore it is distinguishable from depression, which can touch all aspects of an individual's life (Schaufeli, 2003). However, there is increasing evidence to suggest that burnout and depression are related (Ahola et al., 2005). Depression is an episodic, recurring disorder in which fatigue can also be present, and a disorder that has been found to be associated with physical diseases, including heart disease, suicide and high levels of mortality (Ahola et al., 2005; Ferrari et al., 2013; Walker, McGee, & Druss. 2014).

Among a large population based study it was found that 2.4% of participants had severe burnout and 25.2% had mild burnout; half of those with severe burnout also had a depressive disorder, and about 20% of those with mild burnout also had a depressive disorder (Ahola et al., 2005). Over a 21-month longitudinal study Bianchi, Schonfeld, and Laurent (2015) found that participants with increasing burnout experienced increases in depression, and in participants with decreasing burnout, depression decreased as well. In addition, exhaustion was more strongly associated with depression, than with cynicism (Bianchi et al., 2015). In a seven-year longitudinal study with a sample of Finnish dentists it was found that burnout predicted depression over periods of 3 and 4 years (Hakanen & Schaufeli, 2012).

Burnout and Job Demands

The relationship between job demands and burnout has been widely studied across occupations (Demerouti et al., 2001). Further to this, Lizano and Mor Barak (2012), studied the impact of job demands on burnout among a sample of social workers, finding that job stress and work family conflict were significantly associated with burnout. It was also found

that more experienced social workers had lower levels of exhaustion, and older participants had lower levels of cynicism. According to Schaufeli et al. (2009) burnout is a hazard for newer, younger employees as they can become exhausted and cynical when jobs do not meet their "idealistic" expectations.

Burke and Mikkelson (2006), evaluated the impact of job demands on burnout among a sample of police officers. It was found that different job demands were associated with different components of burnout. More specifically, quantitative job demands such as work overload were positively associated with exhaustion and cynicism, while shift work was negatively related to professional efficacy. Although burnout is characterised by high levels of exhaustion and cynicism, and low levels of professional efficacy this relationship has not always been established. It has been found that individuals can be high in exhaustion, cynicism *and* professional efficacy. This relationship was found among a sample of oncology healthcare professionals (Girgis, Hansen, & Goldstein, 2008) and among a sample of child pornography investigators (Perez, Jones, Englert, & Sachau, 2010). These findings suggest that the professionals were still getting a sense of accomplishment and achievement out of their jobs, despite feeling exhausted and cynical.

Burnout and Traumatic Events

The impact of traumatic event exposure in police has commonly been evaluated in relation to PTSD (Andrew et al., 2008; Carlier et al., 1997; de Terte et al., 2012; Menard & Arter, 2013), although according to Alexander and Klein (2009), this has been an "unhealthy preoccupation" as it has limited the understanding of how trauma contributes to other psychopathology. Physical assault is a traumatic event which is commonly experienced by

police officers and nurses, however unlike police studies the impact of physical assault on nurses has been studied in relation to burnout (Asmundson, & Stapleton, 2008; Ellrich & Baier, 2017; Leino, Selin, Summala, & Virtanen, 2011; Spector, Zhou, & Che, 2014; Winstanley & Whittington, 2002).

Among a sample of Canadian police officers, it was found that 56.3% of participants had been assaulted (Asmundson & Stapleton, 2008). Among a sample of Finnish police officers and security guards it was found that found that 27% of participants had been exposed to physically violent acts in the preceding 12 months and 18% had been threatened or assaulted with a deadly weapon (Leino et al., 2011).

Spector et al. (2014) reviewed 136 nursing studies and found that 36.4% of nurses had been physically assaulted. Winstanley and Whittington (2002) found that nurses who were physically assaulted or threatened by patients and visitors had higher levels of emotional exhaustion and cynicism, than nurses who were not. These levels were higher again amongst nurses who had experienced multiple incidents of physical assault and threatening behaviour. The association between physical assault and burnout has been replicated in other studies with nurses (Bernaldo-De-Quiros, Piccini, Gomez, & Cerdeira, 2014; Crabbe, Alexander, Klein, & Sinclair, 2002). As assault has been associated with burnout among nurses then other traumatic events may also be associated with burnout. With the inclusion of both psychological distress and burnout in the current study a comparison can be made to see if traumatic event exposure is related to one, both or neither of these outcomes.

Psychological Distress

Psychological distress has been used as an indication of mental health among many different populations, including police officers (de Terte et al., 2014; Huddleston et al., 2007). Drapeau, Marchand, and Beaulieu-Prevost (2011), defined psychological distress as "a state of emotional suffering characterized by symptoms of depression and anxiety" (p. 107). While it has some overlapping characteristics with depression and anxiety, Drapeau et al. (2011) argue that psychological distress is a distinct phenomenon although the development and trajectory of psychological distress has been widely debated (Diamond, Lipsitz & Hoffman, 2013; Drapeau et al., 2011; Horowitz, 2007; Wheaton, 2007). According to Horowitz (2007), psychological distress develops in response to a particular stressor, and once the stressor is resolved the distress remits. Alternatively, if the stressor cannot be resolved, an individual learns to adapt to it, and therefore the distress remits (Horowitz, 2007). This is in contrast to psychological disorders, which can develop irrespective of the presence of a stressor. Also since psychological distress is associated to the presence of a stressor, Horowitz (2007) considers it to be transient rather chronic. Alternatively, Drapeau et al. (2011) argue that psychological distress can develop in the absence of a stressor and that it can be chronic. Based on their studies of individuals who live amidst ongoing stressful situations (e.g., Israel) it has been argued by Lipsitz and Hoffman (2013) that psychological distress develops gradually in response to cumulative stressors, rather than a specific stressor.

According to Drapeau et al. (2011), there are main factors associated with psychological distress: sociodemographic factors such as poverty, stress - related factors, such as work, and personal resources such as social support. While work can be a protective factor and enhance

factors like financial security, when job demands exceed an individual's physical or psychological capacity, the end result can be psychological distress (Drapeau et al., 2011). Marchand and Blanc (2011), studied employees in a range of occupations over the course of eight years and found that 46% of participants had experienced one episode of psychological distress, 24% had experienced one or more episodes and 11% had experienced three or more episodes relating to the work environment. While the type of occupation was not associated with psychological distress, a number of work characteristics, such as physical job demands and social support were (Marchand & Blanc, 2011). This supports the argument of Drapeau et al. (2011) that psychological distress can be chronic.

Police and Psychological Distress

Traumatic event exposure has also been associated with psychological distress in police (Andrew et al., 2008; de Terte et al., 2014; Hodgins, Creamer, & Bell, 2008; Huddleston et al, 2007; Liberman et al., 2002). The experience of work hassles has also been associated with psychological distress in police (Huddleston et al., 2007; Liberman et al., 2002).

Social Support

What is Social Support?

According to Bererra (1986) social support is difficult to define as there are many social support models and processes. Hobfoll (1988) defines social support as "those social interactions or relationships that provide individuals with actual assistance or that embed individuals within a social system believed to provide love, caring, or sense of attachment to a valued social group or dyad" (p. 121). This definition accounts for the fact that social support

is more than actual or received social support. An individual who is embedded in strong social networks may also perceive that support will be available if they need it, and this perception has been found to positively impact on psychological wellbeing (Thoits, 2011).

Types of Social Support

According to Thoits (2011) social support refers to the functions performed for individuals by significant others. The three most common types of functional social support are emotional, informational and instrumental (Taylor, 2007). Emotional support is the loving and caring support that is typically provided by family and friends (Thoits, 2011). This type of support can reassure an individual that they are loved and valued for who they are (Taylor, 2007). Among a sample of paramedics, Regehr, Goldberg, and Hughes (2002) found that strong family support was highly valued and for those participants who did not have such close relationships, it was a source of frustration. Informational social support is the provision of information or advice about an event or situation. Such information can help an individual make sense of an event and decide what they need to do in order to cope with it (Thoits, 2011). If the provider of social support has sufficient experience and knowledge, they can reassure an individual that their reactions to an event are understandable, and to be expected (Taylor, 2007). It was found among a sample of police officers that collegial support was highly valued as colleagues understood the stressors of the job and could offer advice that was based on actual experience (Wright, Powell, & Ridge, 2006). Instrumental support is the provision of material goods and practical assistance, such as giving someone a ride to the doctor or providing a meal (Taylor, 2007).

Sources of Social Support

Sources of social support depend on the extent and structure of an individual's social networks or groups. According to Thoits (2011) individuals have "memberships" in primary and secondary groups, which are made up of different people. Primary groups are made up of members who have close emotional ties with each other, such as family and friends. Secondary groups are made up of members who are not emotionally close to one another, such as colleagues and social acquaintances (Thoits, 2011). Whereas primary groups endure over time, members of secondary groups typically change. At work a police officer's secondary group includes immediate colleagues and supervisors, along with more formal members such as external counsellors and psychologists. These members are potential sources of support for police officers and it is useful for police organisations to know what sources officers seek support from, so that they can make available appropriate social support resources.

Briefly, there are aspects of policing that can make it difficult for police officers to openly discuss their emotions, including police culture and the necessity of suppressing emotions in order to do the job (Daus & Brown, 2015; Evans, Pistrang, & Billings, 2013; Tuckey et al., 2012). Tuckey et al. (2012) completed research with a group of Australian police officers who had left police due to psychological injury. Most participants said that they were emotionally overwhelmed by specific operational events at the start of their career, but as more experienced officers did not overtly display any emotion or distress, participants kept their feelings to themselves for fear of being stigmatized. Among a sample of British police officers Evans et al. (2013) found that police officers did not commonly talk about their emotions as

it deviated from British *and* police culture, they did not want to appear weak to other officers and furthermore they were worried about the impact it might have on their careers. Ironically the same police officers still felt that it was important to talk as a way of releasing emotions and processing traumatic events, but confidants had to be chosen very carefully (Evans et al., 2013).

Police officers continually have to suppress or express emotions in work situations, as they need to remain calm and level headed in order to do their job (Daus & Brown, 2015). Among a sample of police officers it was found anger, disgust, sadness, fear and frustration were the emotions they reported as having to suppress the most (Daus & Brown, 2015). In another study, police detectives also identified anger, abhorrence and sadness as the emotions they most commonly had to suppress (van Gelderen, Bakker, Konijn, & Demerouti, 2011). In the same study empathy was the most common emotion that police officers felt bound to express, even if they did not feel it. As well as being exhausting, another consequence of having to continually suppress and express emotions is that police officers can get used to not showing their true feelings (Daus & Brown, 2015).

Colleagues

It has been found that police officers highly value the support of colleagues, as colleagues are able to provide credible informational support, based on similar experiences (Evans et al., 2013; Wright et al., 2006). Informational social support is only useful if the provider has the appropriate knowledge to give facts or advice (Thoits, 2011). Among a sample of child abuse investigators it was found that participants valued collegial support and office humour, over more formal sources of support (Wright et al., 2006). Similarly, Adams,

Shakespeare-Finch, and Armstrong (2015) found that ambulance call takers sought support from colleagues as they were able to provide reassurance that their emotional responses to events were “normal”.

Another reason why police officers may seek support from colleagues is to check whether the way they dealt with a situation was appropriate or correct (Evans et al., 2013). They may not want to discuss this with their supervisor for fear of repercussions or losing face. Social support is not always viewed positively, as individuals can perceive it as an indication that others do not think that they can cope (Thoits, 2011). Evans et al. (2013) found that officers who thought that colleagues might need to talk about an event, approached them very informally, such as creating an opportunity to have a meal break together, or starting a conversation by talking about their own experiences.

Supervisors

While colleagues are a key source of social support for police officers, supervisors are also an important member of the same secondary group. Evans et al. (2013) found that police officers considered supervisors to be very influential as their willingness to talk openly and express emotions, set the standard of behaviour for the whole group. Furthermore, participant’s attitudes to seeking support from supervisors was strongly dependent on the “type” of supervisor that they had (Evans et al., 2013). One type of support that supervisors can provide is instrumental support, as they can have the ability and authority to increase job resources, thereby reducing job demands (Lambert, Altheimer, & Hogan, 2010).

External Support

In relation to utilising more formal sources of social support, such as psychologists Wright et al. (2006) found that participants were reluctant to do so, as they feared that they may be viewed by colleagues and supervisors as not being able to cope. Additionally participants feared that this may impact on their career. The reluctance to utilise psychologists was not based on actual experience as most participants had never seen a psychologist (Wright et al., 2006). Regehr et al. (2002) found that some paramedics did find psychologist sessions useful, however it was noted that psychologists only made contact following significant events, whereas sources of stress varied for individuals. Evans et al. (2013) found that participants preferred mandatory psychologist referrals as this reduced the stigma of attending.

Family and Friends

Studies have found that social support from family and friends does not reduce workplace stress (e.g., Lambert et al., 2010). One reason for this is that family and friends lack sufficient organisational knowledge to provide informational and instrumental support (Lambert et al., 2010). However, family and friends do provide emotional support and studies have found that police officers and paramedics consider these people to be their most significant source of support, especially in relation to emotionally distressing incidents (Evans et al., 2013; Regehr et al., 2002; Wright et al., 2006). Regehr et al. (2002) found that paramedics consistently discussed their family and friends as important sources of support, although spouse/partners were rated more supportive (79%) than other family members (32%), or friends (26%). Of colleagues 27% of participants rated them as very helpful and 30%

rated them as helpful (Regehr et al., 2002). Evans et al. (2013) found that police officers also sought support from family and friends if they had been emotionally affected by an event. One reason for seeking support from family was that participants did not want their colleagues to know that they were upset (Regehr et al., 2006). Alternatively, some participants deliberately did not talk about work with family members, as they did not want to expose them to the distressing aspects the job. Other participants did talk about distressing events with their family, but censored the information so it was not as distressing (Evans et al., 2013).

One event that is consistently rated by police officers, and other emergency service personnel is the death of a child (Alexander & Klein, 2009; Haslam & Mallon, 2003; Regehr et al., 2002; van der Ploeg & Kleber, 2003). Haslam and Mallon (2003) found that 31% of participants considered the death of a child to be their most distressing event, and overall it was the most distressing event out of the nine events included in the scale. Regehr et al. (2002) found that 85% of paramedics had attended the death of a child and that 78% had experienced distress in relation to the event. Again, this was rated as the most distressing event, even compared to the death of a paramedic in the line of duty (58%). Exploratory research will be undertaken in the current study to see whether police officers select different sources of support for traumatic events, including an event in which there is a deceased child.

Direct and Moderating Effects of Social Support

Social support has been found to reduce the negative outcomes of traumatic event exposure and work hassles (McCarty & Skogan, 2013; van der Ploeg & Kleber, 2003). In line with the transactional model of stress (Lazarus & Folkman, 1987) if individuals perceive that

they have the support of others, they might not appraise an event as a stressor. Alternatively, if they do appraise an event as harmful, seeking social support could change how they cope with the events, for example a colleague might suggest a solution to a problem that they had not thought of.

How social support influences wellbeing has been explained by both a main effect model and a buffering model (Cohen & Wills, 1985). The main effect model postulates that social support reduces strain, regardless of how much stress an individual is experiencing (Kim, Hur, Moon & Jun, 2017). Alternatively, the stress buffering hypothesis postulates that social support reduces strain when individuals are presented with a stressor (Cohen & Wills, 1985). Individuals with high levels of social support experience less stress than individuals with low levels of social support, in response to the same stressor (Cohen & Wills, 1985).

van der Ploeg and Kleber (2003) studied acute and chronic work stressors in a sample of paramedics and found that lack of colleague and supervisor support was associated with higher levels of burnout, fatigue and post-traumatic stress symptoms. Among sworn and civilian police personnel it was found that participants who reported higher levels of social support from colleagues and supervisors, reported lower levels of burnout in response to work hassles, such as work-family conflict and organisational fairness (McCarty & Skogan, 2013). Among a large sample of manufacturing employees it was found that participants who reported higher levels of received social support from family, friends, neighbours, and colleagues reported lower levels of depression, in relation to work hassles (Chen, Siu, Lu, Cooper, & Phillips, 2009).

Among a sample of police officers, Patterson (2003) evaluated the impact of life events and work hassles on psychological distress, and the moderating role of social support. It was found that social support moderated the relationship between work events and psychological distress. Therefore, participants who reported stressful work events, and higher levels of social support experienced less distress than participants who reported lower levels of social support. Patterson (2003) also found that participants with higher levels of education were more likely to seek social support. It has been found that individuals with higher levels of education utilise more coping strategies in response to stressors (Patterson, 2003).

Among a sample of home care providers, Xanthopoulou et al. (2007) evaluated the impact of job demands on burnout (exhaustion & cynicism), and the moderating role of social support. It was found that social support moderated the relationship between quantitative job demands (e.g., work load) and exhaustion and cynicism. Therefore, participants who reported high levels of quantitative job demands and high levels of social support, experienced less exhaustion and lower levels of cynicism, than participants who reported low levels of social support. Social support was also found to moderate the relationship between emotional job demands and exhaustion and cynicism.

Drawing on the literature covered in this review eight hypotheses have been formulated. The eight hypotheses will be;

1. There will be a positive relationship between traumatic event exposure and psychological distress.
2. There will be a positive relationship between trauma event exposure and exhaustion and cynicism, and a negative relationship between trauma event exposure and professional efficacy.

3. There will be a positive relationship between daily organisational hassles and psychological distress.
4. There will be a positive relationship between daily organisational hassles and exhaustion and cynicism and a negative relationship between daily organisational hassles and professional efficacy.
5. Social support will moderate the relationship between traumatic event exposure and psychological distress.
6. Social support will moderate the relationship between traumatic event exposure and exhaustion, cynicism and professional efficacy.
7. Social support will moderate the relationship between daily organisational hassles and psychological distress.
8. Social support will moderate the relationship between daily organisational hassles and exhaustion, cynicism and professional efficacy.

Method

Introduction

Described in this chapter is the method used to evaluate the impact of traumatic events and daily work hassles in a sample of police officers. This chapter will outline the research design, cohort sample, study sample, method considerations, the construction of the web based questionnaire, procedure, and rationale for using the selected measures and how the constructs were measured.

Research Overview

This study used a cross sectional survey design. Participants, who were sworn police officers were emailed a link to a web based survey questionnaire. The use of a web based survey consisting of a 108 item questionnaire (see Appendix D), enabled a large sample of police officers from Waikato, Eastern and Tasman districts to participate in the research. The survey consisted of a demographic section and six scales measuring traumatic event exposure, work hassles, psychological distress, burnout and social support. In addition, there were six vignette items relating to sources of social support in specific policing scenarios, which were developed by the author.

Participants

The participants for the study consisted of 1303 police officers from the three police districts listed earlier. Of the officers who were contacted, 674 completed the questionnaire, which was a 52% response rate. Comparatively, Johnston (2015) recorded a response rate of 38% in her study with New Zealand police officers. In the current study seventy-one

participants' data were removed from the sample because they failed to respond to a sufficient number of items, and with large samples it is appropriate to remove these participants (Hair, Black, Babin, & Anderson, 2010).

Participant Selection

Non-probability purposive sampling was used in this study. Three police districts were selected from a total of 12 police districts, at the request of a representative of the New Zealand Police Research Review and Access Committee, because officers in these districts had been involved in a recent research project. The police districts selected were Waikato and Eastern (North Island), and Tasman (South Island), all contained a mix of urban and rural police stations, and together provided a sufficient sample pool. Permission was obtained from each District Commander prior to commencing the research. Human Resources (HR) provided each individual police officers identification number (QID), name and station for all three districts (N Henshaw, personal communication, 10 March 2016). An initial individual participant letter was personalised and mailed to all of the police officers that were eligible for this study. The letter was sent to their respective work address as provided by HR (See Appendix A). Two weeks later, an email was sent to the participant's work email address (See Appendix B). The email contained a link to an information sheet (See Appendix C) and the start of the online questionnaire (See Appendix D). The information sheet outlined the objectives of the research and what was required of each participant.

Ethics and Informed Consent

The Massey University's Human Ethics Committee gave ethical approval for this research project (14/84). Approval was also given by the Research and Review Assurance Committee at Police National Headquarters.

It was stated at the start of the questionnaire that completion implied consent. The first item then asked participants if they consented to the collection of their responses (see Appendix D). At the conclusion of the questionnaire participants were given the option to proceed to another window and record their email address, so that they can be sent a summary of the results. Although it was not anticipated, it was explained that some participants might find recalling traumatic events distressing. A number of available support options along with the relevant contact details were listed in the information sheet.

Procedure

A survey questionnaire was constructed which consisted of a demographic section and six scales measuring traumatic event exposure, work hassles, psychological distress, burnout and social support. In addition, there were six vignette items relating to sources of social support in specific policing scenarios, which were developed by the researcher based on her own police experience. A pilot study was also conducted with 14 police officers who worked in the Wellington district to confirm whether the scenarios were realistic, including the correct use of police terminology. Vignettes provide context to the questions being asked, but they must be believable and the participant needs sufficient experience to respond (Hughes & Huby, 2002). After the pilot study, no changes were made to the scenarios.

A pre-test of the completed questionnaire was also conducted this time with a pilot group of 12 police officers across four police districts, not involved in the study. The feedback received indicated that the instructions and survey questions were clear and easily understood. It was also indicated that the length of time taken to complete the questionnaire was approximately 20 minutes.

In order to ensure participation and the return of completed surveys, three reminder emails sent out. The emails were sent out at two, four and six weeks after the start of the survey (see Appendices E-G). On 13 July 2016, a comprehensive notice about the research and survey details was placed on each district's electronic notice board (see Appendix F). The survey which was developed using Qualtrics software and placed on a Massey University computer server, was available online for 58 days.

Measures

The survey questionnaire (see Appendix D) consisted of 108 items in total. The questionnaire started with 10 items which enabled the collection of demographic information. The items related to age, gender, ethnicity, education, marital status, whether the participant was in a relationship with another police officer, work related contact with a psychologist, length of service, district and workgroup.

The constructs measured in this survey were traumatic event exposure, work hassles, psychological distress, burnout and social support. The constructs were measured by the scales: Traumatic Stress Scale (Norris, 1990), the Work Hassles Scale (Brough, 1997), the Hopkins Symptom Checklist-21 (Green, Walkey, McCormick & Taylor, 1988), the Maslach Burnout Inventory – General Survey (Schaufeli, Leiter, Maslach & Jackson, 1996) the Social

Support Scale (Caplan, Cobb, French, Van Harrison, & Pinneau, 1975), and six items relating to preferences for social support in hypothetical policing scenarios.

Traumatic Stress Scale

The Traumatic Stress Scale (TSS) is a short self-report scale that measures the occurrence and frequency of traumatic events. Norris (1990) developed the scale to measure exposure to traumatic events, either as a base measure, or during the course of longitudinal research. The scale consists of seven specific traumatic events, and two further questions relating to sources of ongoing traumatic stress and other traumatic events not already included in the questionnaire. Stephens and Miller (1998) adapted the scale for use with a police sample by adding five police specific traumatic events. The adapted scale consisted of 16 items and it was used in the current study. The events ranged from physical assault, the tragic death of the police officer, to attendance at a severe accident.

The adapted scale elicited information about trauma exposure, repeated traumatic exposure, time elapsed since the last traumatic event, whether the event occurred before or after joining the police and if relevant, whether it occurred on or off duty. In the current study participants were only asked about the occurrence and frequency of traumatic events. Armstrong, Shakespeare-Finch, and Shochet (2014) in a study of Australian firefighters found that experiencing work and personal trauma, including historical trauma, accounted for more of the variance in posttraumatic stress disorder symptomology than work trauma alone. Stephens and Miller (1998) calculated a score for the scale by simply adding up the total number of events. Events that occurred more than once were multiplied by two. Alternatively, de Terte (2012) calculated a traumatic event exposure, and a traumatic event

frequency score, which was the method of scoring used in the current study. The score range for traumatic event exposure was 0 to 16. As one of the events did not require a response regarding frequency the score range for frequency was 15 to 30.

Gray and Slagle (2006) reviewed self-report measures used to screen for potentially traumatic events (PTE), including the TSS. The use of the term PTE acknowledges the fact that events are only traumatic if an individual perceives it to be. Gray and Slagle (2006) did not recommend one particular measure, but said that the purpose and population of a study should be taken into account when selecting a measure. The TSS has previously been used to measure trauma exposure in police (Burke & Shakespeare-Finch, 2011; de Terte, Stephens, & Huddleston, 2014; Huddleston, Stephens, & Paton. 2007; Stephens, Long, & Miller, 1997; Stephens & Miller, 1998; Stephens, & Paton, 2007). It has also been used with fire fighters (Skeffington, Rees, & Mazzucchelli, 2016), and motor vehicle accident victims (Hruska, Irish, Paellas, Sledjeski, & Delahanty, 2014).

Regarding the reliability of PTE measures, Gray and Slagle (2006) argued that internal consistency does not have to be established, as the occurrence of events are not likely to be related to one another. Reliability should instead be established by assessing the stability of a measure over time. Buchanan, Stephens, and Long (2001) used the TSS in a study with the New Zealand Police. On entry to initial police training, 70% of police recruits had previously experienced a traumatic event. Another study with the New Zealand Police found that 85% of police recruits had previously experienced a traumatic event (Huddleston et al. 2007). The TSS has been used to establish the prevalence of traumatic event exposure in non-police populations. In an American general population study, Norris (1992) established a lifetime

prevalence rate of 69%. Flett, Kazantzis, Long, MacDonald and Millar (2002) found that 51% of participants in a New Zealand general population sample had previously experienced a traumatic event. These rates are comparable to exposure rates established by other measures. Using data from a large Australian national survey, Creamer, Burgess and McFarlane (2001) established rates of 64% for men and 49% for women.

Hopkins Symptom Checklist – 21

The Hopkins Symptom Checklist–21 (HSCL-21) is a self-report measure, which was developed to measure psychological distress (Green et al., 1988). It is a modified version of the original 58 item scale which was developed by Parloff, Kelman and Frank (1958). Green et al., (1988) completed a factor analysis on the original 58 items and established three distinct subscales, each consisting of seven items. The subscales are General Feelings of Distress (GFD), Performance Difficulty (PD) and Somatic Distress (SD). Together they provide an overall measure of psychological distress.

The subscales consisted of 7 items each, which related to general distress symptoms. Subjects are asked to report on how much of each of the 21 symptoms they have experienced during the past seven days. The items are rated on a four point Likert scale (1 = *not at all* to 4 = *extremely*). Items include “blaming yourself for things" (GFD), “difficulty in speaking when you are excited” (PD) and “pain in the lower part of your back” (SD). The scores for the three individual subscales are reported with a maximum score of 28 for each. The maximum total score is 84, with higher scores indicating higher levels of psychological distress.

An evaluation of the HSCL-21 with undergraduate students established that the scale and the three subscales had good reliability. The corrected split half coefficients ranged from

.80 to .89 and the Cronbach's alpha coefficients ranged from .75 to .86. The total scale was also found to have good reliability with a corrected split half coefficient of .91 and a Cronbach's alpha coefficient of .90 (Green at al., 1988). Deane, Leatham, and Spicer (1992) administered the HSCL-21 to a clinical sample of psychotherapy clients. The three subscales had good internal reliability with Cronbach's alpha coefficients ranging from .80 to .87 and an alpha coefficient of .89 for the total psychological distress score.

The HSCL-21 has been used with different populations including police (Huddleston, Stephens, & Paton, 2007; de Terte, Stephens, & Huddleston, 2014), military (Owens, Herrera, & Whitesell, 2009) and refugees (Nilsson, Brown, Russell, & Khamphakdy-Brown, 2008; Brown, Schale, & Nilsson, 2010). de Terte et al. (2014) evaluated a multidimensional model of psychological resilience among a sample of New Zealand police officers to evaluate three pathogenic outcomes, including psychological distress. The HSCL-21 was administered and good internal reliability was established with Cronbach's alpha coefficients for the subscales, and the total psychological distress score ranging from .77 to .90. In the current study the Cronbach's alpha coefficients for the subscales and the total psychological distress score ranged from .80 to .90.

Maslach Burnout Inventory – General Survey

The Maslach Burnout Inventory-General Survey (MBI-GS) is a burnout measure that can be used across a broad range of occupations, (Schaufeli et al., 1996). It has three subscales, Exhaustion (EX), Cynicism (CY) and Professional Efficacy (PE). The exhaustion and cynicism subscales consist of six items and include questions such as "I feel emotionally drained from my work" (EX) and "I have become less interested in my work since I started this job" (CY).

The professional efficacy subscale consists of five items and includes questions such as “I can effectively solve the problems that arise in my work”. Subjects were asked to read the 16 statements of job-related feelings and decide if they had ever felt that way about *their* job. All items were rated on a seven point Likert scale (0 = *never*, 3 = *a few times a month* and 6 = *every day*). The scores for the three individual subscales were reported. For exhaustion and cynicism, the scores ranged from 0 to 30 and for professional efficacy they ranged from 0 to 35. High scores on EX and CY subscales and a low score on PE subscale indicate burnout. Using a total score for burnout is not recommended, as a higher score is not indicative of burnout, due to PE being measured in the opposite direction from EX and CY (Schaufeli et al., 1996).

Leiter and Schaufeli (1996) completed a study in a tertiary care hospital to see if the three MBI-GS subscales were maintained across four different workgroups. The workgroups included administration and management, as well as workgroups where staff had varying levels of contact with patients (e.g., therapists and nurses). The three subscales were found to have good reliability with Cronbach’s alpha coefficients ranging from .70 to .90.

The MBI-GS has been used with police (Martinussen, Richardson, & Burke, 2007; Fynn, Fjell, & Johnsen, 2015), firefighters (Becker, Halbesleben & O’Hair, 2015), rescue workers (Argentero and Setti, 2011), and ambulance volunteers (Lewig, Xanthpoulou, Baker, Dollard & Metzer, 2007). With a sample of Norwegian police officers, Fynn et al. (2015) evaluated the impact of psychological hardiness, work engagement, social support and meaningfulness on three outcome variables, including burnout. The three subscales were also found to have good reliability with Cronbach’s alpha coefficients of .82 for EX, .90 for CY and .71 for PE. The alpha coefficient for the total scale was .82 (Fynn et al., 2015). The Cronbach’s alpha in the

current study were .92 for exhaustion, .85 for cynicism and .74 for professional efficacy. The alpha coefficient for the total scale was .78.

Police Daily Hassles and Uplifts Scale

An adapted version of the Police Daily Hassles and Uplifts Scale was used to measure daily work hassles. This version was provided to the researcher, by the author (P Brough, personal communication, 28 July, 2014). The 35 items scale was based on a scale developed by Hart et al. (1993). In the current study only the police daily hassles subscale was used. The scale consisted of operational (e.g., hoax calls,) and organisational hassles (e.g., lack of equipment).

Participants were asked to rate on a 5 point Likert scale, the degree to which each item hassled or bothered them during the past month at work (0 = *definitely was not a hassle*, 4 = *definitely was a hassle)*. Operational items include "dealing with people who abuse the police" and "hoax calls". Organisational items include "problems with co-workers" and "too much supervision". Responses are totalled for both subscales and a higher score means that the participant has experienced more hassles.

Brough (1998) used the shortened version in a study with a sample of United Kingdom police officers to compare the work experiences of males and females. In the current study, the Cronbach's alpha coefficient was .94. A factor failed to yield more than one factor.

Social Support Scale

Social support was measured using a scale developed by Caplan et al. (1975). The scale developed by Caplan, et al. (1975), measures informational and emotional support. These

types of support are measured in terms of their function, that is, what the people in their support network actually provide (Wills, 1998).

The social support scale consists of four items about what support different groups of people are perceived to provide. There are three groups of people: immediate supervisor; other people at work; and spouse, partner, friends or relatives. The items, which include "how easy is it to talk with each of these people" and "how much can each of these people be relied on when things get tough at work" are rated on a five point Likert scale (1 = *very little* and 5 = *a great deal*). Participants record a response for each of the four items in relation to all three groups of people, and a separate score is calculated for each group, along with an overall total score. The scores for each subscale range from 4 to 20 and the total scale from 12 to 60. Higher scores indicate a higher level of perceived social support.

The social support scale has been used with police (Stephens et al., 1997; de Terte et al., 2014; Biggs, Brough & Barbour, 2014), correctional officers (Brough & Williams, 2007) and customs officers (Mansell, Brough & Cole, 2006). de Terte et al., (2014) studied a multidimensional model of psychological resilience in relation to pathogenic outcomes with a group of police officers. The social support scale was shown to have good internal reliability with Cronbach's alpha coefficients for the subscales and total scale ranging from 0.85 to 0.91. The Cronbach's alpha coefficients in the current study were .86 (total), .93 (supervisor), .85 (colleagues) and .89 (family and friends).

Social Support Vignettes

Six short vignettes about situations police may experience were constructed by the researcher. The scenarios were based on three operational, and three organisational

situations. The operational situations were “messy death”, “suicide in the police cells” and “deceased child”. The organisational situations were “lack of equipment”, “shift work” and “work overload”. Participants were asked to read the scenarios from the point of view of a hypothetical police officer, or character. They were then asked to select who the police officer would be best to approach for support. The options were “their immediate supervisor”, “their immediate colleagues”, “other people at work” and “their spouse or partner, friends and relatives”. Participants were only able to select one option.

In a study of Canadian firefighters Jeannette and Scoboria (2008) used vignettes to explore firefighter’s preferences for post incident intervention. For situations of moderate impact in which the outcome was not related to firefighter’s actions the preference was for officer led informal discussions, and one-to-one peer discussions. Where the situation was severe, and the outcome was related to firefighter’s actions (e.g., failure to locate a person in a burning house) the preference was for one-to-one peer discussions and formal critical incident briefing.

Results

Introduction

This chapter will discuss the results in relation to the five hypotheses. Data screening will be discussed first, followed by the descriptive statistics and correlations. The methods and procedures used to test each hypothesis will then be discussed.

Data Analysis

The data analyses were conducted in SPSS v23. Qualitative responses to question 10 (police workgroup), question 15B in the Traumatic Stress Scale (TSS), (distressing work area) and question 16C in the TSS (other traumatic event) were categorised using Krippendorff's (2013) method of content analysis. This approach was selected because each participant response was relatively brief, and the aim was to identify the frequency of occurrence of various themes in the data. Content analysis was chosen as it is suited to the quantification of qualitative data via methods such as frequency counts, even for very small units of analysis (e.g., words or phrases), and provides an overview of themes in the data which can be validated by different individuals (Krippendorff, 2013). Responses reported by participants were analysed both inductively and deductively. As the researcher had some knowledge of police officer's experiences, the interpretation of the themes in this data was deductive in that it reflected knowledge of existing categories to some extent. However, the data were analysed by identifying and coding themes and content that repeated in the data, thus reflecting an inductive process also.

Data Screening

Prior to analysis, it is essential to examine the data set in detail so that any issues with the data can be identified and addressed. The main data issues which can arise are missing data, outliers and normality (Tabachnick & Fidell, 2007). By conducting a thorough examination of the data initially this increases the confidence that subsequent multivariate analyses are valid and accurate (Hair, Black, Babin, & Anderson, 2010).

Missing Data

The first data issue to be addressed was missing data. Missing data is an inevitable part of survey research, such as participants not answering a particular item, but the amount of missing data is less important than the pattern of missing data (Tabachnick & Fidell, 2007). That is whether data is missing at random or whether participants have not answered an item for a particular reason (e.g., too upsetting). A total of 674 participants responded to the survey. . Seventy-one participants had failed to answer one or more entire scales, so their data was removed leaving 603 valid responses. According to Hair et al. (2010) it is acceptable to delete entire cases if the amount of missing data is large. The scales of interest, psychological distress, burnout and social support, were evaluated in SPSS. It was established that the missing data was random and for each of the scales, fewer than 5% of the data points for each of the items were missing. According to Tabachnick and Fidell (2007) if data that is missing at random is below the 5% threshold, any procedure to address it, can be utilised. The missing data for psychological distress, burnout and social support was therefore imputed with the mean. Of the work hassles scale, three items (delivering a death message, exams for

work purposes and hoax calls) contained greater than 5% missing data. Missing data for item one (delivering a death message) was 10.45%, for item 12 (exams for work purposes) it was 5.14% and for item 16 (hoax calls) it was also 5.14%. As these items potentially represented situations that some participants may not have experienced, missing data on all work hassles items was imputed with zero ("definitely was not a hassle").

Missing data on the TSS was able to be imputed in relation to occurrence and frequency. If a participant responded that an event had occurred, but did not respond to the corresponding item relating to frequency, the frequency was imputed with "once" (zero). If a participant responded to an item relating to the frequency of an event, but not to the corresponding item relating to the occurrence, the occurrence was imputed with "yes" (one). The imputation methods are displayed in Table 1.

Table 1

Imputation rules for missing data on the TSS

Response to 'A' (did the event happen?)	Response to 'B' (did this happen once or more than once?)	Imputation
Yes	Once or more than once	No imputation required
No	Not applicable	No imputation required
Yes	Did not respond	"B" imputed with zero (once)
Did not respond	Once or more than once	"A" imputed with one (yes)
Did not respond	Did not respond	"A" imputed with zero (no)

Regarding questions seven, death of a police officer, and eight, and death of a close friend or family member in the TSS, if a participant responded "yes", but did not select a type of death (accident, homicide, suicide), then no imputation was possible. In relation to

question 10 in the demographic section that relates to workgroup, if the participant had not recorded a response no imputation was possible. Similarly, in relation to questions 15, distressing workgroup, and 16, other traumatic event, if a participant had responded “yes”, but did not record a written response, then no imputation was possible.

Outliers

The next data issue to be addressed was outliers. Outliers are extreme values that can be found with univariate or multivariate variables (Tabachnick & Fidell, 2007). Scatterplots were generated for the independent and dependent variables. On visual inspection there was no strong pattern of multivariate outliers. Investigation of the dependent variables found no univariate outliers. All data points were within four standard deviations of the mean, which is acceptable with a large sample size (Hair et al., 2010).

Normality of Data

Inspection of histograms did not reveal any evidence of non-normality.

Multicollinearity

Inspection of the scatterplots and normal Q-Q plots on all independent and dependent variables, showed no evidence of non-linearity. However, there were some instances of multicollinearity, which was due to the use of multiple scores from the same construct. Multicollinearity is said to exist when the collinearity between two independent variables exceeds .90, (Field, 2013). Specifically, traumatic event exposure (TSSExp) and traumatic event frequency (TSSFreq) were significantly correlated (.90).

Data Demographics

Of the 1303 sworn police officers invited to participate in the research, 674 completed the questionnaire, which equated to a 52% response rate. Once the data had been cleansed of missing data, the responses of 603 participants were included in the final sample for analysis. Of the participants three did not record a response as to whether they were male, or female. The percent of males (81%) and females (18%) who participated in the study is representative of the overall NZ police population, χ^2 (z) – 1.67, p = .20. The age range for the sample was 21 to 65 years with a mean age of 44.93 years (SD = 8.74). One participant recorded an age of 14 years. This response was removed as the minimum joining age for the New Zealand Police is 18 years of age (N Henshaw, personal communication, 13 September, 2016) The age of the oldest participant was recorded as 65 years, which is valid had the participant joined the police at 18 years of age. For length of service, one participant recorded 50 years. This response was removed as there is only one New Zealand Police member with 50 years of service and that individual does not work in any of the three districts used in the study (N Henshaw, personal communication, 13 September, 2016). The average length of service was 16.96 years (SD = 9.73). A summary of the demographic data is presented in Table 2.

Table 2

Demographic Profile of Participant Sample

Demographic Variable	Percent
Gender	
Male	81
Female	18
Missing	1
Total	99
Ethnicity	
New Zealand European	84
Maori	9
Cook Island Maori	0.8
Niuean	0.2
Chinese	0.2
Indian	0.2
Other	6
Total	100
Education Achievement	
No Qualification	3
School Certificate/NCEA	21
University Entrance of NCEA 3	21
Trade Certificate, Professional Certificate or Diploma	29
University Degree or Diploma	25
Missing	1
Total	99
Relationship Status	
Married, Civil Union or De Facto Relationship	85.7
Never Married, Civil Union	5
Divorced or Civil Union Dissolved	4
Separated	4
Widowed or Surviving Civil Union Partner	1
Missing	0.3
Total	99.7
Relationship with Other Police Officer	
Yes	15
No	85
Total	100
Psychologist Consultation	
Yes	61
No	39
Total	100
District	
Waikato	44
Tasman	32
Eastern	24
Total	100

In regards to participants' reports of work group, each response was coded into 14 categories, from police safety team to "other". Police Safety Team (PST), the most common work group (31%), is the frontline branch of police. PST respond to incoming incidents and work 24 hours per day, seven days a week. All work group data is presented in Table 3.

Table 3

Workgroup Profile of Sample Workgroups

Category	Percent
Police Safety Team (PST) policing)	31
Criminal Investigation Branch (CIB)	17
Community & Prevention Groups	13
Road Policing Group (RPG)	13
Police Support Units (PSU)	5
Administration & Management	3
Rural Policing	3
Child Protection Team (CPT)	2
Custody & District Command Centres	2
Dog Section	2
Family Violence	2
Forensics	2
Tactical Crime Units	2
Other	0.3
Missing	2.7
Total	100

Descriptive Statistics

Results showed no evidence of significant skewness, kurtosis, or non-normal distributions, so no transformations were applied to the data. Cronbach's alphas were above the threshold of 0.7 (Tabachnick & Fidell, 2013) for all scales indicating acceptable reliability. This excluded the TSS scale, which is not unexpected as the occurrence of events were not

likely to be related to each other (Gray & Slagle, 2006). Descriptive statistics for all independent and dependent variables are given in Table 4.

Table 4

Descriptive Statistics

Variable	N	Min	Max	Mean	SD	Skewness	Kurtosis	Cronbach's α
Burnout (exhaustion)	603	5	35	17.78	7.96	.46	-.806	.92*
Burnout (cynicism)	603	5	35	17.61	7.85	.39	-.769	.85*
Burnout (professional efficacy)	603	13	42	32.23	6.19	-.47	-.283	.75*
Distress	603	21	65	34.18	8.59	.575	.84	.90*
Trauma Exposure	603	0	15	5.25	2.38	.415	.41	.56
Trauma Frequency	595	1	23	7.87	3.71	.614	.48	
Hassles	603	0	131	56.05	27.11	-.036	-.66	.93*
Social Support (total)	603	12	60	42.76	8.68	-.248	-.32	.86*
Social Support (supervisor)	603	4	20	13.34	4.70	-.33	-.91	.93*
Social Support (other colleagues)	603	4	20	13.0	3.51	-.32	-.13	.85*
Social Support (family & friends)	603	4	20	16.36	3.70	-1.14	.95	.89*

Descriptive statistics for responses to the policing scenarios are shown in Figure 1. Scenarios one, two and three related to operational hassles whereas scenarios four, five and six related to organisational hassles. In scenario one (messy death) 43.1% of participants selected their supervisor as the most appropriate form of support, followed by immediate colleagues (37.3%). In scenario two (suicide in the police cells), 60.2% of participants selected supervisor as the most appropriate form of support, followed by immediate colleagues

(22.7%). However, in scenario three (deceased child), the majority of participants selected family and friends as the most appropriate source of support (37.1%), followed by supervisor (33.2%) Regarding the organisational hassles most participants indicated that a supervisor was the most appropriate source of support. Supervisor was selected by 82.3% of participants in scenario four (lack of equipment), 88.1% in scenario five (shift work) and 90% in scenario six (work overload).

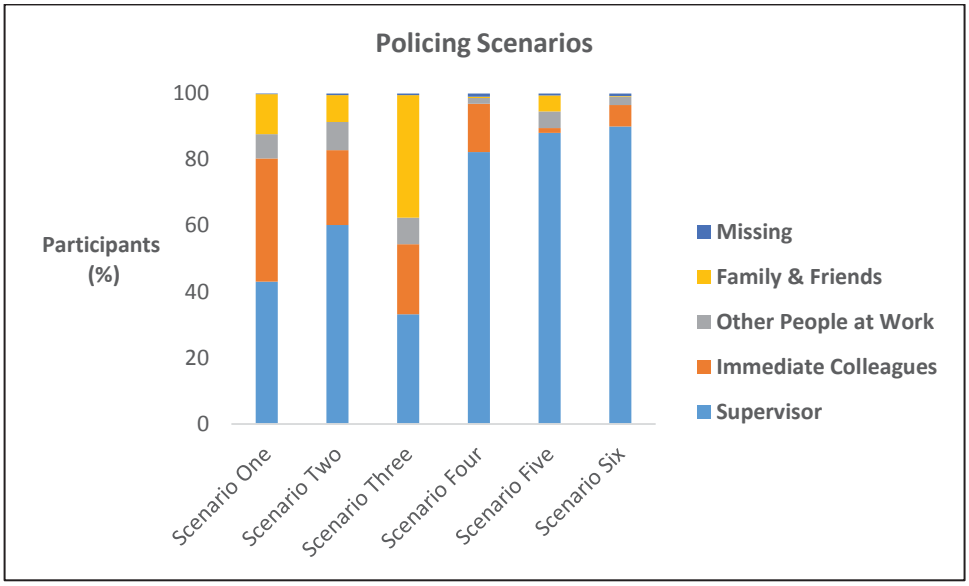

Figure 1. Responses to six policing scenario questions.

Traumatic Events

As discussed earlier qualitative responses to question 15B in the TSS which relates to distressing work area, and question 16C, other traumatic event, was categorised using Krippendorff's (2013) method of content analysis. Participants reports of distressing work area were coded into 13 categories, which are detailed in table 5. The most distressing area of work was "Child and Adult Sexual Abuse", followed by "Police Safety Team – General". All

new police recruits work in a “Police Safety Team” doing frontline emergency response work. Participants in the latter category did not specify a particular aspect of frontline policing that they found distressing, whereas participants in “Police Safety Team – Attending Family Violence” specifically referred to this activity.

Table 5

Distressing Work Area

Distressing Work Area	N	Percentage of Participants
Child and Adult Sexual Abuse	74	26
Police Safety Team - General	71	26
Criminal Investigation Branch	34	12
Family Violence	34	12
Police Safety Team - Attending Family Violence	21	8
Road Policing Group – Attending & Investigating Crashes	16	6
Disasters and Disaster Victim Identification	11	4
Forensics	6	2
Rural Policing	5	2
Death	2	1
Other	2	1
Dog Section	1	0
Other	1	0
Total	278	100

Participants’ reports of other traumatic events, were analysed and placed into one of 10 categories, organised as either traumatic or non-traumatic. In order to be categorised as traumatic, the event had to meet a definition according to the criteria for Post-Traumatic Stress Disorder (PTSD) according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-V), (American Psychiatric Association [APA], 2013). Specifically, the participant had to be exposed to death, have threatened death, experienced actual or threatened serious injury,

or actual or threatened sexual violence. Exposure included; direct exposure; witnessing in person; or indirectly; learning that a close relative or close friend was exposed to trauma or; repeated or extreme indirect exposure to aversive details of the event/s, usually in the course of professional duties (APA, 2013).

If a traumatic event described was the same as an event presented in an earlier question, such as a robbery, mugging or hold up, the participant's response to the earlier question was checked. If the participant had responded "yes", indicating that the event had occurred, the event was not included again. If the participant had responded "no" the response was changed to "yes" therefore placing the event in the relevant category.

The remaining 10 traumatic events were placed into appropriate categories, including a non-police work (see Table 6). The abuse category included dealing with child sexual abuse victims, viewing online child abuse, and elderly abuse and neglect. The other death category included drownings, fires, recreational deaths, such as boating accidents, and search and rescue fatalities. Road trauma included attending accidents where victims were in the process of dying and picking up body parts. The sudden death category included attending deaths, attending multiple deaths in a short period of time, advising relatives of deaths, cot deaths and child deaths, seeing decomposing bodies, experiencing mortuary procedures and unsuccessful attempts at CPR. The suicide category included attending suicides, people committing suicide in the presence of officers and people who committed suicide while in police custody.

The threats to life (non-person) category included incidents where an officer's life was threatened, but not by another person, such as entering a burning house. The threats to life

(person) category included events where a participant's life was threatened by another person, such as being assaulted with weapons (e.g. axe), confronted with a firearm, being shot at, being shot and serious threats to kill (self and family). The witness category including witnessing homicides, serious domestic violence and sexual assaults, and colleagues being seriously assaulted or injured. Non police work trauma included being injured or witnessing deaths in previous employment, experiencing or witnessing serious domestic violence as a child, and the sudden deaths of family members in their presence.

Table 6

Exposure to Potentially Traumatic Events by Gender

Traumatic Event	Female (n)(%)	Male (n)(%)
Military Service	6 (5.4)	44 (9)
Robbery, Mugging or Hold-Up	6 (5.4)	41 (8.4)
Assault	79 (71.2)	436 (89.2)*
Unwanted Sexual Activity	20 (18)*	7 (1.4)
Fire	9 (8.1)	56 (11.5)
Severe Weather or Disaster	17 (15.3)	86 (17.6)
Death of a Police Officer	36 (32.4)	213 (43.6)*
Death of a Friend or Family Member	52 (46.8)	249 (50.9)
Motor Vehicle Accident	19 (17.1)	127 (26)*
Present when a Police Officer Killed	9 (8.1)	45 (9.2)
Present when Someone Killed by Police	14 (12.6)	134 (27.4)*
Worked with Victims of Multiple or Disturbing Homicides	50 (45)	253 (51.7)
Accidents with Multiple Victims or Severe Mutilation	69 (62.2)	425 (86.9)*
Disaster Victim Identification	8 (7.2)	98 (20)*
Other Traumatic Event	**Female (n)(%)**	**Male (n)(%)**
Threats to Life (Natural)	0	2 (0.4)
Threats to Life (Other Person)	3 (2.7)	31 (6.3)
Sudden Death	11 (9.9)	57 (11.7)
Suicide	10 (9)	61 (12.5)
Road Trauma	4 (3.6)	23 (4.7)
Other Death	3 (2.7)	20 (4.1)
Abuse	1 (0.9)	9 (1.8)
Witness Traumatic Event	2 (1.8)	9 (1.8)
Non Work Trauma	4 (3.6)	15 (3.1)

* = significant when corrected for multiple comparisons (α=.01).

Significantly more males than females reported assault, witnessing a member of the public who was killed by police, knowing a member of police who died, being in a motor

vehicle accident, attending accidents with multiple or badly mutilated bodies and being involved in a disaster victim identification process, as presented in Table 7.

Table 7

Exposure to Traumatic Events – Gender Differences

	Male		Female					
Event	n	M(SD)	n	M(SD)	t	df	P	D
Assault	489	.89(.31)	111	.71(.46)	3.96	134.26	<.001	-0.53
Multiple Accident Victims	489	.87(.34)	111	.62(.49)	5.08	134.93	<.001	-.67
Police Officer Died	489	.44(.50)	111	.32(.48)	2.23	170.22	.027	-.024
Member of the Public Killed	489	.27(.45)	111	.13(.34)	3.94	209.88	<.001	-0.32
Motor Vehicle Accident	489	.26(.44)	111	.17(.38)	2.16	183.61	.032	-0.21
Disaster Victim Identification	489	.20(.41)	111	.07(.27)	4.19	244.82	<.001	-0.34
Unwanted Sexual Activity	489	.01(.119)	111	.18(.39)	-4.48	114.78	<.001	0.85

Of the 24 categories of traumatic event, significantly more females reported unwanted sexual activity. Significantly more males reported assault, attending accidents with multiple or badly mutilated bodies, knowing a police officer who died, witnessing a member of the public killed by police, being in a motor vehicle accident and having done disaster victim identification work.

Work Hassles

There was no significant difference between the level of hassles experienced by males and females (p = .151). The most frequent work hassle was “too much work”. The five most frequent work hassles experienced by the overall sample are shown in Table 8. The least frequent work hassle was “going on a raid” (M = 1.64, SD = .971).

Table 8

Most Frequent Work Hassles

Most Frequent Work Hassle	N	Mean	SD
Too much work	596	3.65	1.34
Excessive paperwork	596	3.52	1.42
Too much red tape to get something done	594	3.23	1.43
Low Morale	597	3.22	1.52
Having no say in decisions that affect me	590	3.16	1.49

The work hassles scale has two subscales: operational hassles and organisational hassles (Brough, 1997; Hart, Wearing and Headey, 1993). As participants may have interpreted the hassles as operational *or* organisational, the work hassle items were subjected to a principal components factor analysis using varimax rotation to establish whether the items loaded on one, or more factor. Results showed that the Kaiser-Meyer-Olkin measure of sampling adequacy was .93 and Bartlett's test sphericity was significant (C^2 (.595) = 8749.12, $p < .001$), indicating that the data was suitable for exploratory factor analysis. Eight factors had an Eigen value of above one, but the scree plot indicated a single factor solution. This first factor had an Eigen value of 11.02 and explained 31.47% of the variance. Additional factors had Eigen values of 2.21 or less and explained a maximum of 6.3% of the variance each. Consequently, in this study the work hassles scale was considered as a single factor for all further analyses.

Burnout

The MBI – GS provides categorisation levels for each burnout component, so that participants can be categorised as having high, moderate or low levels of exhaustion, cynicism

and professional efficacy (Schaufeli, Leiter, Maslach, & Jackson, 1996). In this study 49% of participants were categorised as having high exhaustion, 73% of participants were categorised as having cynicism and 16% of participants were categorised as having low professional efficacy. The categorisations are presented in table 9.

Table 9

Categorisation of Exhaustion, Cynicism & Professional Efficacy

Burnout Component	Score Range	N	Mean	SD	Percent of Participants
Exhaustion					
High	16 >	603	23.54	5.47	49
Moderate	11 - 15	603	13.03	1.41	23
Low	0 - 10	603	7.80	1.71	28
Cynicism					
High	11 >	603	19.91	6.57	73
Moderate	11 - 15	603	8.67	1.37	20
Low	0 - 10	603	4.4	0.5	7
Professional Efficacy					
High	30 >	603	35.21	3.32	61
Moderate	24 –29	603	27.01	1.41	24
Low	0 – 23	603	20.5	3.77	16

Covariates

The effects of all covariates on the dependent variables were analysed using correlations, independent samples T-tests and one way analyses of variance, with $\alpha = 0.01$ after correcting for multiple comparisons. Ethnicity data was dichotomised into NZ European and non NZ European groups for this purpose, due to small sample sizes in some groups.

Correlations

Neither age nor years of service were significantly correlated with total burnout (p = .08 and p = .15), exhaustion (p = .02 and p = .02), cynicism (p = .16 and p = .35), professional efficacy (p = .29 and p = .31) and psychological distress (p = .75 and p = .20). The two main dependent variables, distress and burnout, were moderately positively correlated suggesting that they measured related, but different constructs.

T Tests

Independent samples T tests showed that total burnout, exhaustion, cynicism, professional efficacy and psychological distress, did not significantly differ on the basis of gender (p = .422, p = .011, p = .597, p = .565 and p = .384), relationship with another police officer (p = .525, p = .197, p = .858, p = .983 and p = .797), psychologist visit (p = .432 , p = .543, p = .261, p = .644 and p = .157) and ethnicity (p = .911, p = .699, p = .156, p = .120 and p = .155).

One Way Analysis of Variance

One-way analysis of variance showed that total burnout, exhaustion, cynicism, professional efficacy and psychological distress did not significantly differ on the basis of education level (p = .118, p = .088, p = .266, p = .778 and p = .694), police district (p = .932, p = .698, p = .544, p = .602 and p = .825) or workgroup (p = .031, p = .117, p = .122, p = .023 and p = .270 respectively). There was a significant main effect of marital status on distress ($F(4, 594) = 6.293$, $p < .001$, $\eta^2 = .0424$), but not on total burnout (p = .057), exhaustion (p = .070), cynicism (p = .135) and professional efficacy (p = .909). Post hoc Tukey tests showed that the

significant main effect of marital status on distress, was driven by a significant mean difference in distress between participants who were separated (M = 42.13, SD = 11.00) and those who were married/civil union/de facto (M = 33.65, SD = 8.30; p<.001). No other pairwise differences were significant.

Correlations of Measures

Pearson product-moment correlation coefficients were used to assess the strength of the relationship between the independent and dependent variables. The scores for total burnout, exhaustion and psychological distress were significantly correlated with all independent variables. Scores for cynicism and professional efficacy were only significantly correlated with work hassles and social support, not trauma exposure or frequency. Cohen (1988) provides guidelines as to the strength or magnitude of the correlation coefficients. Correlation coefficients ranging between .10 and .29 indicate a small correlation, coefficients ranging between .30 and .49 indicate a medium correlation and coefficients above .50 indicate a large correlation (Cohen, 1988). The correlations between the independent and dependent variables are shown in Table 10.

Table 10

Correlations Between Independent and Dependent Variables

Variable	Burnout (Exhaustion)	Burnout (Cynicism)	Burnout (Professional Efficacy)	Distress
Trauma (Exposure)	.14**	.07	.04	.20**
Trauma (Frequency)	.11**	.05	.06	.17**
Hassles	.56**	.45**	-.16**	.51**
Social Support (Total)	-.28**	-.27**	.27**	-.22**
Social Support (Supervisor)	-.18**	-.21**	.20**	-.10**
Social Support (Other colleagues)	-.23**	-.22**	.21**	-.18**
Social Support (Family)	-.21**	-.17**	.17**	-.22**

** $p < .01$

Hypothesis Testing

Hypothesis One

Hypothesis one stated that traumatic event exposure would be positively related to psychological distress. This hypothesis was tested by computing Pearson's product–movement correlation coefficient. The correlation analyses were completed in relation to trauma event exposure and traumatic event frequency (see Table 9). A statistically significant positive correlation with a small magnitude was found between traumatic event exposure and psychological distress, $r(602) = .20, < .001$. A statistically significant positive correlation with a small magnitude was found between traumatic event frequency, $r(595) = .17, < .001$ and psychological distress. Therefore, hypothesis one was confirmed.

Hypothesis Two

Hypothesis two stated that traumatic events would be positively related to exhaustion and cynicism, and negatively related to professional efficacy. The hypothesis was tested by computing Pearson's product–movement correlation coefficient. The correlation analyses were completed in relation to trauma event exposure and traumatic event frequency. A statistically significant positive relationship with a small magnitude was found between trauma exposure and exhaustion, $r(591) = .14$, $p < .001$. There was no significant relationship between trauma and cynicism ($p = 0.32$) or between trauma and professional efficacy ($p = .149$). A statistically significant positive relationship with a small magnitude was found between traumatic event frequency and exhaustion, $r(595) = .11$, $p < .001$. There was no significant relationship between traumatic event frequency cynicism ($p = 0.27$) or between traumatic event frequency and professional efficacy ($p = 0.18$). Therefore, hypothesis two was partially confirmed.

Hypothesis Three

Hypothesis three stated that work hassles would be positively related to psychological distress. The hypothesis was tested by computing Pearson's product–movement correlation coefficient. A statistically significant positive relationship with a large magnitude was found between work hassles and psychological distress, $r(602) = .51$, $p < .001$, therefore confirming hypothesis three.

Hypothesis Four

Hypothesis four stated that work hassles will be positively related to exhaustion and cynicism and negatively related to professional efficacy. This hypothesis was tested by computing Pearson's product-movement correlation coefficient. A statistically positive relationship was found between work hassles and exhaustion ($r(591) = .56$, $p < .001$) and cynicism ($r(602) = .45$, $p = <.001$). The relationship between work hassles and exhaustion was of a large magnitude, whereas the relationship between work hassles and cynicism was of a medium magnitude. There was a statistically significant negative relationship with a small magnitude between work hassles and professional efficacy, $r(589) = -.16$, $p < .001$). Therefore, hypothesis four was confirmed.

Moderation Analyses

Hypotheses five to eight stated that the relationships in hypotheses one to four would be moderated by social support. A moderation analysis refers to situations when the moderator variable, in this case social support, changes the relationship between the independent variable and the dependent variable (Frazier, Tix, & Barron, 2004). As independent and moderator variables can be highly correlated, Frazier et al. (2004) recommend that they are centred prior to analysis, as this reduces the problems associated with multicollinearity. To centre the variables, the mean of each independent and moderator variable was subtracted from its observed score. Following this interaction terms were created by multiplying the centred variables together (Frazier et al., 2004). Hierarchical multiple regression was used to test the interaction effect between the independent and the potential moderating variable. At step one of the multiple regression, the dependent variable

was placed in the equation and the centred independent variable was entered as an independent variable. At step two, the centred moderating variable was entered as an independent variable. At step three, the interaction variable was placed as an independent variable.

Prior to starting the multiple regression analysis a stepwise regression was conducted where trauma exposure and trauma frequency were used to predict psychological distress, exhaustion, cynicism and professional efficacy. As it was found that trauma frequency did not predict significant amounts of additional variance beyond that already predicted by trauma exposure for any of the dependent variables, it was decided to only use trauma exposure in the multiple regressions. The results of the stepwise regression are shown in Table 11.

Table 11

Change in R2 Values from Step 1 to Step 2 When Predicting Dependent Variables from Multiple Measures of Trauma

Dependent Variable	Exhaustion	Cynicism	Professional Efficacy	Psychological Distress
Trauma	.001 (.485)	.001(.548)	.002 (.227)	.000 (.847)

Step 1: Trauma Exposure score, Step 2: Trauma Frequency score

Separate moderation analyses were done for each dependent variable and each source of social support (supervisor, colleague, & family). According to McIntosh (1991) too many social support variables in one multiple regression can cancel out the positive impact of support on dependent variables. However, as trauma exposure was not correlated with cynicism or professional efficacy, moderation analyses were not done with these variables.

Therefore, there were 18 moderation analyses completed in total, six for psychological distress, six for exhaustion and three each for cynicism and professional efficacy.

Hypothesis Five

Hypothesis five stated that social support would moderate the relationship between trauma exposure and psychological distress. The independent variable was trauma exposure and the dependent variable was psychological distress. The moderating variables were supervisor, colleague and family social support. A moderation analysis was done for each separate source of support, but other than changing the support variable the steps were the same for each moderation. At step one trauma exposure was entered into the regression equation. At step two the moderating variable (either supervisor, colleague, or family support) was entered into the equation. At step three the interaction term between trauma exposure and the moderating variable was entered into the equation.

Supervisor Support

The results of the moderation analysis showed that the interaction between trauma exposure and supervisor support did not explain any significant variance in psychological distress scores. The results are presented in Table 12. Displayed are multiple correlation coefficients (R), coefficients of determination (R^2), adjusted ΔR^2 and R^2 change. The analysis revealed that at step one, trauma exposure significantly contributed to the regression model, $F(1, 601) = 24.97$, $p < .001$, and accounted for 4% of the variance. The introduction of supervisor support at step two, did not explain any significant increase in the variance of psychological distress, $F(2, 602) = 14.02$, $p < .084$. At step three the interaction term between

trauma exposure and supervisor support did not explain any significant increase in the variance of psychological distress, $F(3, 599) = 9.60$, $p < .378$.

Table 12

Hierarchical Multiple Regression of Psychological Distress on Trauma Exposure, Supervisor Support, and Trauma Exposure x Supervisor Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.20	.04	.04	.04***
Trauma Exposure	.72***				
Step 2		.21	.05	.04	.01
Trauma Exposure	.67***				
Supervisor	-.13				
Step 3		.21	.05	.04	.00
Trauma Exposure	.68***				
Supervisor	-.12				
Trauma x Supervisor	-.03				

* p < .05, ** p < .01, *** p < .001

Colleague Support

The results of the moderation analysis showed that the interaction between trauma exposure and colleague support did not explain any significant variance in psychological distress scores. The results are presented in Table 13. The analysis revealed that at step one, trauma exposure significantly contributed to the regression model, F(1, 601) = 24.97, p < .001, and counted for 4% of the variance. The introduction of colleague support at step two, accounted for a further 3% of the variance of psychological distress, F(2, 600) = 21.14, p < .001. The interaction term between trauma exposure and colleague support did not explain any significant increase in the variance of psychological distress, F(3, 599) = 15.32, p < .062.

Table 13

Hierarchical Multiple Regression of Psychological Distress on Trauma Exposure, Colleague Support, and Trauma Exposure x Colleague Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.20	.04	.04	.04***
Trauma Exposure	.72***				
Step 2		.26	.07	.06	.03***
Trauma Exposure	.67***				
Colleague	-.40				
Step 3		.27	.07	.07	.01
Trauma Exposure	.69***				
Colleague	-.40***				
Trauma x Colleague	-.08				

* p < .05, ** p < .01, *** p < .001

Family Support

The results of the moderation analysis showed that the interaction between trauma exposure and family support did not explain any significant variance in psychological distress scores. The results are presented in Table 14. The analysis revealed that at step one, trauma exposure significantly contributed to the regression model, F(1, 601) = 24.97, p < .001, and counted for 4% of the variance. The introduction of family support at step two, accounted for a further 5% of the variance of psychological distress, F(2, 600) = 28.33, p < .001. The interaction term between trauma exposure and family support did not explain any significant increase in the variance of psychological distress, F (3, 599) = 19.02, p < .499.

Table 14

Hierarchical Multiple Regression of Psychological Distress on Trauma Exposure, Family Support, and Trauma Exposure x Family Support

Independent Variables	B	R	R^2	ΔR^2	R^2 Change
Step 1		.20	.04	.04	.04***
Trauma Exposure	.72***				
Step 2		.29	.09	.08	.05***
Trauma Exposure	.71***				
Family	-.50***				
Step 3		.30	.09	.08	.00
Trauma Exposure	.72***				
Family	-.50***				
Trauma x Family	-.03				

* p < .05, ** p < .01, *** p < .001

Hypothesis Six

Hypothesis six stated that social support would moderate the relationship between trauma exposure and burnout. The independent variable was trauma exposure, and as trauma exposure was not correlated with cynicism or professional efficacy, a moderation analysis was only done for exhaustion. Therefore, there were three moderation analyses completed in total. For each of the moderations trauma exposure was entered into the regression equation at step one. At step two the moderating variable (either supervisor, colleague, or family support) was entered into the equation. At step three the interaction term between trauma exposure and the moderating variable was entered into the equation.

Exhaustion (Supervisor Support)

The results of the moderation analysis showed that the interaction between trauma exposure and supervisor support did not explain any significant variance in exhaustion scores.

The results are presented in Table 15. The analysis revealed that at step one, trauma exposure significantly contributed to the regression model, F(1, 601) = 11.61, p < .005, and counted for 2% of the variance. The introduction of supervisor support at step two, accounted for a further 2% of the variance of exhaustion, F(2, 600) = 13.47, p < .001. Results of this analysis revealed that the interaction term between trauma exposure and supervisor support did not explain any significant increase in the variance of exhaustion, F(3, 599) = 9.29, p < .335.

Table 15

Hierarchical Multiple Regression of Exhaustion on Trauma Exposure, Supervisor Support, and Trauma Exposure x Supervisor Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.14	.02	.02	.02**
Trauma Exposure	.46**				
Step 2		.21	.04	.04	.02***
Trauma Exposure	.36				
Supervisor	-.27***				
Step 3		.21	.04	.04	.00
Trauma Exposure	.37				
Supervisor	-.26***				
Trauma x Supervisor	-.03				

* p < .05, ** p < .01, *** p < .001

Exhaustion (Colleague Support)

The results of the moderation analysis showed that the interaction between trauma exposure and colleague support did not explain any significant variance in exhaustion scores. The results are presented in Table 16. The analysis revealed that at step one, trauma exposure significantly contributed to the regression model, F(1, 601) = 11.61, p < .005, and counted for 2% of the variance. The introduction of colleague support at step two, accounted for a further

5% of the variance of exhaustion, F(2, 600) = 22.01, p < .001. The interaction term between trauma exposure and colleague support did not explain any significant increase in the variance of exhaustion, F(3, 599) = 15.62, p < .100.

Table 16

Hierarchical Multiple Regression of Exhaustion on Trauma Exposure, Colleague Support, and Trauma Exposure x Colleague Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.14	.02	.02	.02**
Trauma Exposure	.46**				
Step 2		.21	.07	.07	.05***
Trauma Exposure	.39**				
Colleague	-.51***				
Step 3		.27	.07	.07	.00
Trauma Exposure	.41**				
Colleague	-.51***				
Trauma x Colleague	-.06				

* p < .05, ** p < .01, *** p < .001

Exhaustion (Family Support)

The results of the moderation analysis showed that the interaction between trauma exposure and family support did not explain any significant variance in exhaustion scores. The results are presented in Table 17. The analysis revealed that at step one, trauma exposure significantly contributed to the regression model, F(1, 601) = 11.61, p < .005, and counted for 2% of the variance. The introduction of family support at step two, accounted for a further 4% of the variance of exhaustion, F(2, 600) = 19.57, p < .001. The interaction term between trauma exposure and family support did not explain any significant increase in the variance of exhaustion, F(3, 599) = 13.10, p < .600.

Table 17

Hierarchical Multiple Regression of Exhaustion on Trauma Exposure, Family Support, and Trauma Exposure x Family Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.14	.02	.02	.02**
Trauma Exposure	.46**				
Step 2		.25	.06	.06	.04***
Trauma Exposure	.45**				
Family	-.44***				
Step 3		.25	.06	.06	.00
Trauma Exposure	.46**				
Family	-.44***				
Trauma x Family	-.02				

* p < .05, ** p < .01, *** p < .001

Hypothesis Seven

Hypothesis seven stated that social support would moderate the relationship between work hassles and psychological distress. The independent variable was work hassles and the dependent was psychological distress. The moderating variables were supervisor, colleague and family social support. A moderation analysis was done for work hassles and each separate source of support, making three regressions in total. For each of the moderations work hassles exposure was entered into the regression equation at step one. At step two the moderating variable (either supervisor, colleague, or family support) was entered into the equation. At step three the interaction term between work hassles and the moderating variable was entered into the equation.

Supervisor Support

The results of the moderation analysis showed that the interaction between work hassles and supervisor support did not explain any significant variance in psychological distress scores. The results are presented in Table 18. The analysis revealed that at step one, work hassles significantly contributed to the regression model, $F(1, 601) = 205.66$, $p < .001$, and counted for 26% of the variance. The introduction of supervisor support at step two, did not explain any significant increase in the variance of psychological distress, $F(2, 600) = 102.67$, $p < .915$. Results of this analysis revealed that the interaction term between work hassles and supervisor support did not explain any significant increase in the variance of psychological distress, $F(3, 599) = 69.35$, $p < .133$.

Table 18

Hierarchical Multiple Regression of Psychological Distress on Work Hassles, Supervisor Support, and Work Hassles x Supervisor Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.51	.26	.25	.26***
Work Hassles	.16***				
Step 2		.51	.26	.25	.00
Work Hassles	.16***				
Supervisor	-.01				
Step 3		.51	.26	.25	.00
Work Hassles	..16***				
Supervisor	-.02				
Work Hassles x Supervisor	.00				

* p < .05, ** p < .01, *** p < .001

Colleague Support

The results of the moderation analysis showed that the interaction between work hassles and colleague support did not explain any significant variance in psychological distress scores. The results are presented in Table 25. The analysis revealed that at step one, work hassles significantly contributed to the regression model, $F(1, 601) = 205.66$, $p < .001$, and counted for 26% of the variance. The introduction of colleague support at step two, did not explain any significant increase in the variance of psychological distress, $F(2, 600) = 104.38$, $p < .110$. Results of this analysis revealed that the interaction term between work hassles and colleague support did not explain any significant increase in the variance of psychological distress, $F(3, 599) = 69.58$, $p < .624$.

Table 19

Hierarchical Multiple Regression of Psychological Distress on Work Hassles, Other Support, and Work Hassles x Other Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.51	.26	.25	.26***
Work Hassles	.16***				
Step 2		.51	.26	.26	.00
Work Hassles	.16***				
Colleagues	-.14				
Step 3		.51	.26	.26	.00
Work Hassles	.16***				
Supervisor	-.14				
Work Hassles x Supervisor	-.00				

* p < .05, ** p < .01, *** p < .001

Family Support

The results of the moderation analysis showed that the interaction between work hassles and family support did not explain any significant variance in psychological distress scores. The results are presented in Table 20. The analysis revealed that at step one, work hassles significantly contributed to the regression model, $F(1, 601) = 205.66$, $p < .001$, and counted for 26% of the variance. The introduction of family support at step two, accounted for a further 2% of the variance of psychological distress, $F(2, 600) = 111.02$, $p < .000$. The interaction term between work hassles and family support did not explain any significant increase in the variance of psychological distress, $F(3, 599) = 74.74$, $p < .172$.

Table 20

Hierarchical Multiple Regression of Psychological Distress on Work Hassles, Family Support, and Work Hassles x Family Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.51	.26	.25	.26***
Work Hassles	.16***				
Step 2		.52	.27	.27	.02***
Work Hassles	.15***				
Family	-.29***				
Step 3		.52	.27	.27	.00
Work Hassles	.15***				
Family	-.27**				
Work Hassles x Family	.00				

* p < .05, ** p < .01, *** p < .001

Hypothesis Eight

Hypothesis eight stated that social support would moderate the relationship between work hassles and burnout. The independent variable was work hassles and the dependent

variables were the three components of burnout; exhaustion, cynicism, and professional efficacy. The moderating variables were supervisor, colleague and family social support. A moderation analysis was done for each component of burnout and each separate source of support, making nine regressions in total. For each of the moderations trauma exposure was entered into the regression equation at step one. At step two the moderating variable (either supervisor, colleague, or family support) was entered into the equation. At step three the interaction term between trauma exposure and the moderating variable was entered into the equation.

Exhaustion (Supervisor Support)

The results of the moderation analysis showed that the interaction between work hassles and supervisor support did not explain any significant variance in exhaustion scores. The results are presented in Table 21. The analysis revealed that at step one, work hassles significantly contributed to the regression model, $F(1, 601) = 276.40$, $p < .000$, and counted for 32% of the variance. The introduction of supervisor support at step two, did not explain any significant increase in the variance of exhaustion, $F(2, 600) = 140.83$, $p < .048$. The interaction term between work hassles and supervisor support did not explain any significant increase in the variance of exhaustion, $F(3, 599) = 93.74$, $p < .873$.

Table 21

Hierarchical Multiple Regression of Exhaustion on Work Hassles, Supervisor Support, and Work Hassles x Supervisor Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.56	.36	.31	.32***
Work Hassles	.17***				
Step 2		.57	.32	.32	.00
Work Hassles	.16				
Supervisor	-.12				
Step 3		.57	.32	.31	.00
Work Hassles	.16***				
Supervisor	-.12				
Work Hassles x Supervisor	.00				

* p < .05, ** p < .01, *** p < .001

Exhaustion (Colleague Support)

The results of the moderation analysis showed that the interaction between work hassles and colleague support did not explain any significant variance in exhaustion scores. The results are presented in Table 22. The analysis revealed that at step one, work hassles significantly contributed to the regression model, F(1, 601) = 276.40, p < .000, and counted for 32% of the variance. The introduction of colleague support at step two, accounted for a further 1% of the variance of exhaustion, F(2, 600) = 144.32, p < .003. The interaction term between work hassles and colleague support did not explain any significant increase in the variance of exhaustion, F(3, 599) = 98.06, p < .043.

Table 22

Hierarchical Multiple Regression of Exhaustion on Work Hassles, Colleague Support, and Work Hassles x Colleague Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.56	.36	.31	.32***
Work Hassles	.17***				
Step 2		.57	.33	.32	.01
Work Hassles	.16***				
Colleague SS	-.23**				
Step 3		.57	.33	.33	.01
Work Hassles	.16***				
Colleagues	-.21				
Work Hassles x Colleagues	-.01				

* p < .05, ** p < .01, *** p < .001

Exhaustion (Family Support)

The results of the moderation analysis showed that the interaction between work hassles and colleague support did not explain any significant variance in exhaustion scores. The results are presented in Table 23. The analysis revealed that at step one, work hassles significantly contributed to the regression model, F(1, 601) = 276.40, p < .000, and counted for 32% of the variance. The introduction of family support at step two, accounted for a further 1% of the variance of exhaustion, F(2, 600) = 144.64, p < .003. The interaction term between work hassles and family support did not explain any significant increase in the variance of exhaustion, F(3, 599) = 96.87, p < .270.

Table 23

Hierarchical Multiple Regression of Exhaustion on Work Hassles, Family Support, and Work Hassles x Family Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.56	.32	.31	.32***
Work Hassles	.17***				
Step 2		.57	.33	.32	.01
Work Hassles	.16***				
Family	-.22**				
Step 3		.57	.33	.32	.00
Work Hassles	.16***				
Family	-.21				
Work Hassles x Family	-.00				

* p < .05, ** p < .01, *** p < .001

Cynicism (Supervisor Support)

The results of the moderation analysis showed that the interaction between work hassles and supervisor support did not explain any significant variance in cynicism scores. The results are presented in Table 24. The analysis revealed that at step one, work hassles significantly contributed to the regression model, F(1, 601) = 148.26, p < .000, and counted for 20% of the variance. The introduction of supervisor support at step two, accounted for a further 1% of the variance of exhaustion, F(2, 600) = 80.60, p < .001. The interaction term between work hassles and supervisor support did not explain any significant increase in the variance of cynicism, F(3, 599) = 54.38, p < .187.

Table 24

Hierarchical Multiple Regression of Cynicism on Work Hassles, Supervisor Support, and Work Hassles x Supervisor Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.45	.20	.20	.20
Work Hassles	.13***				
Step 2		.46	.21	.21	.01
Work Hassles	.12***				
Supervisor	-.20**				
Step 3		.46	.21	.21	.00
Work Hassles	.12***				
Colleagues	-.21**				
Work Hassles x Supervisor	.00				

* p < .05, ** p < .01, *** p < .001

Cynicism (Colleague Support)

The results of the moderation analysis showed that the interaction between work hassles and supervisor support did not explain any significant variance in cynicism scores. The results are presented in Table 25. The analysis revealed that at step one, work hassles significantly contributed to the regression model, F(1, 601) = 148.26, p < .000, and counted for 20% of the variance. The introduction of colleague support at step two, accounted for a further 1% of the variance of cynicism, F,(2 600) = 80.01, p < .002. The interaction term between work hassles and colleague support did not explain any significant increase in the variance of cynicism, F(3, 599) = 53.79, p < .259.

Table 25

Hierarchical Multiple Regression of Cynicism on Work Hassles, Colleague Support, and Work Hassles x Colleague Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.45	.20	.20	.20
Work Hassles	.13***				
Step 2		.46	.21	.21	.01
Work Hassles	.12***				
Supervisor	-.26**				
Step 3		.46	.21	.21	.00
Work Hassles	.12***				
Colleagues	-.27**				
Work Hassles x Supervisor	.00				

* p < .05, ** p < .01, *** p < .001

Cynicism (Family Support)

The results of the moderation analysis showed that the interaction between work hassles and family support did not explain any significant variance in cynicism scores. The results are presented in Table 26. The analysis revealed that at step one, work hassles significantly contributed to the regression model, F(1, 601) = 148.26, p < .000, and counted for 20% of the variance. The introduction of family support at step two, did not account for any significant increase in the variance of cynicism, F(2, 600) = 77.35, p < .790. The interaction term between work hassles and family support did not explain any significant increase in the variance of cynicism, F(3, 599) = 51.51, p < .790.

Table 26

Hierarchical Multiple Regression of Cynicism on Work Hassles, Family Support, and Work Hassles x Family Support

Independent Variables	B	R	R^2	ΔR^2	R^2 Change
Step 1		.45	.20	.20	.20
Work Hassles	.13***				
Step 2		.46	.21	.20	.01
Work Hassles	.12***				
Family	-.20**				
Step 3		.45	.21	.20	.00
Work Hassles	.12***				
Family	-.21**				
Work Hassles x Family	.00				

* p < .05, ** p < .01, *** p < .001

Professional Efficacy (Supervisor Support)

The results of the moderation analysis showed that the interaction between work hassles and supervisor support did not explain any significant variance in professional efficacy scores. The results are presented in Table 27. The analysis revealed that at step one, work hassles significantly contributed to the regression model, F(1, 601) = 15.30, p < .000, and counted for 3% of the variance. The introduction of supervisor support at step two, accounted for a further 3% of the variance of exhaustion, F(2, 600) = 17.35, p < .001. Results of this analysis revealed that the interaction term between work hassles and supervisor support did not explain any significant increase in the variance of professional efficacy, F(3, 599) = 13.18, p < .032.

Table 27

Hierarchical Multiple Regression of Professional Efficacy on Work Hassles, Supervisor Support, and Work Hassles x Supervisor Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.16	.03	.02	.03***
Work Hassles	-.04***				
Step 2		.23	.06	.05	.03***
Work Hassles	-.03				
Supervisor	-.23***				
Step 3		.25	.06	.06	.00
Work Hassles	-.03**				
Supervisor	.25***				
Work Hassles x Supervisor	.00				

* p < .05, ** p < .01, *** p < .001

Professional Efficacy (Colleague Support)

The results of the moderation analysis showed that the interaction between work hassles and colleague support did not explain any significant variance in professional efficacy scores. The results are presented in Table 28. The analysis revealed that at step one, work hassles significantly contributed to the regression model, F(1, 601) = 15.30, p < .000, and counted for 3% of the variance. The introduction of colleague support at step two, accounted for a further 3% of the variance of exhaustion, F(2, 600) = 18.28, p < .001. Results of this analysis revealed that the interaction term between work hassles and colleague support did not explain any significant increase in the variance of professional efficacy, F(3, 599) = 13.61, p < .044.

Table 28

Hierarchical Multiple Regression of Professional Efficacy on Work Hassles, Colleague Support, and Work Hassles x Colleague Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.16	.03	.02	.03***
Work Hassles	-.04***				
Step 2		.24	.06	.05	.03***
Work Hassles	-.03				
Supervisor	.33***				
Step 3		.25	.06	.06	.00
Work Hassles	-.03				
Supervisor	.35***				
Work Hassles x Colleague	-.01				

* p < .05, ** p < .01, *** p < .001

Professional Efficacy (Other Support)

The results of the moderation analysis showed that the interaction between work hassles and family support did not explain any significant variance in professional efficacy scores. The results are presented in Table 29. The analysis revealed that at step one, work hassles significantly contributed to the regression model, F(1, 601) = 15.30, p < .000, and counted for 3% of the variance. The introduction of family support at step two, accounted for a further 2% of the variance of professional efficacy, F(2, 600) = 18.28, p < .001. Results of this analysis revealed that the interaction term between work hassles and family support did not explain any significant increase in the variance of professional efficacy, F(3, 599) = 13.61, p < .734.

Table 29

Hierarchical Multiple Regression of Professional Efficacy on Work Hassles, Family Support, and Work Hassles x Family Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.16	.03	.02	.03***
Work Hassles	-.04***				
Step 2		.21	.05	.04	.02***
Work Hassles	-.03**				
Family	.24***				
Step 3		.05	.04	.02	.00
Work Hassles	-.03**				
Family	.25***				
Work Hassles x Family	-.00				

* p < .05, ** p < .01, *** p < .001

Exploratory Analyses

Hierarchical multiple regression analysis was used to determine whether social support had a direct effect on psychological distress, exhaustion, cynicism and professional efficacy, after controlling for the influence of the demographic variables and the independent variables, which were trauma exposure and work hassles. At step one the nine demographic variables were entered into the regression equation, so that they were controlled for. At step two trauma exposure and work hassles were entered into the equation. At step three supervisor, colleague and family support were entered into the equation.

Psychological Distress

The analysis revealed that at step one, the demographic variables did not explain any significant variance of psychological distress, F(9, 571) = 2.35, p < .013. At step two marital

status, trauma exposure and work hassles, accounted for 27% of the variance of psychological distress, $F(11,569) = 22.88$, $p = < .001$. At step three the introduction of supervisor, colleague and family support did not explain any significant variance of psychological distress, $F(2, 600) = 18.28$, $p < .001$. The results are presented in Table 30.

Table 30

Hierarchical Multiple Regression of Psychological Distress on Demographic Variables, Trauma Exposure, Work Hassles, Supervisor Support, Colleague Support, Family Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.19	.04	.02	.04
Age	.05				
Gender	.69				
Ethnicity	-.03				
Level of education	-.01				
Marital status	2.30***				
Police officer relationship	.14				
Psychologist Visit	-.15				
Police District	-.21				
Length of service	-.12				
Step 2		.55	.31	.29	.27***
Age	.07				
Gender	1.92				
Ethnicity	.04				
Level of education	-.22				
Marital status	2.04***				
Police officer relationship	.55				
Psychologist Visit	-.78				
Police District	-.23				
Length of service	-.13				
Trauma Exposure	.53***				
Work Hassles	.15***				
Step 3		.56	.32	.30	.01
Age	.06				
Gender	1.78				
Ethnicity	.05				
Level of education	-.24				
Marital status	1.82**				
Police officer relationship	.30				
Psychologist Visit	-.74				
Police District	-.20				
Length of service	-.12				
Trauma Exposure	.55***				
Work Hassles	.15***				
Supervisor SS	.08				
Colleague SS	-.09				
Family SS	-.23				

* p < .05, ** p < .01, *** p < .001

Exhaustion

The analysis revealed that at step one, the demographic variables did not explain any significant variance of exhaustion, $F(9, 571) = 2.59$, $p = < .006$. At step two following the introduction of trauma exposure and work hassles, work hassles and gender accounted for 32% of the variance of exhaustion, $F(11, 569) = 29.05$ $p = < .001$. At step three the introduction of supervisor, colleague and family support did not explain any significant variance of exhaustion, $F(14, 566) = 23.93$, $p < .012$. The results are presented in Table 31.

Table 31

Hierarchical Multiple Regression of Exhaustion on Demographic Variables, Trauma Exposure, Work Hassles, Supervisor Support, Colleague Support, Family Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.20	.04	.02	.04
Age	-.05				
Gender	1.78				
Ethnicity	-.02				
Level of education	.57				
Marital status	1.11				
Police officer relationship	-.71				
Psychologist Visit	-.97				
Police District	.46				
Length of service	-.05				
Step 2		.60	.36	.35	.32***
Age	-.03				
Gender	2.88***				
Ethnicity	.08				
Level of education	.37				
Marital status	.89				
Police officer relationship	-.33				
Psychologist Visit	-.42				
Police District	.48				
Length of service	-.04				
Trauma Exposure	.25				
Work Hassles	.16				
Step 3		.61	.37	.36	.01
Age	-.04				
Gender	2.75***				
Ethnicity	.09				
Level of education	.36				
Marital status	.75				
Police officer relationship	-.29				
Psychologist	-.36				
Police District Visit	.50				
Length of service	-.04				
Trauma Exposure	.25				
Work Hassles	.15***				
Supervisor SS	-.04				
Colleague SS	-.16				
Family SS	-.13				

* p < .05, ** p < .01, *** p < .001

Cynicism

The analysis revealed that at step one, the demographic variables did not explain any significance of variance of cynicism, F(9, 571) = .96, p = < .475. Following the introduction of trauma exposure and work hassles at step two, work hassles accounted for 19% of the variance of cynicism, F(11, 569) = 13.30, p = < .001. Following the introduction of supervisor, colleague and family support at step three, work hassles explained a further 2% of the variance of cyncism F(14, 566) = 11.80, p < .005. The results are presented in Table 32.

Table 32

Hierarchical Multiple Regression of Cynicism on Demographic Variables, Trauma Exposure, Work Hassles, Supervisor Support, Colleague Support, Family Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.12	.02	-.00	.02
Age	-.06				
Gender	-.50				
Ethnicity	-.21				
Level of education	.05				
Marital status	.98				
Police officer relationship	.14				
Psychologist visit	-1.08				
Police District	-.18				
Length of service	-.02				
Step 2		.45	.20	.19	.02***
Age	-.04				
Gender	.19				
Ethnicity	-.11				
Level of education	-.09				
Marital status	.85				
Police officer relationship	.39				
Psychologist visit	-.84				
Police District	-.12				
Length of service	.02				
Trauma Exposure	-.06				
Work Hassles	.13***				
Step 3		.47	.23	.21	.02**
Age	-.06				
Gender	.05				
Ethnicity	-.10				
Level of education	-.11				
Marital status	.75				
Police officer relationship	.59				
Psychologist visit	-.79				
Police district	-.10				
Length of service	.00				
Trauma exposure	-.70				
Work hassles	.12***				
Supervisor SS	-.17				
Colleague SS	-.12				
Family SS	-.11				

* p < .05, ** p < .01, *** p < .001

Professional Efficacy

The analysis revealed that at step one, the demographic variables did not explain any of the significance of variance of cynicism, $F(9, 571) = .36$, $p = < .96$. Following the introduction of trauma exposure and work hassles at step two, work hassles accounted for 3% of the variance of professional efficacy, $F(11, 569) = 1.92$, $p = < .001$. At step three the introduction of supervisor support explained a further 6% of the variance of professional efficacy, $F(14, 566) = 4.35$, $p < .001$. The results are presented in Table 33.

Table 33

Hierarchical Multiple Regression of Professional Efficacy on Demographic Variables, Trauma Exposure, Work Hassles, Supervisor Support, Colleague Support, Family Support

Independent Variables	B	*R*	R^2	ΔR^2	R^2 Change
Step 1		.07	.01	-.01	.01
Age	.02				
Gender	-.25				
Ethnicity	-.03				
Level of education	.05				
Marital status	.39				
Police officer relationship	.11				
Psychologist visit	.54				
Police district	-.00				
Length of service	.02				
Step 2		.19	.04	.02	.03***
Age	.01				
Gender	-.35				
Ethnicity	-.07				
Level of education	.08				
Marital status	.40				
Police officer relationship	.07				
Psychologist visit	.60				
Police district	-.05				
Length of service	-.00				
Trauma exposure	.20				
Work hassles	-.04***				
Step 3		.31	.10	.08	.06***
Age	.03				
Gender	-.14				
Ethnicity	-.09				
Level of education	.10				
Marital status	.59				
Police officer relationship	-.14				
Psychologist visit	.53				
Police district	-.07				
Length of service	.01				
Trauma exposure	.212				
Work hassles	-.02				
Supervisor SS	.18**				
Colleague SS	.21				
Family SS	.18				

* p < .05, ** p < .01, *** p < .001

Summary of Hypotheses

To summarise the hypothesis testing: Hypothesis one was confirmed as there was a statistically significant positive correlation between traumatic event exposure and psychological distress. Hypothesis two was confirmed as there was a statistically significant positive correlation between traumatic event exposure and burnout. Hypothesis three was confirmed as there was a statistically significant positive correlation between work hassles and psychological distress. Hypothesis four was confirmed as there was a statistically significant positive correlation between work hassles and burnout.

Hypothesis five was not confirmed as the results of the moderation analyses show that supervisor, colleague and family support did not moderate any of the relationships between trauma exposure and psychological distress. Hypothesis six was not confirmed as the results of the moderation analyses show that supervisor, colleague and family support did not moderate any of the relationships between trauma exposure and exhaustion, cynicism or professional efficacy. Hypothesis seven was not confirmed as the results of the moderation analyses show that supervisor, colleague and family support did not moderate any of the relationships between work hassles and psychological distress. Hypothesis eight was not confirmed as the results of the moderation analyses show that supervisor, colleague and family support did not moderate any of the relationships between work hassles and exhaustion, cynicism or psychological distress.

The strongest finding in the exploratory analyses was that work hassles explained some of the variance in three of the four dependent variables; psychological distress, exhaustion and cynicism. However, in relation to professional efficacy work hassles was no longer

significant following the introduction of supervisor support. This result suggests that supervisor support was having a main effect on professional efficacy, which could account for the lack of a moderation effect.

Discussion

This chapter provides an overview of the findings of this research and integrates the findings with other scientific literature. The findings will be discussed in relation to each hypothesis and then the practical implications and limitations of the research will be discussed, along with directions for future research.

Hypotheses

Hypothesis One

Hypothesis one stated that traumatic event exposure would be positively related to psychological distress. A positive relationship was established between these variables as shown in the results, therefore, hypothesis one was confirmed. This means that participants who reported more exposure to traumatic events experienced higher levels of psychological distress. Among a sample of police recruits, Huddleston, Stephens, and Paton (2007) also found that traumatic event exposure was significantly correlated with psychological distress, following 12 months of service. This relationship has also been established in other police studies (de Terte, Stephens, & Huddleston, 2014).

In the current study, the participants had experienced an average of five traumatic events, over approximately 17 years of service. In comparison, de Terte (2012) found that police officers had experienced an average of four traumatic events over approximately 10 years of service. In the current study the most frequently experienced traumatic event was assault; 81% of participants reported that they had been assaulted. de Terte (2012) also found assault to be the most frequently experienced traumatic event, however only 24% of

participants in that study reported that they had been assaulted. This increase in assault is considered concerning, given that traumatic event exposure was measured with the same measurement scale in both the current and the de Terte study, therefore the findings can be compared and contrasted.

The mean level of psychological distress in the current study was 34.18 (SD = 8.59) with a score range of 21 – 84. This is consistent with Terte et al. (2014) who found the mean score of psychological distress to be 36.16 (SD = 9.66) among a sample of police officers. Whitesell and Owens (2012) reported a mean level of psychological distress among military veterans to be 34.89 (SD=13.12).

In the current study there were no significant gender differences observed in the relationship between traumatic event exposure and psychological distress. However, there were some significant gender differences at the item level of the Traumatic Stress Schedule. In the current study, male participants reported significantly higher levels of assault (81%), than females (71%). This gender difference is consistent with findings in the general population (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Norris, 1992). In the general population, it is also consistently found that males report more traumatic event exposure, while females report higher levels of distress (Kessler et al., 1995). However, this was not observed in the current study which is instead, consistent with military studies (Luxton, Skopp & Maguen, 2010; Vogt et al., 2011), and other police studies (de Terte, 2012; Huddleston, 2002). In the current study, female participants reported significantly higher levels of sexual assault (18%) than male participants (1%). This gender difference is also consistent with findings in the general population (Kessler et al., 1995; Norris, 1992). Male participants also

reported significantly more exposure to knowing a police officer who had died, witnessing a member of the public killed by police, being involved in a motor vehicle accident, attending an accident with multiple or mutilated victims and being involved in disaster victim identification work.

The ten demographic variables measured in this study were age, gender, ethnicity, education, marital status, whether the participant was in a relationship with another police officer, work related contact with a psychologist, length of service, district and workgroup. It was found in relation to traumatic events, that participants who were married, in a civil union, or in a de facto relationship reported significantly lower levels of psychological distress, than participants who were not. Further analysis showed that this difference was being driven by the variations between participants who were separated, and those who were married, in a civil union, or de facto relationship. Participants who were separated, experienced significantly more psychological distress than participants who were in any type of relationship. It has been widely found in the literature, that a long-term relationship with a significant other is a protective factor for people who are exposed to traumatic events (Corneil, Beaton, Murphy, Johnson, & Pike, 1999; Creamer, Burgess, & McFarlane, 2001). According to Umberson, and Montez (2010) long term relationships not only provide emotional support, but individuals can also feel a greater sense of responsibility to stay healthy, thereby engaging in behaviours such as eating well and exercising. In the current study it is unknown how long participants had been separated; this could be a consideration for future research. Additionally, Hewitt and Turrell (2011) found that men and women both

experienced a decline in their psychological health when they separated, but this decline was less pronounced for the partner who had initiated the separation.

The demographic variables did not account for any other significant differences between traumatic event exposure and psychological distress. It was expected that participants with a higher level of education, would experience significantly less psychological distress than participants with lower levels of education, as this has been found in other studies (Patterson, 2003). It is postulated that individuals with more education utilise a wider range of coping skills, than less educated individuals (Patterson, 2003).

Hypothesis Two

Hypothesis two stated that traumatic event exposure would be positively related to burnout. Burnout is considered to be established when individuals report high levels of exhaustion and cynicism, and low levels of professional efficacy (Maslach & Leiter, 1981). For the current study a positive relationship was established between traumatic event exposure and exhaustion, although the effect was small. Participants who were exposed to more traumatic events experienced more exhaustion. In the current study 49% of participants were found to have high levels of exhaustion, 23% were found to have moderate levels of exhaustion, and 28% were found to have low levels of exhaustion. Among a sample of ambulance personnel, Alexander and Klein (2001) found that 20% of participants had high levels of exhaustion and in another study van der Ploeg and Kleber (2003) found that 12% of ambulance personnel scored high on exhaustion, both of which are considerably lower than the current study. However, in the current study traumatic event exposure was not significantly related to cynicism or professional efficacy and, therefore, hypothesis two was

only partially confirmed. Among ambulance personnel, Alexander and Klein (2001) also found the relationship between traumatic event exposure and cynicism, and traumatic event exposure and professional efficacy, to be non-significant. To clarify these findings, a literature search did not find any studies that explored the relationship between traumatic event exposure and burnout among police. In the current study, a relationship was established between traumatic event exposure and exhaustion which suggests that not only are traumatic events distressing, they can also be demanding.

Traumatic event exposure was not associated with cynicism, despite the fact that 73% of participants were found to have high levels of cynicism. One possible reason for this finding is that cynicism and detachment may not be an effective coping strategy for dealing with the demands of traumatic events, as they still have to be attended. Also, traumatic events have a beginning and an end, which may make them easier to cope with, as opposed to work hassles, such as paperwork, which may appear never ending (Stinchcomb, 2004). Another reason may be that, while police officers can become cynical towards their work and organisation, this may not extend to aspects of the job directly involving their colleagues. For example, emergency services personnel have been found to have a strong sense of camaraderie, characterised by feelings of belonging, shared identity and reciprocal trust (Tuckey & Hayward, 2007). As part of the role of a police officer is protecting each other at traumatic events this sense of camaraderie may over ride other feelings off wanting to detach from this aspect of their work. Among a sample of police recruits and recent graduates, Foley, Guarneri, and Kelly (2008) found that the second most common reason given for choosing a police career was to experience good companionship with co-workers

Trauma exposure was not associated with a reduced professional efficacy, which indicates that participants were still getting a sense of accomplishment and achievement out of their jobs. This is consistent with studies of ambulance personnel (Alexander & Klein, 2001), oncology healthcare professionals (Girgis, Hansen, & Goldstein, 2008), and child pornography investigators (Perez, Jones, Englert, & Sachau, 2010). The top reason given by police recruits and recent graduates for choosing a police career was the opportunity to help people, and as attending traumatic events is likely to present officers with the opportunity to do so, this should lead to a sense of accomplishment (Foley et al., 2008).

Hypothesis Three

Hypothesis three stated that work hassles would be positively related to psychological distress. A positive relationship was established between work hassles and psychological distress, therefore, hypothesis three was supported. That means that participants who experienced higher levels of work hassles also experienced higher levels of psychological distress.

The participants in the current study reported a mean score of 56 (SD = 27.11) on the work hassles scale, which had a range of 0 – 140. In comparison, Huddleston et al. (2007) found that police participants reported a mean score of 84. Although Huddleston et al. (2007) used Hart, Wearing and Heady's (1993) full daily hassles scale, the scale used in this study was a shortened version of it. The participants evaluated by Huddleston et al. (2007) had an average age of 28 years and they had just completed their first year of police service. The participants in the current study were older and had significantly more police experience and therefore they may have been less likely to view some organisational aspects of the job as

hassles compared to less experienced police officers. Irrespectively, participants in the current study who experienced a higher level of work hassles experienced higher levels of psychological distress.

The two most frequent work hassles for both males and females were “too much work” and “excessive paperwork”. This is also consistent with other police studies. Work overload was found by Biggam et al. (1997) to be a frequent work hassle. Huddleston (2002) found that “excessive paperwork” was the most frequent hassle among her participants. In the current study, participants identified poor morale as one of the top five work hassles. Peterson, Park, and Sweeney (2008) consider morale to be an indication of group wellbeing, in which members display attitudes of confidence, enthusiasm, loyalty, optimism and resilience. Groups with high levels of morale are more likely to complete tasks and meet goals (Peterson et al., 2008). Morale has not been well studied in relation to police; however, anything that threatens group cohesion and the attainment of organisational goals should be of interest to the police.

In relation to work hassles, participants who were married, in a civil union, or de facto relationship reported significantly lower levels of psychological distress, than participants who were not. This was consistent with the impact of marriage on the relationship between traumatic event exposure and psychological distress in hypothesis two. The differences between participants who were married, or those in de facto or civil union relationships, and participants who were separated was also highlighted here and participants who were separated experienced significantly more psychological distress, than participants who were in one of the aforementioned relationships. As with traumatic event exposure and

psychological distress, the demographic variables did not account for any other significant differences between work hassles and psychological distress.

Hypothesis Four

Hypothesis four stated that work hassles would be positively related to burnout which, is defined by high levels of exhaustion and cynicism and a reduced sense of professional efficacy (Maslach & Jackson, 1981). In the current study, there was a significant positive relationship between work hassles and exhaustion, and work hassles and cynicism. This demonstrates that participants who experienced more work hassles, were reportedly more exhausted and cynical when compared to participants, who experienced less work hassles. There was also a significant negative relationship between work hassles and professional efficacy, which means that participants who experienced more work hassles reported lower levels of professional efficacy. In the current study the mean scores for the burnout components were as follows; exhaustion (16.78), cynicism (16.61) and professional efficacy (31.23). Among a sample of South African police officers, levels of exhaustion (12.90, SD = 8.05) and cynicism (9.13, SD = 5.92) were considerably lower than the current study (Rothman, 2008). In that study professional efficacy was not measured. Among a sample of mental health and emergency nurses, lower levels were also reported for exhaustion (14.10, SD = 5.63), cynicism (11.62, SD = 5.10) and professional efficacy (28.65, SD = 8.54), (Llor-Esteban, Sanchez-Munoz, Ruiz-Hernandez, & Jimenez-Barbero, 2017). Both Llor-Esteban et al. (2017) and Rothman (2008) used the MBI-GS, therefore these studies are suitable for comparison with the current study.

In the current study 49% of participants reported high levels of exhaustion, 73% reported high levels of cynicism, and (16%) reported low levels of professional efficacy. Among a sample of mental health clinicians who worked with military veterans, 50% of participants reported high levels of exhaustion, 47% reported high levels of cynicism, and 12% reported low levels of professional efficacy (Garcia, McGeary, McGeary, Finley, & Peterson, 2014).

High levels of burnout, characterised by exhaustion and cynicism in this study are concerning, both from an individual and organisational perspective. At an individual level evidence shows that burnout, in particular exhaustion, is related to depression (Bianchi, Schonfeld & Laurent, 2015). Furthermore, Hakanen & Schaufeli, (2012) found that burnout predicted depression, rather than the other way around.

At an organisational level burnout has been associated with absenteeism (Swider & Zimmerman, 2010; Ybema, Smulders, & Bongers, 2010), intention to leave (Leiter & Maslach, 2009), poor job performance (Taris, 2006) and reduced job satisfaction (Swider & Zimmerman, 2010; Ybema et al., 2010). Policing is also an occupation in which officers have to make sound decisions relating to the safety of others, drive at speed, and handle weapons such as tasers and firearms. There is little room for error in such activities. It has been found in studies of other occupations, such as the medical profession, that burnout can affect organisational safety. Among a study of junior doctors, it was found that job pressures were associated to burnout (de Oliveira et al., 2013). Specifically, burnout was associated to decreased patient attention, a higher frequency of medication errors, less adherence to best practice and more self-reported errors. Shanafelt et al. (2010) found that error reporting by

surgeons was significantly associated with burnout. Furthermore, a one point score increase in exhaustion was associated with a 5% increase in the likelihood of reporting an error, and for cynicism a one point score increase was associated with an 11% increase in the likelihood of reporting an error.

Hypothesis Five

Hypothesis five stated that the relationship between traumatic exposure and psychological distress would be moderated by social support. This hypothesis was not supported, as there was no evidence of moderation.

Hypothesis Six

Hypothesis six stated that trauma exposure would be moderated by the three burnout components, exhaustion, cynicism and professional efficacy. There was no evidence of moderation and this hypothesis was not supported.

Hypothesis Seven

Hypothesis seven stated that the relationship between work hassles and psychological distress would be moderated by social support. This hypothesis was not supported, as there was no evidence of moderation.

Hypothesis Eight

Hypothesis eight that work hassles would be moderated by the three burnout components, exhaustion, cynicism and professional efficacy. There was no evidence of moderation and this hypothesis was not supported.

Overview of moderation hypotheses

In relation to hypotheses five to eight, social support did not moderate the relationships between the independent and dependent variables. That means that when levels of traumatic exposure and work hassles increased, social support did not buffer or dampen the effect on the psychological distress, exhaustion, cynicism and professional efficacy, even when the levels of social support were high. Overall, the levels of psychological distress were quite low, therefore social support may not have been needed to buffer participants from the impact of trauma exposure and work hassles. Alternatively, the levels of exhaustion and cynicism were quite high, therefore social support may have had little effect on the buffering the impact of trauma exposure and work hassles. According to Jose (2013) moderation effects are more likely to be observed when participants are widely distributed across the dependent variable being measured. For example, in the current study moderation might have been more likely if there had been greater variation in the levels of psychological distress, exhaustion, cynicism and professional efficacy experienced by participants.

Social Support Vignettes

The six policing vignettes which were used in this study, have provided a novel insight into participant's views about sources of social support. In relation to the three organisational policing scenarios, which were lack of equipment, shift work and work overload, the supervisor featured overwhelmingly as the best person to approach for support. Consistent with other research regarding work hassles and social support, it is possible that participants viewed a supervisor as someone who had the ability and authority to actually do something

about these issues, such as acquiring equipment or altering work schedules (Lambert, Altheimer, & Hogan, 2010). While colleagues may be able to sympathise with the situations, they are less likely to be able to resolve them. Family and friends are unlikely to be able to identfiy with the situations, or do anything about them (Lambert et al., 2010).

In relation to the three operational policing scenarios, which were a messy death, a suicide in the police cells and a deceased child, results it was found that the best people to approach for support varied across the scenarios. In relation to the messy death, participants selected a supervisor as the best source of support (43.1%) followed by colleagues (37.3%). A messy death in particular, may be one scenario where police officers want to talk about it with their supervisor or colleagues as a way of processing their emotions and assessing if their response to the event was appropriate (reference). Supervisors and colleagues are both likely to have attended a similar event and be able to provide the support needed, while the majority of family and friends are unlikely to have experience of such an event and additionally police officers may not want to expose them to such events.

In relation to the suicide in the police cells 60.2% of participants selected a supervisor as the best person to approach for support. A suicide in the police cells immediately becomes the subject of internal and external police investigations (M Tunley, personal communication, 16 January, 2016). Therefore, the majority of participants may have selected supervisor as the best source of support, because they knew that a supervisor would be able to provide informational support about what processes needed to be followed for the purpose of investigation, rather than because they were distressed about the suicide.

The third scenario which related to a deceased child produced a different result again. Participants selected family or friends as being the best people to approach for support (37.2%), followed by supervisors (33.2%). Whereas it has been found that individuals do not seek the support of family and friends for work experiences (Lambert et al., 2010) among other studies it has been found that police officers and other emergency service personnel utilise the support of family and friends when they are emotionally affected by an event (Evans et al., 2013; Regehr et al., 2002; Wright et al., 2006). Previous research has found that police officers and other emergency service personnel consider the death of children to be very emotionally distressing (Alexander & Klein, 2009; Haslam & Mallon, 2003; Regehr et al., 2002; van der Ploeg & Kleber, 2003).

Exploratory Analyses

Practical Implications

The strongest associations to be found in the current study were between work hassles and the two core components of burnout; exhaustion and cynicism, and work hassles and psychological distress. Additionally, it was found that the levels of exhaustion and cynicism among participants was high compared to other police studies, and that participants overwhelming considered supervisors to be the best person to approach for support in relation to work hassles. This highlights a need for police organisations to provide training in relation to effective self-management at work and demonstrates that supervisors need to have excellent self-management skills themselves, so that they can develop these skills in their staff.

Study Limitations

There were several limitations identified in this study which related to research design, response biases and two of the measurement scales. These will be discussed in the turn. This research utilised a cross sectional design which is a design that is used to measure the prevalence of a variable, such as psychological distress, in a population at a particular point in time. The advantage of using this design was that the research was able to be conducted with a large sample of participants from three geographically separate districts and within a short time frame. However, the primary disadvantage of using a cross sectional design is that cause and effect between the variables is unable to be established. For example, while work hassles was related to burnout, it cannot be determined from this study as to whether the experience of work hassles caused burnout to develop, or whether participants were already burnout. This may explain why they appraised work characteristics as hassles.

It is probable that there may have been some response bias in this study, which presents another limitation. Social desirability bias is a response bias relevant to this study as some participants may have responded to items in a way that they thought was more socially desirable, rather than stating what was actually true (Paulhas & Vazire, 2007). For example, a "reliable" police officer is one who has been described as "calm and dispassionate" in the face of emotional events (Evans et al., 2013). Some participants in this study may perceived signs of psychological distress and burnout as personal weaknesses, and therefore responded to items more in line with a "reliable" police officer. Alternatively, participants may have been feeling frustrated with the police organisation and therefore over exaggerated symptoms hoping to draw attention to their frustrations.

Another response bias which may have arisen in this study is acquiescent bias, which is the tendency of participants to agree with items regardless of their content (Kum & Meyer, 2015). This can be difficult to detect if the items on a measurement scale are all coded in the same direction (e.g., 1 – 5 with 5 always being "strongly agree"). In the current study, the work hassles scale and the HSCL-21, which was used to measure psychological distress did not have reserve coded items, therefore acquiescent bias was unable to be easily detected.

Other limitations in this study related to the TSS and the social support vignettes. The advantage of the TSS used in this study is that it has been modified to include traumatic events specific to policing. However, the TSS only gives participants the option to select whether an event occurred once or more than once, rather than exactly how many times it has occurred. As the participants in this study had been in police, on average, for around 17 years, it is highly likely that they had been exposed to some of the events many times. Evidence for this was observed in responses to the question regarding the occurrence of other distressing events (question 16A), in which participants recorded responses such as "suicides too numerous to mention".

Finally, the social support vignettes were an exploratory measure developed by the researcher. The main criticism of the vignettes is that the way the responses were scored differed from the way the responses were scored on the social support scale developed by Caplan, Cobb, French, Van Harrison, and Pinneau (1975). Therefore the scales were unable to be statistically compared. This was a significant oversight of the researcher when constructing the vignettes. Additionally, the use of the term support is likely to be perceived differently by participants and it was possible that some participants viewed support very practically (e.g.,

getting help regarding the procedures in the case of a messy death). However, in the event of the deceased child more participants identified family or friends as the "best" source of support, which suggests that support was also interpreted as emotional support.

Directions for Future Research

The current study found that participants had been exposed to increasingly high levels of assault; however, the impact of different types of assault, such as assault involving weapons or resulting in injuries, was unable to be ascertained due to the measurement scale used. Therefore, research which evaluates the different characteristics and types of assault on the psychological wellbeing of police officers would be beneficial. Current studies of this type have primarily been undertaken with police samples in Europe and the United States therefore studies in a broader range of countries is encouraged.

One finding of the current study was that more traumatic event exposure was associated with increased levels of exhaustion, which is one component of burnout. This association only had a small effect size, therefore replications of this result among other police samples is needed, before any conclusions can be drawn. In general, burnout is not widely studied among police officers. However, the high levels of exhaustion and cynicism found in this study demonstrate the need for further research in this area. The responses to the social support vignettes suggest that police officers have different preferences for social support depending on the events that they experiences. In future research the social support vignettes could be expanded upon and integrated with a Likert scale, or similar measure so that they are able to be compared to other measures.

Conclusion

The current study confirmed findings from other literature, that while traumatic events lead to increased levels of psychological distress and burnout, work hassles have the strongest association with these outcomes (Huddleston et al., 2007). Also demonstrated is the effectiveness of social support in reducing the negative impact of psychological distress and burnout. The findings of this study also indicate that police officers perceive different sources of social support to be useful depending on the situation. The current study also showed an association between traumatic event exposure and exhaustion; however, future research is needed to replicate this finding.

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Appendices

Appendix A. Initial Participant Letter

Dear XXXX,

My name is Nikki Geeson. I was a sworn police officer from 2000 to 2011. During that time I served in Upper Hutt and the South Wairarapa, primarily in a rural policing role. I am now a police employee. I work as a Performance Analyst at Police National Headquarters.

I am completing my Master of Arts degree in psychology through Massey University. As part of my degree I am undertaking the following research project - *Determining the impact of trauma and daily organisational hassles on psychological distress and burnout in New Zealand police officers; and the moderating role of social support.*

My research will investigate the impact of traumatic experiences and daily organisational hassles on the psychological wellbeing of New Zealand police officers, such as yourself. Specifically it will look at psychological distress and burnout. This research will also investigate whether social support influences the level of psychological distress and burnout experienced by police officers.

I am surveying police officers in three policing districts; Waikato, Eastern and Tasman. Your QID has been provided to me by the New Zealand Police as you currently work in one of these districts. The purpose of this letter is to give you an opportunity to consider whether you would like to participate in this research. Any such participation would be voluntary and anonymous. No data will be collected that could lead to anyone identifying you.

An email will be sent to you on the 1 June 2016 formally inviting you to participate in this research. Your participation will involve completing an online questionnaire which can be accessed via a web link. The email with the web link can be forwarded to another email address if you wish to do so.

If you want to know any more about my proposed research I can be contacted via email at [redacted] or on [redacted] or by cell phone on [redacted]. You may also contact my research supervisor Dr Ian de Terte, who is a senior lecturer at Massey University. His email address is i.deterte@massey.ac.nz.

Yours faithfully,

Nikki Geeson

Appendix B. Initial Email

Good morning Tasman!

You may recall receiving a letter from me approximately two weeks ago outlining research that I am conducting. The topic of my research is;

Determining the impact of trauma and daily organisational hassles on psychological distress and burnout in New Zealand police officers; and the moderating role of social support.

I am carrying out this research for my Master of Arts degree in psychology (not on behalf of the New Zealand Police). Participation is voluntary and anonymous. You will not be able to be identified by me or any other person. Clicking on the attached link will take you to a comprehensive information sheet and the start of the survey. You can read the information sheet without having to complete the survey. If you do start the survey you can end your participation at any time prior to finishing it. The survey will take you around 20 minutes to complete.

Click on the link below to be taken to the information sheet and the start of the survey.

Survey on impact of trauma, stress and burnout on NZ Police Officers

Thank you for showing an interest in my research.

Nikki Geeson

Appendix C. Information Sheet

Determining the Impact of Trauma and Daily Organisational Hassles on Psychological Distress and Burnout in New Zealand Police Officers; and the Moderating Role of Social Support

Who is doing this research?

My name is Nikki Geeson. I am currently contacting research as part of my Master of Arts degree through the School of Psychology at Massey University. This research is being supervised by Dr Ian de Terte who is a Senior Lecturer at the School of Psychology.

What is this research about?

This research will investigate the impact of traumatic experiences and daily organisational hassles on the psychological wellbeing of New Zealand police officers, such as yourself. Specifically it will look at psychological distress and burnout. This research will also investigate whether social support influences the level of psychological distress and burnout experienced by police officers. Your participation in this study will be much appreciated. However, your participation is voluntary.

Participant Eligibility

You are eligible for this study if you are currently serving in the Waikato, Eastern and Tasman policing districts. While your details have been provided by the New Zealand Police neither they nor the New Zealand Police Association will have access to your individual questionnaire results. The individual results will be seen by me and my supervisor only. I will be supplying the New Zealand Police and the New Zealand Police Association with a summary of the research findings.

The data obtained from this study will be retained in locked storage at the School of Psychology, Massey University under the strict supervision of Dr Ian de Terte.

What you will be asked to do?

You will be asked to fill out a questionnaire that will take approximately 30 minutes. If you are interested in taking part please click on the attached link which will take you to the questionnaire: You can forward this email to another email address if you wish to.

What are you rights as a participant?

If you decide to participate, you have the right to:

- decline to answer any particular question

- withdraw from the study at any time
- ask any questions about the study at any time during participation
- provide information on the understanding that your name will not be used
- be given access to a summary of the research findings when it is concluded

In addition, completion of the questionnaire implies consent.

Where can you get support from?

It is not anticipated that you will experience any difficulties in completing the questionnaire. However, there is the possibility that recalling traumatic events will cause some people distress. If this happens to you please contact your local police welfare officer, the EAP Services Ltd (Employment Assistant Programmes) on 0800 327669 or your general practitioner. A list of psychologists in your area can be accessed via the internet at www.nzccp.co.nz and following the link to private practitioners, or at www.psychology.org.nz and following the link to find a psychologist. Note there would be a fee charged to you for making an appointment with these professionals. Alternatively you could contact Lifeline on 0800 543354. Lifeline provides free telephone and face-to-face counselling, 24 hours a day, 7 days a week.

How can you find out about the results?

At the end of the questionnaire there is a link to a separate page on which you will be asked to fill out your contact details if you would like to receive a summary of the results of the questionnaire. These contact details will not be able to be linked to your questionnaire information. A summary of the results will be sent to you at the completion of the research.

What to do now?

If you would like to take part in this study please click on the attached link:

If you have further questions please contact me by email at [redacted] or via cell phone on [redacted]. My supervisor Dr Ian de Terte can be contacted by email at I.deTerte@massey.ac.nz or on (04) 8015799, ext 62033.

Thank you very much for your interest in this study.

Nikki Geeson

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern A Application 14/84. If you have any concerns about the conduct of this research, please contact Dr Brian Finch, Chair Massey University Ethics Committee: Southern A, telephone (06) 350 5799 ext 84459, email humanethicssoutha@massey.ac.nz

Appendix D. Research Questionnaire

Information Page

Determining the Impact of Trauma and Daily Organisational Hassles on Psychological Distress and Burnout in New Zealand Police Officers; and the Moderating Role of Social Support

Information Sheet

Who is doing this research?
My name is Nikki Geeson. I am currently conducting research as part of my Master of Arts degree through the School of Psychology at Massey University. This research is being supervised by Dr Ian de Terte who is a Senior Lecturer at the School of Psychology.

What is this research about?
This research will investigate the impact of traumatic experiences and daily organisational hassles on the psychological wellbeing of New Zealand police officers, such as yourself. Specifically it will look at psychological distress and burnout. This research will also investigate whether social support influences the level of psychological distress and burnout experienced by police officers. Your participation in this study will be much appreciated. However, your participation is voluntary.

Participant Eligibility
You are eligible for this study if you are currently serving in the Waikato, Eastern and Tasman policing districts. While your details have been provided by the New Zealand Police neither they nor the New Zealand Police Association will have access to your individual questionnaire results. The individual results will be seen by me and my supervisor only. I will be supplying the New Zealand Police and the New Zealand Police Association with a summary of the research findings.

The data obtained from this study will be retained in locked storage at the School of Psychology, Massey University under the strict supervision of Dr Ian de Terte.

What you will be asked to do?
You will be asked to fill out a questionnaire that will take approximately 30 minutes. If you are interested in taking part please click on the **>>Next** button at the end of this information sheet.

What are you rights as a participant?
If you decide to participate, you have the right to:

- decline to answer any particular question
- withdraw from the study at any time
- ask any questions about the study at any time during participation
- provide information on the understanding that your name will not be used
- be given access to a summary of the research findings when it is concluded

In addition, completion of the questionnaire implies consent.

Where can you get support from?
It is not anticipated that you will experience any difficulties in completing the questionnaire. However, there is the possibility that recalling traumatic events will cause some people distress. If this happens to you please contact your local police welfare officer, the EAP Services Ltd (Employment Assistant Programmes) on 0800 327669 or your general practitioner. A list of psychologists in your area can be accessed via the internet at www.nzccp.co.nz and following the link to private practitioners, or at www.psychology.org.nz and following the link to find a psychologist. Note there would be a fee charged to you for making an appointment with these professionals. Alternatively you could contact Lifeline on 0800 543354. Lifeline provides free telephone and face-to-face counselling, 24 hours a day, 7 days a week.

How can you find out about the results?
At the end of the questionnaire there is a link to a separate page on which you will be asked to fill out your contact details if you would like to receive a summary of the results of the questionnaire. These contact details will not be able to be linked to your questionnaire information. A summary of the results will be sent to you at the completion of the research.

What to do now?
If you would like to take part in this study please click on the **>>Next** button below:

Thank you very much for your interest in this study.

Nikki Geeson

Contact information

If you have any questions or queries regarding this project, please don't hesitate to contact the following:

Researcher
Nikki Geeson
School of Psychology
Massey University
New Zealand
[redacted]

Supervisor
Dr Ian de Terte
School of Psychology
Massey University
Wellington
New Zealand
+64 4 801-5799 ext 62033
I.deTerte@massey.ac.nz

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern A Application 14/84.
If you have any concerns about the conduct of this research, please contact Dr Brian Finch, Chair Massey University Ethics Committee: Southern A, telephone (06) 350 5799 ext 84459, email humanethicssouthA@massey.ac.nz

Instructions

Instructions

Please complete the survey by selecting the appropriate answers on each page.

All the responses provided by you are confidential and will only be used for the purposes of this study.

Many thanks for your assistance with this survey.

Consent

Respondent Consent

Thank you for participating in this questionnaire.
Your participation implies consent.
You have the right to decline to answer any particular question.

I have read and understood the information sheet for this study and consent to collection of my responses.
(Please click on the 'Yes' choice if you wish to proceed.)

- ○ Yes
- ○ No

Demographics

Demographics

Please complete the survey by selecting the appropriate answers on each page.
All the responses provided by you are confidential and will only be used for the purposes of this study.

Age (in years)

What is your gender?

- Male
- Female

What ethnic group do you identify most with?

- NZ European
- Maori
- Samoan
- Cook Island Maori
- Tongan
- Niuean
- Chinese
- Indian
- Other – please specify

What is your highest educational qualification?

- No school qualification
- School certificate or NCEA passes
- School qualifications, university entrance or NCEA 3 and above
- Trade certificate, professional certificate or diploma
- University degree or diploma

What is your present marital status?

- Never married/civil union
- Married, civil union or de facto
- Divorced or civil union dissolved

- Separated
- Widowed/Surviving civil union partner

Are you currently in a relationship with a sworn police officer or police employee?

- Yes
- No

Have you ever seen a psychologist under the New Zealand Police Trauma Policy?

- Yes
- No

What policing district do you currently work in?

- Waikato
- Eastern
- Tasman

How long have you been a sworn member of the New Zealand Police?

Years

Months

What police work group do you currently work in? (e.g. CIB).
(Please record your answer in the box below)

Traumatic events

Traumatic Events

A traumatic event is any incident which is outside your normal range of experiences. Some people only ever have one or two traumatic experiences in a lifetime while some have many more.

Listed below are a few traumatic experiences which may have happened to you at some point in your life, either at work or otherwise.
For the following questions please select the responses that are most accurate for you.

	If you answer 'no' to any of these questions please proceed to the next statement.		Did this happen once or more than once?	
	No	Yes	Once	More than once
Did you ever serve in military combat or in peacekeeping duties?	○	○	○	○
Did anyone ever take something from you by force or threat of force, such as in a robbery, mugging or hold-up?	○	○	○	○
Have you ever been assaulted, injured or had your life placed under threat by another person?	○	○	○	○
Did anyone ever make you have sex by using force or threatening to harm you? This includes any type of unwanted sexual activity.	○	○	○	○
Did you ever suffer injury or property damage because of fire?	○	○	○	○
Did you ever suffer injury, evacuation, or property damage because of severe weather or either a natural or man-made disaster?	○	○	○	○

For the following questions please select the responses that are most accurate for you.

	If you answer 'no' to any of these questions please proceed to the next statement.		Did this happen once or more than once?		How did that person die?		
	No	Yes	Once	More than once	Accident	Homicide	Suicide
Did a police officer you knew well die because of an accident, homicide, or suicide?	○	○	○	○	☐	☐	☐
Apart from fellow police officers, did a close friend or family member ever die because of an accident, homicide, or suicide?	○	○	○	○	☐	☐	☐

For the following questions please select the responses that are most accurate for you.

	If you answer 'no' to any of these questions please proceed to the next statement.		Did this happen once or more than once?	
	No	Yes	Once	More than once
Were you ever in a motor vehicle accident serious enough to cause injury to one or more passengers?	○	○	○	○
Have you been present at an incident in which a police officer was deliberately or accidentally killed?	○	○	○	○
Have you been present at an incident in which a member of the public was killed or seriously injured by the police?	○	○	○	○
Have you been involved in work with victims of multiple, or otherwise particularly disturbing homicides (e.g. children or elderly victims)?	○	○	○	○
Have you worked at accidents in which there were multiple victims, or severe mutilation of bodies?	○	○	○	○
Have you been involved in a Disaster Victim Identification process?	○	○	○	○

Have you ever worked for a period of time in a work area that constantly included work that was distressing for you (such as child abuse cases or multiple incidents of domestic violence)?

- ○ No
- ○ Yes

What was the work area?

For the following question please select the responses that are most accurate for you.

	If you answer 'no' to this question please proceed to the next statement.		Did this happen once or more than once?	
	No	Yes	Once	More than

				once
Did you ever have some other shocking or distressing experience, something that has not been mentioned yet?	○	○	○	○

If you answered "yes" to the question above, please provide a short description of the experience.

General stress

General Stress Symptoms

The following questions are about general stress symptoms. Please describe how much of each of the symptoms you experienced during the past seven days.

	Not at all	A little	Quite a bit	Extremely
Difficulty in speaking when you are excited	○	○	○	○
Trouble remembering things	○	○	○	○
Worried about sloppiness or carelessness	○	○	○	○
Having to do things very slowly in order to be sure you are doing them right	○	○	○	○
Having to check and double check what you do	○	○	○	○
Your mind going blank	○	○	○	○
	Not at all	A little	Quite a bit	Extremely
Trouble concentrating	○	○	○	○
Blaming yourself for things	○	○	○	○
Feeling lonely	○	○	○	○
Feeling blue	○	○	○	○
Your feelings being easily hurt	○	○	○	○
Feeling others do not understand you or are unsympathetic	○	○	○	○
	Not at all	A little	Quite a bit	Extremely
Feeling that people are unfriendly or dislike you	○	○	○	○
Feeling inferior to others	○	○	○	○
Pain in the lower part of your back	○	○	○	○

Soreness of your muscles	○	○	○	○
Hot or cold spells	○	○	○	○
Numbness or tingling in parts of your body	○	○	○	○
	Not at all	A little	Quite a bit	Extremely
A lump in your throat	○	○	○	○
Weakness in parts of your body	○	○	○	○
Heavy feelings in your arms and legs	○	○	○	○

Work hassles

Work Hassles

Work hassles are aspects of work which hassle or bother you. Please answer in the columns below the degree to which each item has **hassled or bothered** you during the **past month at work**.

	Definitely was not a hassle	Probably was not a hassle	Don't know	Probably was a hassle	Definitely was a hassle
Delivering a death message	○	○	○	○	○
Problems with co-workers	○	○	○	○	○
'Bottling up' my feelings	○	○	○	○	○
Having no say in decisions that affect me	○	○	○	○	○
Lack of police powers	○	○	○	○	○
Excessive paperwork	○	○	○	○	○
	Definitely was not a hassle	Probably was not a hassle	Don't know	Probably was a hassle	Definitely was a hassle
Rushed eating	○	○	○	○	○
Too much work to do	○	○	○	○	○
Trying to show interest in people	○	○	○	○	○
Too much supervision	○	○	○	○	○
Untidy work area	○	○	○	○	○
Exams (for work purposes)	○	○	○	○	○
	Definitely was not a hassle	Probably was not a hassle	Don't know	Probably was a hassle	Definitely was a hassle
Unfair promotional policy	○	○	○	○	○
Complaints by the public	○	○	○	○	○
Going on a raid	○	○	○	○	○
Hoax calls	○	○	○	○	○
Heavy traffic	○	○	○	○	○
Giving bad news	○	○	○	○	○

Work hassles are aspects of work which hassle or bother you. Please answer in the columns below the degree to which each item has **hassled or bothered** you during the **past month at work**.

	Definitely was not a hassle	Probably was not a hassle	Don't know	Probably was a hassle	Definitely was a hassle
Working with incompetent people	○	○	○	○	○
Feelings of not being able to do anything	○	○	○	○	○
Not receiving recognition for a job well done	○	○	○	○	○
Court decisions being too lenient	○	○	○	○	○
Too much red tape to get something done	○	○	○	○	○
Missing meals	○	○	○	○	○
	Definitely was not a hassle	Probably was not a hassle	Don't know	Probably was a hassle	Definitely was a hassle
Too much expected of me	○	○	○	○	○
Dealing with other people's problems	○	○	○	○	○
Being told what to do with others	○	○	○	○	○
Poor facilities	○	○	○	○	○
Studying (for work purposes)	○	○	○	○	○
Problems at work due to being a woman/man	○	○	○	○	○
	Definitely was not a hassle	Probably was not a hassle	Don't know	Probably was a hassle	Definitely was a hassle
Low morale	○	○	○	○	○
Going to dangerous calls	○	○	○	○	○
Dealing with people who abuse the police	○	○	○	○	○
Poor drivers on the road	○	○	○	○	○
Lack of equipment	○	○	○	○	○

Job-related feelings

Job-related Feelings

The page below has 16 statements of job-related feelings. Please read each statement carefully and decide if you ever feel this way about **your** job. If you have **never** had this feeling, please select "Never". If you have had this feeling indicate **how often** you feel it by selecting the option that best describes how frequently you feel that way.

	A few times	Once a month or	A few times	Once a	A few times

	Never	a year	less	a month	week	a week	Every day
I feel emotionally drained from my work.	○	○	○	○	○	○	○
I feel used up by the end of the work day.	○	○	○	○	○	○	○
I feel tired when I get up in the morning and have to face another day on the job.	○	○	○	○	○	○	○
Working all day is really a strain for me.	○	○	○	○	○	○	○
I can effectively solve the problems that arise in my work.	○	○	○	○	○	○	○
I feel burnt out from my work.	○	○	○	○	○	○	○

	Never	A few times a year	Once a month or less	A few times a month	Once a week	A few times a week	Every day
I feel I am making an effective contribution to what this organization does.	○	○	○	○	○	○	○
I have become less interested in my work since I started this job.	○	○	○	○	○	○	○
I have become less enthusiastic about my work.	○	○	○	○	○	○	○
In my opinion I am good at my job.	○	○	○	○	○	○	○
I feel exhilarated when I accomplish something at work.	○	○	○	○	○	○	○
I have accomplished many worthwhile things in this job.	○	○	○	○	○	○	○

	Never	A few times a year	Once a month or less	A few times a month	Once a week	A few times a week	Every day
I just want to do my job and not be bothered.	○	○	○	○	○	○	○
I have become more cynical about whether my work contributes anything.	○	○	○	○	○	○	○
I doubt the significance of my work.	○	○	○	○	○	○	○
At my work, I feel confident that I am effective at getting things done.	○	○	○	○	○	○	○

Support options

Support Options

These are questions about the sorts of support that you may receive from different people. For each answer below please select the option that is best for you.

How much does each of these people go out of their way to do things to make your work life easier for you?

	Very little	A little	Some	A lot	A great deal
Your immediate supervisor	○	○	○	○	○
Other people at work	○	○	○	○	○
Your spouse or partner, friends and relatives	○	○	○	○	○

How easy is it to talk with each of the following people?

	Very little	A little	Some	A lot	A great deal
Your immediate supervisor	○	○	○	○	○
Other people at work	○	○	○	○	○
Your spouse or partner, friends and relatives	○	○	○	○	○

How much can each of these people be relied on when things get tough at work?

	Very little	A little	Some	A lot	A great deal
Your immediate supervisor	○	○	○	○	○
Other people at work	○	○	○	○	○
Your spouse or partner, friends and relatives	○	○	○	○	○

How much is each of the following people willing to listen to your personal problems?

	Very little	A little	Some	A lot	A great deal
Your immediate supervisor	○	○	○	○	○
Other people at work	○	○	○	○	○
Your spouse or partner, friends and relatives	○	○	○	○	○

Please read the following scenarios. The people in the scenarios are not real people, but you may find their situation to be familiar. After you have read each scenario please select which of the following support options you think they would be best to approach for support. You can select ONE response only.

During the summer a police officer goes to a house after the local postman expressed concern

about the wellbeing of the elderly male occupant. On entering the house she finds the male dead in his bed. He has been dead for approximately three weeks. There have also been animals shut in the house.
Please select the support option that you think they would be best to approach for support.

- Their immediate supervisor
- Their immediate colleagues
- Other people at work
- Their spouse or partner, friends and relatives

A police officer is working late shift in the watch house in a large busy station. When the nightshift watch house keeper comes on duty they go to the cells together to check the prisoners. They find a male prisoner hanging from the cell door. They quickly cut him down, but they are unable to revive him.
Please select the support option that you think they would be best to approach for support.

- Their immediate supervisor
- Their immediate colleagues
- Other people at work
- Their spouse or partner, friends and relatives

A police officer attends an incident where a four year old girl has been run over in the driveway by a family member, and killed. The police officer has a child who is a similar age to the deceased.
Please select the support option that you think they would be best to approach for support.

- Their immediate supervisor
- Their immediate colleagues
- Other people at work
- Their spouse or partner, friends and relatives

A police officer starts her midweek late shift. She has a witness statement to take regarding a family violence incident the previous evening. The witness cannot come to the station. She also has urgent summonses to serve for an upcoming court case. There are no police radios and the patrol vehicles are all being used.
Please select the support option that you think they would be best to approach for support.

- Their immediate supervisor
- Their immediate colleagues
- Other people at work
- Their spouse or partner, friends and relatives

A police officer works as a community constable in a dayshift position. He is continually being asked to relieve on section at short notice. This involves shift work. His wife has recently returned to work and his shift work is significantly impacting on their childcare arrangements.
Please select the support option that you think they would be best to approach for support.

- Their immediate supervisor
- Their immediate colleagues
- Other people at work
- Their spouse or partner, friends and relatives

A police officer is feeling overwhelmed by the amount of paperwork he has. He has enquiry files which are overdue and also a file for a Judge Alone Trial, which he does not know what to do with. His Field Training Officer is on six weeks leave. Every times he sits down to attend to the files another job comes in.
Please select the support option that you think they would be best to approach for support.

- Their immediate supervisor
- Their immediate colleagues
- Other people at work
- Their spouse or partner, friends and relatives

Last comments

Thank you for completing this questionnaire. If you have any other comments please add in the box below.

End point

A summary of the results will be sent to you at the completion of the research should you wish to receive this.

Should you be distressed as a result of completing this questionnaire please contact your local

police welfare officer, the EAP Services Ltd (Employment Assistant Programmes) on 0800 327669 or your general practitioner. A list of psychologists in your area can be accessed via the internet at www.nzccp.co.nz and following the link to private practitioners or at www.psychology.org.nz and following the link to find a psychologist. Note there would be a fee charged to you for making an appointment with these professionals. Alternatively you could contact Lifeline on 0800 543354. Lifeline provides free telephone and face-to-face counselling, 24 hours a day, 7 days a week.

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern A Application 14/84. If you have any concerns about the conduct of this research, please contact Dr Brian Finch, Chair Massey University Ethics Committee: Southern A, telephone (6) 35 5799 ext 84459, email: humanethicssoutha@massey.ac.nz

Appendix E. First Email Reminder

Good morning Tasman!

You may recall receiving an email from me two weeks ago inviting you to participate in the research that I am conducting. I have had a good response so far and thank you to those who have already completed the survey. It would be valuable to the overall outcome of the research to have more participants and if you haven't completed it I encourage you to take a look.

The topic of my research is;

Determining the impact of trauma and daily organisational hassles on psychological distress and burnout in New Zealand police officers; and the moderating role of social support.

I am carrying out this research for my Master of Arts degree in psychology (not on behalf of the New Zealand Police). Participation is voluntary and anonymous. You will not be able to be identified by me or any other person.

Clicking on the attached link will take you to a comprehensive information sheet and the start of the survey. You can read the information sheet without having to complete the survey. If you do start the survey you can end your participation at any time prior to finishing it. The survey will take you around 20 minutes to complete.

Click on the link below to be taken to the information sheet and the start of the survey.

Survey on impact of trauma, stress and burnout on NZ Police Officers

Thank you for showing an interest in my research.

Nikki Geeson

Appendix F. Second Reminder Email

Good morning Eastern!

You may recall receiving emails from me inviting you to participate in the research that I am conducting. I have had an awesome response so far and lots of encouraging emails. Thank you to those who have already completed the survey. I'm aiming to get around 500 responses as this will improve the strength of my research. If you haven't completed it I encourage you to take a look. The topic of my research is;

Determining the impact of trauma and daily organisational hassles on psychological distress and burnout in New Zealand police officers; and the moderating role of social support.

I am carrying out this research for my Master of Arts degree in psychology (not on behalf of the New Zealand Police). Participation is voluntary and anonymous. You will not be able to be identified by me or any other person. Clicking on the attached link will take you to a comprehensive information sheet and the start of the survey. You can read the information sheet without having to complete the survey. If you do start the survey you can end your participation at any time prior to finishing it. The survey will take you around 20 minutes to complete.

Click on the link below to be taken to the information sheet and the start of the survey.

Survey on impact of trauma, stress and burnout on NZ Police Officers

Thank you for showing an interest in my research.

Nikki Geeson

Appendix G. Third Reminder Email

Good morning Tasman!

Seeking 50 More Participants!

It is my intention to close off this survey on Tuesday 12 July. I have had a fantastic response so far and thank you to those who have already completed it. I feel very privileged that you have chosen to share this information with me. It would be valuable to the overall outcome of the research to have around 500 participants and to reach this target I only need another 50 participants. If you haven't completed the survey I encourage you to take a look.

I would like to reiterate that your responses are completely anonymous and even I do not know who you are.

The topic of my research is;

Determining the impact of trauma and daily organisational hassles on psychological distress and burnout in New Zealand police officers; and the moderating role of social support.

I am carrying out this research for my Master of Arts degree in psychology (not on behalf of the New Zealand Police). Participation is voluntary and anonymous. You will not be able to be identified by me or any other person. Clicking on the attached link will take you to a comprehensive information sheet and the start of the survey. You can read the information sheet without having to complete the survey. If you do start the survey you can end your participation at any time prior to finishing it. The survey will take you around 20 minutes to complete.

Click on the link below to be taken to the information sheet and the start of the survey.

Survey on impact of trauma, stress and burnout on NZ Police Officers

Thank you for showing an interest in my research.

Nikki Geeson

Appendix H. Survey Extension Survey

Hello all,

After some consideration I will be keeping my police research survey open until **Friday 29 July 2016**. Please do not hesitate to contact me personally via email or on [redacted] if you have any queries.

I would like to reiterate that your responses are completely anonymous and even I do not know who you are.

The topic of my research is;

Determining the impact of trauma and daily organisational hassles on psychological distress and burnout in New Zealand police officers; and the moderating role of social support.

I am carrying out this research for my Master of Arts degree in psychology (not on behalf of the New Zealand Police). Participation is voluntary and anonymous. You will not be able to be identified by me or any other person. Clicking on the attached link will take you to a comprehensive information sheet and the start of the survey. You can read the information sheet without having to complete the survey. If you do start the survey you can end your participation at any time prior to finishing it. The survey will take you around 20 minutes to complete.

Click on the link below to be taken to the information sheet and the start of the survey.

Survey on impact of trauma, stress and burnout on NZ Police Officers

Thank you for showing an interest in my research.

Nikki Geeson

Appendix I. Internal Police Notice

RESEARCH SURVEY FOR SWORN POLICE STAFF - ENDING FRIDAY 29 JULY 2016

As you may be aware I have been conducting research with police officers in your district for the past six weeks. I would like to thank everyone who has taken the time to complete my survey. The number of responses has exceeded my expectations and I feel very privileged that so many people have chosen to participate. A special thank you to the people who took the time to contact me with feedback and support.

The final date to participate in my research is Friday the 29 July 2016. You will be able to access the survey up until then (via the link that was emailed to you). If you would still like to participate, but no longer have the link please email me.

As a reminder, the topic of my research is *'Determining the impact of trauma and daily organisational hassles on psychological distress and burnout in New Zealand police officers; and the moderating role of social support'*.

Once again thank you. I look forward to sharing a summary of the results with you in early 2017.

Nikki Geeson

Appendix J. Table of Correlations

Table 34

Pearson Product – Moment Correlation for Primary Measures

	Measures	1	2	3	4	4a	4b	4c	5	6	6a	6b
1	Traumatic event exposure	-										
2	Traumatic event frequency	.90**	-									
3	Work Hassles	.20**	.16**	-								
4	Social Support (total)	-.14**	-.12**	-.29**	-							
4a	Social Support (supervisor)	-. 19**	-.17**	-.20**	.80**	-						
4b	Social Support (other)	-.09*	-.07	-.25**	.75**	.45**	-					
4c	Social Support (family)	-.01	.01	-.19**	.63**	.18**	.26**	-				
5	Psychological Distress	.20**	.17**	.51**	-.22**	-.11**	-.18**	-22**	-			
6	Burnout (exhaustion)	.14**	.11**	.56**	-.28**	-.18**	-.23**	-.21**	.60**	-		
6a	Burnout (cynicism)	.07	.05	.45**	.45**	-.21**	-.22**	-.17**	.44**	.57**	-	
6b	Burnout (professional efficacy	.04	.06	-.16**	-.16**	.20**	.21**	.17**	-.19**	-.17**	-.29**	-

* p < .05 ** p < .01